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Miami, Florida

TASK-BASED LANGUAGE TEACHING AND ARABIC AS A FOREIGN
LANGUAGE: A NEEDS ANALYSIS FOR CURRICULUM DESIGN

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in

TEACHING AND LEARNING

by

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To: Dean Michael R. Heithaus
College of Arts, Sciences and Education

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Florida International University, 2023

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DEDICATION

To:

Dr. Michael Long

Dr. Ola Moshref

I dedicate this work to my parents and my daughters.

Dedication to my family:

I am so thrilled to dedicate my dissertation to my father, Dr. Soliman Elsakka, who has always been my role model through my whole life and who inspired me to follow his steps and be a scholar like him, and who has been waiting to witness the moment of me earning my Doctorate, to my mother (my father's sister) who has shaped everything in me and who I love the most, to the soul of my mother, who passed away very early in my life and who I wished to see and to witness with us this moment, to my daughters: Mariam, Mennah, and Malak, who are my entire life and who have been very loving, supportive, helpful, and patient. Mariam has been my study and writing-colleague in all my PhD years and particularly in my last and important year in my dissertation. Mennah has been my math assistant in all my quantitative research studies. Malak has been the best support by all her love, smiles, and prayers. I dedicate my dissertation to my beloved husband, Dr. Wallied Orabi, who has been very patient, sincere, and supportive throughout my so many years of studies. Also, to my twin brother and my two sisters (my cousins) and their families for their love and support, to my mother-in-law, who has been the best support for me and for my family, to my aunts and uncles for their love, and to the soul of my grandparents who have raised my parents with instilling in them and in us the importance of seeking knowledge at all times. Finally, to all my friends for their love and support.

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ABSTRACT OF THE DISSERTATION

TASK-BASED LANGUAGE TEACHING AND ARABIC AS A FOREIGN
LANGUAGE: A NEEDS ANALYSIS FOR CURRICULUM DESIGN

by

Noha Soliman Elsakka

Florida International University, 2023

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Professor Melissa Baralt, Major Professor

Arabic is the official language of 22 countries in the Middle East and North Africa that form the Arab League. It is also the fastest-growing language in the U.S., and the 8th most taught language in U.S. universities. Teaching Arabic is a unique challenge given its status as a diglossia in society. The Foreign Service Institute has also categorized Arabic as a Category IV language, “requiring over 2200 hours of instruction.” Albeit the growing need for Arabic proficiency, there is a dearth of research on the most effective pedagogic strategies to teach Arabic.

This dissertation aims to fill this gap via the lens of Task-Based Language Teaching (TBLT). TBLT is a paradigm for the teaching and research of second and foreign languages (IATBLT, n.d.), and has received significant attention due to its impact and efficacy, with some countries even requiring task-based pedagogy in national curricula (see e.g., Ellis, 2003a; Long, 2015). A foundational component of TBLT is that it espouses a Needs Analysis (NA) for the design of curriculum: all real-world tasks should come out of students’ actual needs for the language so that the curriculum best serves them (Long,

2005). Tasks should then be sequenced in a curriculum from simple to complex, based on their cognitive complexity (e.g., Baralt, Gilabert & Robinson, 2014).

This study is comprised of two parts. First, a rigorous needs analysis was conducted utilizing a mixed-methods approach with multiple sources (e.g., students, teachers, diplomats, job descriptions) and methods (e.g. interviews, surveys, class observations). These were triangulated to derive 64 pedagogic tasks. Second, an empirical study was carried out to determine the cognitive complexity of the tasks, which would guide their sequencing in a curriculum. Six independent measures of cognitive complexity were collected with 56 participants comprised of students, teachers, and domain experts. Cronbach's alpha demonstrated that the different measures of complexity were highly correlated, with some measures higher than others. I present the final sequence of tasks based on this study, and argue that a new measure of task complexity, task sustainability (Rosenbaum and colleagues, 2023), be used in future task-based curricula design.

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GLOSSARY OF TERMS, ABBREVIATIONS AND ACRONYMS

Baddou	from a Bedouin region
CLT	Communicative Language Teaching
Darija	The dialect of Arabic spoken in Morocco
FL	Foreign Language
FusHaa	Arabic word for Standard Arabic
IL	Interlanguage
IPA	International Phonetic Alphabet
Lahja	Arabic word for dialect
Levantine	A variety of Arabic spoken in Jordan, Lebanon, Palestine, and Syria
Masrii	Arabic word for Egyptian dialect
NA	Needs Analysis
Shaamii	Arabic word for Levantine dialect
SLA	Second Language Acquisition
TAFL	Teaching Arabic as a Foreign Language
TBLT	Task-Based Language Teaching

CHAPTER 1.INTRODUCTION

Arabic is the official language of 22 countries in the Middle East and North Africa (MENA region) that form the Arab League. While most of these speakers are centered in the MENA region, there are actually over 300 million Arabic speakers across the globe (Sayed, 2015). According to the U.S. National Security Education Program (NSEP), Arabic is categorized as a language “critical to U.S. national security” (National Security Education Program [NSEP], n. d.). The Arabic language is also characterized as a Category IV language, described by Foreign Service Institute as “exceptionally difficult for native English speakers” and requiring over 2200 hours of instruction (Foreign Service Institute, n. d.). Further complicating the learning of Arabic is its status as a diglossia in society: a standard, unspoken variety, Standard Arabic (SA), coexists with colloquial spoken varieties, Colloquial Arabic (QA). Yet, albeit the demand for Arabic, the need for Arabic for U.S. foreign security, and the time needed to acquire it, there is a dearth of research on the most efficacious pedagogic strategies to teach Arabic as a foreign language. Considering these contextual factors, there should be more focused research on how to better develop a curriculum that is devoted directly to the students’ needs. In this way, the Arabic language learners will be more focused, motivated, and enthusiastic on learning the language through useful and effective curriculum. As such, it is imperative that more research be conducted on Arabic foreign language curriculum that is devoted directly to U.S. students’ real-world needs.

To fill this need in the field, this dissertation reports on the applications of Task-Based Language Teaching (TBLT) principles to the teaching of Arabic as a foreign

language. This is accomplished in two parts: (1) a rigorous Needs Analysis (NA; Long 2005) and (2) the resultant design of an Arabic foreign language curriculum for the university level in U.S. contexts. This current chapter will start by defining TBLT. It will then justify the application of TBLT in the foreign language classroom. The theoretical tenets of TBLT are discussed, followed by a review of traditional methods of teaching language. The chapter will then discuss the Arabic language and make a case for using TBLT with which to teach it. The challenges of teaching Arabic as a foreign language in the U.S. are then reviewed, followed by a discussion of TBLT with regard to the teaching of Arabic.

Statement of the Research Problem

There is a notable paucity of research on communicative approaches to the teaching of Arabic as a foreign language. Task-Based Language Teaching (TBLT) is an educational framework for the theory and practice of teaching second or foreign languages. (IATBLT, n.d.). Based on decades of empirical research, a task-based approach to the teaching of languages suggests that pedagogic tasks based on students' real-world needs will be most efficacious in the Second Language Acquisition process. This has never been done before for the teaching of Arabic in U.S. contexts. Societal diglossia complicates this pedagogic need: Standard Arabic (SA) coexists alongside colloquially spoken Arabic varieties (Colloquial Arabic, QA) in all Arabic-speaking countries (Albirini, 2015). Published studies have called for courses to teach Arabic communicatively, equipping students with QA proficiency (e.g., Abdalla & Al-Batal, 2011; Al-Mohsen, 2016), however, no published curriculum has ever done so.

Purpose of the Study

The current study will address this critical gap in the literature by creating an Arabic foreign language curriculum at the university level that is based on students' linguistic and nonlinguistic needs. The study takes part in two phases: (1) via a rigorous Needs Analysis with multiple sources and methods (Long, 2005, 2015) and (2) via the design of a fully task-based language curriculum as a result of the needs analysis. Task-based principles will be applied to create a fully task-based curriculum with fifteen units comprised of multiple pedagogic tasks and an exit task, all sequenced according to cognitive complexity theoretical guidelines and with validated as well as novel measures (Baralt, Gilabert, & Robinson, 2014; Bygate, 2020; Ellis, 2003b; Long, 2005, 2015; Malicka, Gilabert, & Norris, 2019; Serafini, Lake, & Long, 2015; Serafini & Torres, 2015; Torres & Serafini, 2016). This study uses a mixed-methods research approach to carry out the needs analysis (e.g., Long, 2005; Torres & Serafini, 2016). First, diverse sources of both qualitative and quantitative data are collected through different methodological approaches. These include U.S. students studying Arabic as a foreign language, teachers, administrators, Arabic linguistics, community members, key stakeholders, U.S. diplomats as well as workers who use Arabic in their career, and real job posts as sources; and then surveys, in-depth semi-structured interviews, syntheses, journaling, and observations as methods. Data will be analyzed to determine the different linguistic as well as nonlinguistic needs of the students. From this, target tasks will be derived and task difficulty will be assessed to order task sequences into a syllabus (Baralt et al., 2014; Malicka, Gilabert, & Norris, 2019; Torres & Serafini, 2016; Long, 2015). Task-based methodology lesson plans, as well as all materials,

will then be designed and presented as the final outcome of the study (Ellis, 2003b; Long, 2015).

Research Questions

The following research questions guided this dissertation:

1. What are the real-world needs of beginning-level U.S. students studying Arabic as a second or foreign language in a university setting, as determined via a task-based Needs Analysis (NA) study utilizing multiple sources and methods?
2. Are there differences in the needs of beginning-level students who are Arabic foreign language learners and of Arabic heritage language learners?
3. What are students' and teachers' needs when it comes to the learning and teaching of Standard Arabic (SA) alongside Colloquial Arabic (QA)?
4. What target tasks, target task types, and pedagogic tasks can be derived from a Needs Analysis (NA) for the teaching of beginning-level Arabic as a second language at the university level, taking into account needs for acquiring Standard Arabic (SA) as well as Colloquial Arabic (QA)?
5. How do the following independent measures of cognitive complexity inform the sequencing of tasks, as well as the methodological lesson planning around tasks, in a beginning-level university Arabic curriculum?
 - a) Task difficulty rankings (by students, teachers, and domain experts)
 - b) Retrospective time-on-task judgments (by students)
 - c) Task difficulty and mental effort assessments (by students)
 - d) Stimulated recall comments (thematic analysis; by students)
 - e) Task sustainability judgements (by students)

- f) Task sustainability judgements by language (by students)

Statement of Significance

According to the Modern Language Association of America, enrollment in the Arabic programs in the United States has increased since 2001 (Furman, Goldberg, & Lusin, 2010). Not only did more than half of the programs show steady or increased enrollment between 2013 and 2016, the number of bachelor's degrees in Arabic also grew by 27.3% during the same period (Looney & Lusin, 2019). This increase in enrollment necessitates more rigorous research on Arabic language teaching materials to serve students and also to meet U.S. demand for critically needed languages. In so doing, this much-needed science base will help the students to achieve their goals in Arabic foreign language learning. It will also support the development of a bilingually-competent workforce that is necessary for the U.S. to successfully participate in the global economy, thus contributing to U.S. foreign policy and international relations.

The current study will design a fully task-based curriculum that not only addresses the different needs of the students, but that helps them in learning Arabic *communicatively* (Long, 2005; Long, 2015). Specifically, the pedagogic tasks that will be created will fall under the category of teaching both Standard Arabic (SA) as well as authentic and colloquially spoken Arabic varieties (Colloquial Arabic, QA). This project thus aims to serve the field of Arabic foreign language teaching and learning, given that no task-based curriculum for the teaching of Arabic as a foreign language currently exists.

1.1 What is TBLT?

During the last few decades, Task-Based Language Teaching (TBLT) has received much attention in the teaching and learning of foreign and second languages (Ahmadian &

Long, 2021; Baralt et al., 2014; Berman, 2007; Brown, Hudson, Norris & Bonk, 2002; Bygate, Skehan, & Swain, 2001; Candlin & Murphy, 1987; Crookes & Gass, 1993a, 1993b; East, 2012; Edwards & Willis, 2005; Ellis, 2003a, 2005; Estaire & Zanon, 1994; García-Mayo, 2006; Leaver & Willis, 2004; Lee, 2000; Long, 2005, 2015; Norris, Brown, Hudson, & Yoshioka, 1998; Nunan, 1989, 2005; Prabhu, 1987; Robinson, 2011; Samuda & Bygate, 2008; Shehadeh & Coombe, 2010, 2012; Thomas & Reinders, 2010; Van den Branden, 2006; Van den Branden, Bygate, & Norris, 2009; Van den Branden, Van Gorp & Verhelst, 2007; Willis, 1996; Willis & Willis, 2007). TBLT is an educational framework for the theory and practice of teaching second or foreign languages (IATBLT, n.d.). TBLT espouses task as the unit of teaching, learning, and assessment, the very organizing principle upon which syllabi and curricula are to be based. Brandl (2008) stated that through TBLT, “students ... work toward a goal or outcome; the task resembles a real-world activity stimulating real language use; and learners should engage in some sort of a work plan” (Brandl, 2008, p. 427). In so doing, students will be working either on their own or in groups to complete a task and to produce a task outcome by *using* the language used in authentic, real-life situations.

Long (2015) has argued that a TBLT curriculum must have a Needs Analysis as its very foundational base for the development of a complete task-based syllabus. This is rooted in educational philosophy, psycholinguistics, curriculum and instruction science, and even social justice; for in not creating curriculum that is based on students’ real-world needs, practitioners are falling short in helping students to achieve social mobility. Since its origins in the literature in the field of applied linguistics, TBLT has evolved from a small set of recommended pedagogic principles and ‘methods’ to a broad-based foundation

for the implementation of full-scale language programs, with some entire nations requiring task-based methodology for the teaching of second and foreign languages (Ellis 2003b; Long 2015). Publications on TBLT have significantly increased, and there is even a biennial conference, the *International Association for Task-Based Language Teaching*. Recently, a new journal, *Task*, was launched by John Benjamins, further exemplifying the weight of TBLT in the fields of applied linguistics, Second Language Acquisition, educational philosophy, and in language teaching. Of course, the way in which TBLT is ‘realized’ around the world is quite diverse, as is the definition of ‘task’ itself. Many researchers have introduced the term ‘task’ from their own perspectives, on the term itself and on the teaching of languages using tasks. In the next section, a brief review of some of these definitions will be provided.

1.1.1 Task

Dr. Michael Long, one of the pioneers of the subfields of Second Language Acquisition (SLA) and of TBLT, defined “task” as any task or activity that people do or accomplish during their daily activities. His (1985) definition of “task” is oft cited in the literature as a starting point from which both students and teachers can understand the construct:

...[A task is a] piece of work undertaken for oneself or for others, freely, or for some reward. Thus, examples of task include painting a fence, dressing a child, filling out a form, buying a pair of shoes, making an airline reservation, borrowing a library book, taking a driving test, typing a letter, weighing a patient, sorting letters, taking a hotel reservation, writing a cheque, finding a street destination and helping someone across a road. In other words, by ‘task’ is meant the hundred and

one things people do in everyday life, at work, at play and in between ... (Long, 1985, p. 89)

Long's previous definition is thorough in introducing various situations and occasions that learners can face in real-life settings, where people use their authentic language registers to accomplish various tasks in all aspects of life. According to Long, language learners should experience using their target language in classroom settings via real-world tasks, the same tasks that they face and perform in their daily lives. In addition to the definition presented by Long, Nunan (1989) has also extended the definition of task to include the communicative aspects in the definition. He defines the communicative task as: "a piece of classroom work which involves learners in comprehending, manipulating, producing or interacting in the target language while their attention is principally focused on meaning rather than form" (Nunan, 1989, p. 10). In this definition, Nunan focused on learners' capabilities in dealing with the language in many ways. He asserts the role of the learner in understanding and communicating, in using the target language while maintaining their focus on the meaning of the language—not on language forms.

Focusing more on classroom applications, (Ellis, 2003a) describes the term "task" with of a more focus on its pedagogical realizations in a formal classroom space. In his seminal book, he defines the construct in the following way:

A task is a workplan that requires learners to process language pragmatically in order to achieve an outcome that can be evaluated in terms of whether the correct or appropriate propositional content has been conveyed. To this end, it requires them to give primary attention to meaning and to make use of their own linguistic resources, although the design of the task may predispose them to choose particular

forms. A task is intended to result in language use that bears a resemblance, direct or indirect, to the way language is used in the real world. Like other language activities, a task can engage productive or receptive, and oral or written skills and also various cognitive processes. (Ellis, 2003a, p. 16)

In his definition, Ellis espouses language practice, focusing on the production of meaningful utterances that in close relation to daily life language exchanges, and easily operationalizable in the classroom setting. In his 2009 paper, Ellis provided the following updated definition of task with the following four characteristics:

A language-teaching activity [counts as] a ‘task’ [if it] satisfies the following criteria:

1. The primary focus should be on ‘meaning’ (by which is meant that learners should be mainly concerned with processing the semantic and pragmatic meaning of utterances).
2. There should be some kind of ‘gap’ (i.e. a need to convey information, to express an opinion or to infer meaning).
3. Learners should largely have to rely on their own resources (linguistic and non-linguistic) in order to complete the activity.
4. There is a clearly defined outcome other than the use of language (i.e. the language serves as the means for achieving the outcome, not as an end in its own right). (Ellis, 2009, p. 223)

In the past two decades, numerous definitions of “task” have abounded. Table 1 below provides a visual summary of the most cited definitions of task in the literature, cited

chronologically. These differences can help the reader to see how and why TBLT may be implemented differently depending on context on need:

Table 1

Definitions of task

Author	Definition
Richards, <i>et al.</i> (1985)	An activity or action which is carried out as the result of processing or understanding language (i.e. as a response). For example, drawing a map while listening to a tape, listening to an instruction and performing a command may be referred to as tasks. Tasks may or may not involve the production of language. A task usually requires the teacher to specify what will be regarded as successful completion of the task. The use of a variety of different kinds of tasks in language teaching is said to make language teaching more communicative . . . since it provides a purpose for a classroom activity which goes beyond the practice of language for its own sake.
Crookes (1986)	A piece of work or activity, usually with a specified objective, undertake as part of an educational course, at work, or used to elicit data for research.
Breen (1987)	Any structured language learning endeavour which has a particular objective, appropriate content, a specified

	working procedure, and a range of outcomes for those who undertake the task. ‘Task’ is therefore assumed to refer to a range of workplans which have the overall purposes of facilitating language learning – from the simple and brief exercise type, to more complex and lengthy activities such as group problem-solving or simulations and decision-making.
Candlin (1987)	One of a set of differentiated, sequencable, problem-posing activities involving learners’ cognitive and communicative procedures applied to existing and new knowledge in the collective exploration and pursuance of foreseen or emergent goals withing a social milieu.
Krahnke (1987)	The defining characteristic of task-based content is that it uses activities that the learners have to do for non-instructional purposes outside the classroom as opportunities for language learning, tasks are distinct from other activities to the degree that they have non-instructional purposes.
Prabhu (1987)	Any activity which requires learners to arrive at an outcome from given information through some process of thought and which allowed teachers to control and regulate that process was regarded as a task.

Nunan (1989)	A piece of classroom work which involves learners in comprehending, manipulating, producing or interacting in the target language while their attention is primarily focused on meaning rather than form.
Carroll (1993)	Any activity in which a person engages, given an appropriate setting, in order to achieve a specifiable class of objectives.
Bachman & Palmer (1996)	Any activity that involves individuals in using language for the purpose of achieving a particular goal or objective in a particular situation.
Willis (1996)	Activities where the target language is used by the learner for a communicative purpose (goal) in order to achieve an outcome.
Skehan (1998)	An activity in which: • meaning is primary • there is some communication problem to solve • there is some sort of relationship to comparable real-world activities • task completion has some priority • the assessment of the task is in terms of outcome.
Lee (2000)	(1) A classroom activity or exercise that has: (a) an objective obtainable only by the interaction among

	participants, (b) a mechanism for structuring and sequencing interaction, and (c) a focus on meaning exchange; (2) a language learning endeavor that requires learners to comprehend, manipulate, and/or produce the target language as they perform some set of workplans.
Bygate et al. (2001)	Any activity which requires learners to use language, with emphasis on meaning, to attain an objective.
Bygate et al. (2001)	An activity, susceptible to brief or extended pedagogic intervention, which requires learners to use language, with emphasis on meaning, to attain an objective.
Bygate et al. (2001)	An activity, influenced by learner choice, and susceptible to learner reinterpretation, which requires learners to use language, with emphasis on meaning, to attain an objective.
Nunan (2004)	A piece of classroom work that involves learners in comprehending, manipulating, producing or interacting in the target language while their attention is focused on mobilizing their grammatical knowledge in order to express meaning, and in which the intention is to convey meaning rather than to manipulate form. The task should also have a sense of completeness, being able to stand alone as a communicative act in its own right with a beginning, a middle and an end.

Van den Branden (2006)	A task is an activity in which a person engages in order to attain an objective, and which necessitates the use of language.
González-Lloret (2014)	Tasks that require access to and use of a technology-mediated environment, those technologies that would facilitate the realization of the task, and those that would serve as vehicles for communicating for particular purposes.

Reflecting on these definitions of task allows us to better characterize and utilize TBLT, considering how it can be ‘realized’ differently depending on context or need. These different approaches to task as the unit of analysis in TBLT allow practitioners to provide learners with what is suitable, appropriate, and helpful for them through their language learning experiences. In particular, foreign language-teaching settings serve as a fertile space to adopt and implement TBLT where the whole focus will be on the authentic tasks that are used in real-life settings. That said, tasks do not exist in a vacuum. As stated by Baralt and Morcillo-Gómez (2017), “... just as important as tasks, task-based methodology is the way in which teachers implement tasks, set learners up to perform the tasks successfully, and manage learners’ attention to form–meaning connections.” In the next section, task-based methodology will be briefly reviewed.

1.2 Task-Based Methodology

There are three models for task-based methodology in the TBLT (Ellis, 2003a; Nunan, 2004; Willis, 1996, 2012), all rooted in psycholinguistic theory. While they differ

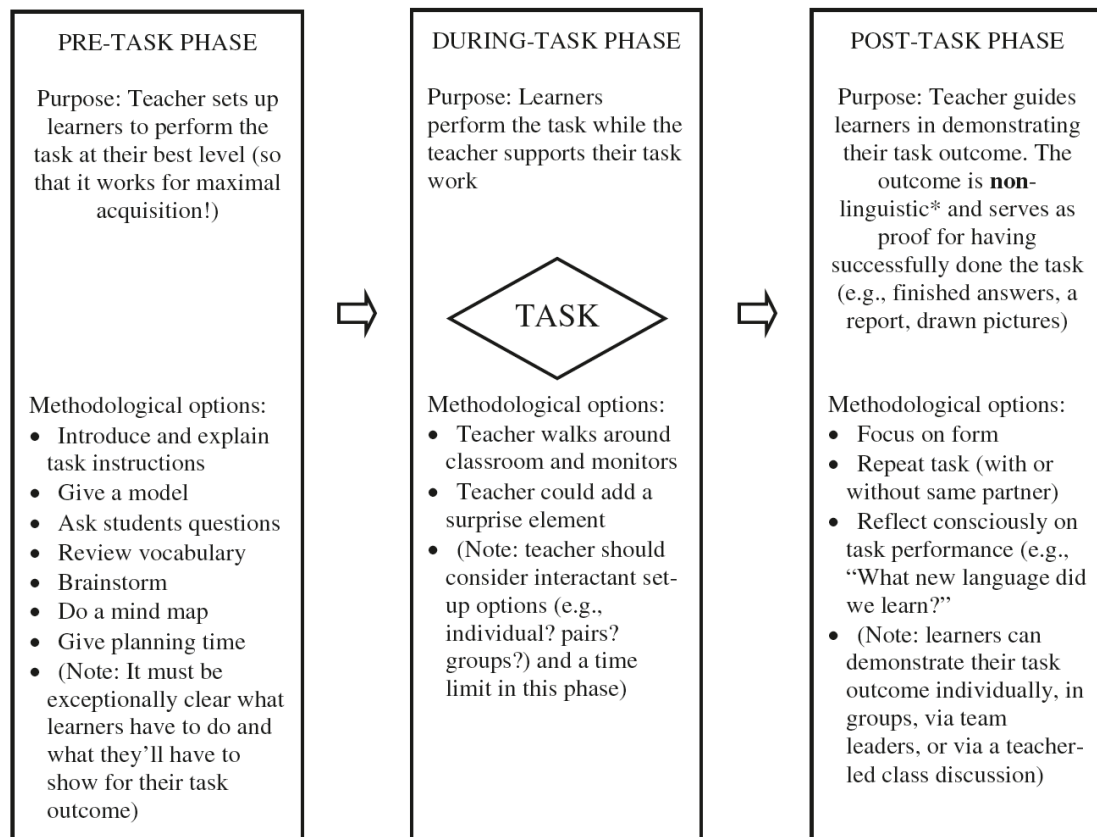
in scope, all three are similar in the way that they encourage a tripartite chronological order of reflecting before, during, and after a task in order to maximize language learning (Baralt & Morcillo-Gómez, 2017). One of the main differences amongst the three models is the recommended timing of when explicit focus on form may take place around a task (see Baralt & López Bravo, 2016, for a detailed review). While reviewing the different theoretical supports for each recommendation is beyond the scope of this dissertation, it is important to emphasize that each different recommended timing of explicit grammar review (e.g., before, during, or after a task) are supported by different psycholinguistic theories, and also, by cultural considerations (Baralt & López Bravo, 2016). These models will briefly be described here.

1.2.1 Task-Based Teaching Models

The Ellis Model of task-based methodology (2003a) is the simplest of the three, and has a threefold *pretask*, *during-task*, and *post-task phase*, and is featured in Figure 1 below:

Figure 1

Pretask, During-task, and Post-task Phase



Note. Three methodological phases of Ellis Model of task-based methodology. Adapted from “Teaching Chinese as a foreign language: A classroom study on the timing of grammar around a task” by M. Baralt & M. López Bravo, 2016, *Chinese as a Second Language Research*, 5, p. 30. Copyright 2016 by De Gruyter Mouton.

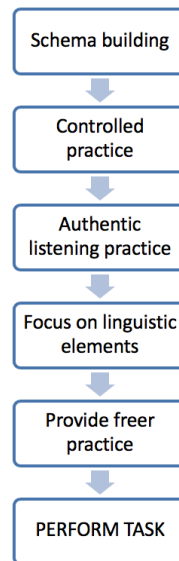
The Ellis task-based methodology plan encourages teachers to consciously think about how they prepare learners to do a task beforehand (in the pre-task phase), to reflect on their role while learners do the task (during-task phase), and to consider their methodological options in the post-task phase to report on the task and/or to help foster Second Language Acquisition (e.g., task repetition). It is important to highlight that an explicit focus on form can take place in *any* of the task phases in the Ellis model. If done in the pre-task phase,

this is supported by connectionist and skill acquisition theories specific to noticing. That is to say, it has been argued theoretically that an explicit review of grammar in the pre-task phase can help learners to notice while they are doing the task (e.g., explicit knowledge helps adult noticing; see Lightbown, 1991 and Nunan, 2004 for a review; as well as N.C. Ellis 2005 and DeKeyser, 1998). The Ellis methodological model has been argued to be most accepted by teachers and learners alike in Eastern contexts such as Asia (Baralt & López Bravo, 2016). Its simplicity may also make it easier to implement for new teachers who are trying to implement TBLT into their practice for the first time.

The Nunan Model of task-based methodology (2004) has also been argued to be quite suitable for Eastern contexts, however, is much more involved with six methodological steps. This model is also informed by theory in that it fosters declarative to procedural knowledge (e.g., DeKeyser, 1998) and aims to assist learners in noticing by giving them explicit knowledge before engaging in a fully communicative task. The Nunan model is featured below in Figure 2:

Figure 2

Nunan Model of task-based Methodology



Note. Six steps of Nunan Model of Task-based. Adapted from *Task-Based Language Teaching* (31-32), by D. Nunan, 2004, Cambridge University Press. Copyright 2004 by Cambridge University Press.

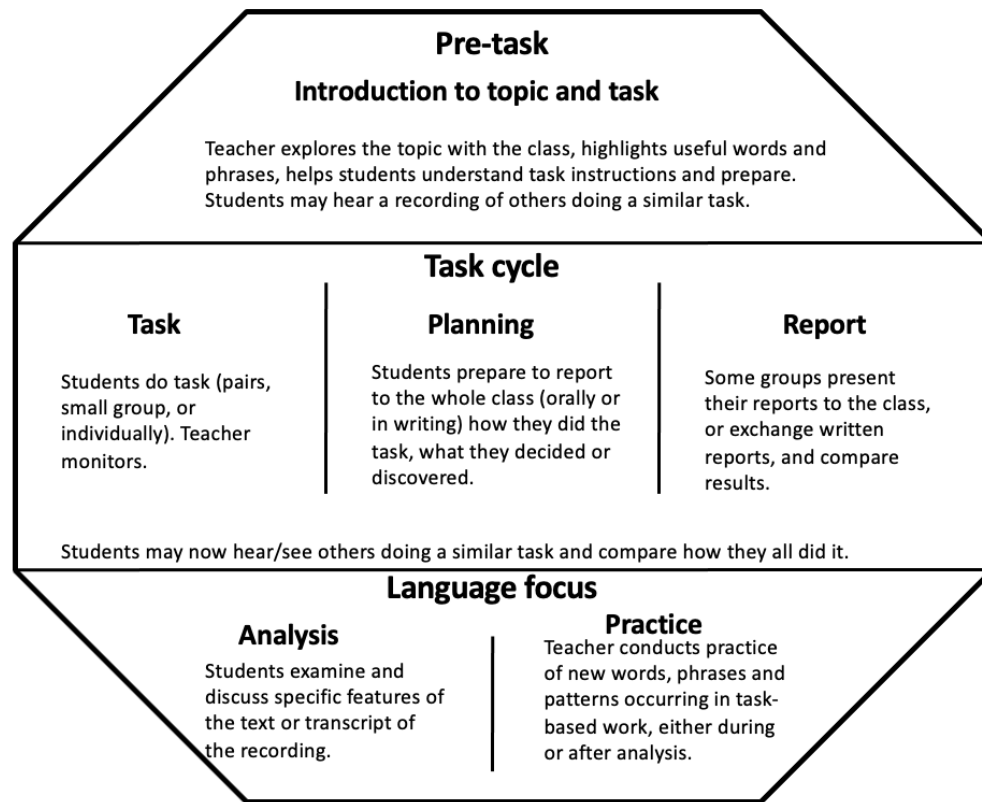
In the first step, Nunan suggests doing a ‘schema building,’ where learners are presented with the context of the task, key vocabulary, and phrases that they will need. This could be for example presenting learners with a list of vocabulary or photos and explicitly talking about the new lexical items and chunks of language. In the second step, learners engage in controlled practice of vocabulary and structures. This could include listening to an audio and then practicing the dialogue with a partner. In the third step, learners listen to an authentic audio clip of native speakers performing the task. The fourth step involves analyzing the audio clip presented in Step 3, whether that includes listening to the clip again, reviewing language and/or forms heard, or asking comprehension questions about the recording. In the fifth step, students do a more open practice. This could be realized as

an information-gap taskette or, a dialogue with prompts but where students must come up with the utterances themselves. Finally, in the sixth step, students do a real task. Afterwards, students and the teacher could do a conscious reflection on their task performance.

The Willis Model of task-based methodology (1996) is considered the strongest version of TBLT methodology, in that zero explicit grammar teaching can happen before a task. This is rooted in theory: the essential justification of this methodological model is that learners will not be able to focus on meaning if explicitly taught grammar beforehand (Willis & Willis, 2007). In other words, students will not rely on their current language system if they are first presented with grammar and given the opportunity to simply regurgitate forms. The Willis task-based methodology model is provided below in Figure 3:

Figure 3

Willis Task-based Methodology Model



Note. The Willis task-based framework. Adapted from “Task-based language teaching online: A guide for teachers” by M. Baralt & J. Morcillo-Gómez, 2017, *Language Teaching & Technology* 21, p. 31. Copyright 2017 by Language Teaching & Technology.

Willis recommends a three-part pre-task phase, task cycle, and language focus phase component around the task; however, her model is more involved than that of Ellis. In the *pre-task phase*, teachers work to prepare learners for the upcoming task and introduce the task topic to them. This can be done through giving the students pre-task activities to start thinking of the task topic and content or some other type of warm-up. Next is the *task cycle*, which includes three parts. First, learners do the *task*. They are then given deliberate *planning* time before presenting on their task outcome to the class. Then, the entire class

engages in a *report*. Meanwhile, the teachers' role is through monitoring the students and supporting them. In the final, *language focus* phase, teachers do an *analysis* followed by a *practice*. It is the analysis component where explicit grammar (or some form-focused activity) takes place. Learners then do practice, whether via fun and competitive drills, text reconstructions, or task repetition (etc.).

To date, no research has been conducted that compare these three models. That said, all can serve a purpose in a teacher's repertoire as dependent upon the task and contextual needs (e.g. of the learners, of a marked or unmarked form, etc.). To quote both Omaggio-Hadley (2001) and Brandl (2017), an eclectic approach to language teaching and learning, where teachers can use diverse and different methodological models, is best so as to account for students' different needs. Brandl discusses an eclectic approach to teaching as the very foundation to communicative language teaching, as it is rooted in SLA and cognitive psychology research. In TBLT, and especially for an Arabic FL curriculum, I argue that eclectic approach to teaching where teachers utilize all three methodological models is best.

1.3 Why Task-Based Language Teaching?

The teaching of second and/or foreign languages has undergone many approaches through the history of Second Language Acquisition (SLA). TBLT has received wide attention due to its effect on the language teaching and learning process. Long (2015) contextualized the importance of TBLT, highlighting a number of problems in existing language teaching approaches that are "inefficient, and often ineffective, treatment of learners' persistent grammatical error and their inadequacy for older learners, whose reduced capacity for purely incidental learning makes supplementary opportunities for

intentional learning necessary” (Long, 2015, p. 12). Long’s main concern was with the kind of language syllabus that encompasses *focus on forms*, where grammatical rules are distributed in the lessons along the way. On the contrary, TBLT utilizes *focus on form* as a methodological principle (a design feature, informed by theory and research, informing what teachers should do during teaching; see Long, 2015, as well as Doughty & Long 2003 and Baralt & Morcillo-Gómez, 2017, for a review on TBLT methodological principles (the ‘what’ and pedagogic procedures (the how)). *Focus on form* should ideally be used with “problematic linguistic features, and provision of opportunities for intentional learning to speed up the learning process and to supplement the adult’s weaker capacity for incidental learning, especially instance learning” (Long, 2015, p. 12). In this way, the adult learners can have an effective access to the target language that is more meaningful and useful to them.

Long (2015) stated that in order to design language tasks, there should be an investigation of learners’ real-world needs for the language, so the tasks will be designed to address those needs directly. In this sense, conducting a Needs Analysis to equip learners to carry out the tasks that they need in life in the target language is a form of social justice for Long (2015). Long emphasized the critical importance of conducting a task-based needs analysis and then designing pedagogic tasks as based entirely on students’ needs (Long, 2005, 2015). For Long (2005, 2015) and Ellis (2003a), a fully TBLT-based program would start with a Needs Analysis from which the curriculum designer derives learners’ authentic, real-world task needs. From this, target tasks are derived and classified, and then pedagogic tasks are designed (e.g., tasks that are to be carried out in the classroom; see e.g., Serafini & Torres, 2015, as well as Torres & Serafini, 2016). These tasks are then sequenced based

on cognitive complexity into a syllabus or program plan (e.g., Baralt, Gilabert, & Robinson, 2014). The task-based methodological planning is then carried out, materials design is finalized, and then task-based assessments are designed to measure learning. A fully task-based program would then be evaluated at the programmatic level. Utilizing TBLT in this way would most benefit learners through their academic and personal lives, and also, lead to the most efficacious learning outcomes.

Nunan (2004) summarized the points in which TBLT has enhanced the teaching process. He called for the design of tasks depending on the needs while choosing the content of the tasks. He also stressed the importance of communicating while using the target language. In particular, materials should be selected based on authentic origin, pursuant to learners' actual needs in the community. Language learners should have opportunities to utilize their own resources as a means of demonstrating the learning process in the classroom. Nunan additionally argued that there should be always a connection and reference between what the students learn in class and what situations they will face in their real lives. He argued for tasks that give learners the chance to start using the language until they reach the required competent goal (Nunan's criterion for realizing TBLT in the classroom). Designing target tasks whilst using authentic language will set learners up to perform tasks at their maximum level.

Additional justifications for TBLT can be read in Skehan (1998), who put forth certain requirements that teachers should follow when designing a course based on TBLT. According to Skehan, tasks should have a connection to real-life and authentic situations. Under his model, a task should maintain a clear meaning, and there should be an evaluation of the product of the task. The main focus of a task should be on meaning and not on

grammatical rules in order to achieve its goal. All the previous requirements in designing a task give it the credibility that every task should be designed to help the learners in achieving their language learning goals.

The importance of starting with a Needs Analysis cannot be reemphasized enough. Long (2015) has been the biggest advocate of this charge, stating that teaching following the principles of TBLT must start with a Needs Analysis of the different and various needs of the language learners. Determining the various and different needs of the learners is the cornerstone in designing the suitable language courses. Willis and Willis (2007) also mentioned the importance of deciding on learners' needs at the beginning because they might differ from a learner to another. For example, some learners need to learn English for specific reasons, and an ESL course should accommodate their needs to best serve them. Thus, deciding on the needs will likely help syllabus designers choose tasks, and their naturally occurring vocabulary and forms, that are geared to students' learning levels.

1.3.1 Long's instructions on moving from the Needs Analysis to syllabus design

Long (2005) argued that language course designers must conduct a Needs Analysis to determine learners' needs prior to designing the language syllabus. Long discussed the methodological steps that one can take to do a Needs Analysis, starting with diverse sources, methods, and then "sources x methods" where the different sources and methods are triangulated (e.g. interviews for both students and teachers, etc.). There are five options that can be used to determine the sources of Needs Analysis: First, language course designers should be acquainted with the published and unpublished literature in the different fields, such as job manuals, brochures, and publications that have fields' terminologies. Second, learners are perceived as an important factor in designing language

syllabi. Their various needs can shape the creation of the language programs to meet their needs, and so their voices as sources for the Needs Analysis must be listened to. Third, teachers and applied linguists can work with domain experts to create effective and useful syllabi. These experts provide critical viewpoints, ranging from the science of the language being acquired to real-world needs in the context of language acquisition. Fourth, domain experts play a vital role with the language experts in providing a comprehensive view on the language tasks. Long (2015) stated that domain experts are the knowledgeable experts in their professional fields. The information of any profession will be more accurate when it is obtained from the actual experts in this profession. For example, nurses are more knowledgeable with the language and the terminologies they use than linguists and curriculum designers. Finally, triangulated sources where the course designer and/or researcher depend on different sources within the same field. Triangulation can be of methods or sources, such as obtaining knowledge from more than one source and also, collecting data using more than one method. Following those steps will help language course designers to have a comprehensive picture of learners' needs and be more focused to meet those needs in designing the syllabi.

Therefore, language course designers should be cautious while designing their TBLT syllabi so that they not only pay attention to learners' needs, but also, provide learners with authentic input via tasks that are sequenced according to cognitive complexity measures. Foreign language teaching has a unique case where the learners are exposed to the target language through the formal instruction in classrooms. It is not the case as in learning a second language or the language of the community where there are multiple chances for the learners to practice the language often and outside of the classroom.

Therefore, the foreign language syllabus should encompass as much authentic language input as possible in the classroom, as it is often the only opportunity learners get to be exposed to and to interact with the target language.

1.4 Theories of TBLT

Second and foreign language teaching and learning have experienced profound methodological shifts over the past few centuries, much in part due to changing theories that undergird teachers' choices in the classroom. Thanks to the emergence of Second Language Acquisition as a field, extensive research on how to teach second languages effectively in order to help learners to achieve the required competence level through formal instruction has helped to fine-tune these theories. For a detailed review of theories in the field, the reader is advised to refer to VanPatten, Keating and Wulff (2020). In this next section, the author will briefly review the main theories that have driven research as well as practice in TBLT. The reader may also review East (2021) for a review of the foundational principles of TBLT.

1.4.1 The Noticing Hypothesis

One of the keystone theories in adult second language acquisition is the Noticing Hypothesis (Schmidt 1990, 1993, 2001). This hypothesis states that there are certain conditions in order for language acquisition to take place, and specifically, that acquisition will not take place unless the learners first 'notice' the language rule they are learning. Schmidt (1990) made a distinction between noticing and understanding: "... noticing to mean registering the simple occurrence of some event, whereas, understanding implies recognition of a general principle, rule, or pattern" (Schmidt, 1990, p. 218). In this case, noticing is the very first step in learning a second language through paying attention to the

different language forms and meanings. This theory is precisely what drives focus on form as a methodological principle in TBLT. Briefly, Long (1991) made it clear that the focus on form in teaching languages is different from the traditional teaching methods that mainly focus on grammatical rules in isolation. Focus on form is concerned with teaching any kind of knowledge while at the same time “overtly draw students’ attention to linguistic elements as they arise incidentally in lessons whose overriding focus is on meaning, or communication” (Long, 1991, p. 46). In so doing, the main focus is not on the linguistic and grammatical rules that let the students disarray their attention from trying to actually use the language.

1.4.2 The Attention Hypothesis

Tomlin and Villa (1994) hypothesized that attention is an important factor in learning a second language. Attention can be achieved through alertness where the learners are prepared to receive a piece of information, through orientation where the learners orient their attention to the language rules they will learn, and through detection where the learners choose a certain piece of knowledge to learn. Tomlin and Villa purported that attention is not considered as awareness where “awareness requires attention, but attention does not require awareness” (Tomlin and Villa, 1994, p. 194). Adding to this, Schmidt and Frota (1986) commented on the development of the learners’ own language through attention and noticing of differences between input that is available to them and their output of the language utterances, as well as feedback prompting them to produce modified language utterances. Schmidt (1990) also made a connection between the input of the language and the actual intake that the learners get through the noticing hypothesis. In sum, noticing and attention are crucial in the acquisition process through input, intake, and resultant output.

1.4.3 The Interaction Hypothesis

Long (1996) stated that in order for second language acquisition to take place, there should be an interaction between what he called the *environment* and *innate knowledge*.

He summarized the Interaction Hypothesis by explaining:

...environmental contributions to acquisition are mediated by selective attention and the learner's developing L2 processing capacity, and ... these resources are brought together most usefully, although not exclusively, during negotiation *for meaning*. Negative feedback obtained during negotiation work or elsewhere may be facilitative of L2 development, at least for vocabulary, morphology, and language-specific syntax, and essential for learning certain specifiable L1-L2 contrasts. (Long, 1996, p. 414)

Negative feedback to Long is any kind of feedback or indication that something about the learner's production is erroneous and needs to be modified in order for the native speaker or interlocutor to understand. This is how meaning is 'negotiated.' In this way, teachers have the space and freedom to focus on specific language rules that will let learners be more focused on those rules and then acquisition can take place. What is critical during this process is the option to receive negative feedback. Long (1996) differentiated between *explicit* and *implicit* feedback as types of negative evidence in learning second languages. Explicit feedback is the direct explanation of grammar errors made by learners. Implicit feedback, on the other hand, is done through assuring the comprehension while keeping the conversations on. Long elaborates further on *negotiation of meaning*, defined negotiation as:

The process in which, in an effort to communication, learners and competent speakers provide and interpret signals of their own and their interlocutor's perceived comprehension, thus provoking adjustments to linguistic form, conversational structure, message content, or all three, until an acceptable level of understanding is achieved. (Long, 1996, p. 418)

Gass and Mackey (2015) also stated that negotiation helps in adjusting the input to the learners' performance according to their level of proficiency. Pica (1994, 1996) and Mackey (2012) additionally commented on the importance of negotiation to the development of language by learners where it not only eases the apprehension and understanding of input in the second language but also helps the learners' understanding due to the interaction between the interlocutors. The Interaction Hypothesis is what supports the methodological principle of using collaborative work during TBLT, as well as others (e.g., promote learning by doing, respect learner-internal syllabi, provide negative feedback, etc.; Doughty & Long, 2003; Long, 2015).

1.4.4 The Output Hypothesis

The Output Hypothesis has a positive impact on second language acquisition. Swain (1995) stated that the output hypothesis takes place in the form of the second language learners' production of the language. She also added that the production of language not only fosters fluency but also the accuracy of the language product. Swain presented three ways that enhance the process of learning second languages: noticing, hypothesis testing, and metalinguistic function. By noticing, she means that while learners engage in the target language and produce utterances, they can 'notice' the difference between their intended utterances and between their capabilities of producing those

utterances. In so doing, they can figure out the insufficient knowledge they have of this language. By hypothesis testing, she means that the learners' language outcome is a method to examine and test intelligibility and the correctness of the linguistic rules. Finally, the metalinguistic function that gives the learners the ability to govern and internalize the new language linguistic knowledge.

Swain stressed that output gives the learners' the advantages of participating actively and consciously in the learning process. In other words, during the output, the learners are doing their best in not only making meaning of the language they produce, but also in producing the linguistic rules. This can be achieved through the learners' endeavors to interact in the language and produce it on their own or among other interlocutors. This theory supports the methodological principle of using tasks and of promoting learning by doing, among others.

1.4.5 Methodological Principles in TBLT

What is important to emphasize is that TBLT is rooted in theory and in psycholinguistics research (Long, 2015). To help teachers and researchers alike best synthesize the different theories, as well as the infinite ways to 'do' them in the classroom, Doughty & Long (2003) as well as Long (2015) distinguish between methodological principles (MPs) in TBLT and pedagogic procedures. The methodological principles have roots in theory in the different fields of education and language acquisition; they are the design features that are used in teaching to increase the learning experience. The pedagogic procedures are the actual implementation of methodological principles in language teaching in real classroom settings. Below, a visual summary of the ten MPs is provided in Table 2:

Table 2*Summary of the Ten Methodological Principles*

Activities	
MP1	Use tasks: classroom tasks: focused on meaning, require a gap to fill, learners to use their own resources, and produce an outcome. (Ellis, 2003).
MP2	Promote learning by doing. Students should work in their own to do the task.
Input	
MP3	Elaborate input. Provide students with full description on the task
MP4	Provide rich input. Provide examples through various tools
Learning Process	
MP5	Encourage inductive chunk learning. Such as idioms and lexical phrases
MP6	Focus on form. Draw students' attention to language rules through explicit or implicit instruction.
MP7	Provide negative feedback. Correct students' mistakes. (Ellis, 2009)
MP8	Respect learner and developmental process. students take their time until they produce the correct different language rules and principles

MP9	Promote cooperative/collaborative learning. Students learn more when they work together.
Learners	
MP10	Individualize instruction. Change and accommodate the tasks based on students' pace of acquisition.

Note. Long's ten methodological principles. Adapted from *Second Language Acquisition and Task-Based Language Teaching* (302-303), by M. Long, 2015, Wiley Blackwell. Copyright 2015 by Wiley Blackwell.

1.5 Traditional Methods of Teaching Languages

In reviewing the changes in theories in the field of adult SLA, and in reflecting on justifications for TBLT, it is helpful to quickly consider the various methods in the teaching of languages over the history of language teaching. These have included the grammar-translation method, the direct method, the audio-lingual method, the communicative language teaching, the total physical response method, the silent way, community language learning, the natural approach, and suggestopedia. These methods were used for the teaching of foreign languages around the globe, and many are still used today. Briefly, they are reviewed in the section to follow below.

The Grammar-Translation Method was adopted between 1840s and 1940s with the emphasis on grammatical rules and vocabulary lists. It was teacher-centered and it focused on knowing the rules and the words of the target language without any sense of practicing this language (Richards and Rodgers, 1999). In another phase of language teaching, the Direct Method was meant to teach the 'target' language by focusing only on the target language. Everything should be done in the target language without any inclusion of the

first or home language of the speakers (Richards and Rodgers, 1999). The Audiolingual Method emerged between 1950s and 1960s, and addressed language teaching through the four skills: listening, speaking, reading, and writing. The main focus of the teaching was through memorizing and repeating the language components by using exercises and dialogues (Richards and Rodgers, 1999).

Total Physical Response is another method that was developed by Asher (1965), in an attempt to make a connection between speech and action which depended on learners' comprehension of the language before learning it. This method resembles the way in which young children learn their first language (Richards and Rodgers, 1999).

The Silent Way depended on minimizing the role of the teacher in the learning process and gives more space to the learners to interact in the target language without using their native language (Brown, 2001). Community Language Learning was an approach that emphasized interaction of the students and the teachers in the language community that they participate in (Richards and Rodgers, 1999).

The Natural Approach is another teaching approach proposed by Terrel (1977), with a focus on highlighting communication through using the target language by creating occasions of daily life situations in the classrooms to give the sense of interacting naturally. Last but not least, the Suggestopedia method (first developed by Georgi Lozanov, a Bulgarian psychiatrist-educator), utilized the setting of the classroom and decorations, furniture, and music. The main purpose of this method was to develop learners' proficiency in conversations through learning vocabulary lists of the target language (Richards and Rodgers, 1999).

Communicative Language Teaching emerged to focus on interactional ways and settings between learners in the target languages where other competences are involved; for example, organizational competence, pragmatic competence, and strategic competence (Brown, 2001). Before the emergence of the term *communicative competence* in the seventies by Michael Halliday, the dominant method of teaching and learning languages was through mastering the grammar rules or what was called *the linguistic competence*. This was developed by Canale (1983) to include *linguistic competence*, which encompasses vocabulary, grammar, semantics, and phonology; *discourse competence*, which gives learners the chance to participate in discourse; *pragmatic competence*, or learners' capacity to utilize their language knowledge in actual, real-world settings such as making requests, offering apologies, etc. through the use of words; and *sociolinguistic competence*, which helps learners to use the language in the suitable social settings such as choosing the appropriate words in the suitable context within a specific community. Communicative language teaching has been the dominant approach to the teaching of second language, until TBLT started to lead the way through its approach by being more focused on delivering the language to the learners through actual and real authentic real-life tasks to give them a better practice for the target language they learn.

TBLT emerged under Communicative Language Teaching (CLT) with the goal of “us[ing] tasks to create contexts for natural language use and as central units to form the basis of daily and long-term lesson planning” (Brandl, 2008, p. 426). Brandl also stated that TBLT is considered as an approach used in language teaching and not merely a method of teaching. Of course, as described earlier, TBLT has since evolved into an entire research

paradigm for the learning and teaching of second and foreign languages (East, 2021; Long, 2015).

All previously mentioned approaches are demonstrative of how the field has evolved thanks to advancements in both theory and research. Currently, TBLT is espoused in the field of teaching second or foreign languages as it gives the students the space as described by Long (2015) to be “playing an active role in their own progress in a learner-centered, egalitarian classroom” (Long, 2015, p. 13). Adult learners have the ability to distinguish between the language courses that are suitable or unsuitable to them. Therefore, it is more effective as it addresses the direct communicative needs of adult learners (Long, 2015). It is also more advantageous as it is mainly developed through recognizing the learners’ linguistic needs and develop the language curriculum based on those needs. (Long, 2015). Without identifying those needs the syllabus will just be generic and might not cover the topics that are more related to the learners direct and immediate needs (Long, 2015). This is why a Needs Analysis is so critical to TBLT. Long (2005) stated that in order to develop an effective TBLT language syllabus, students’ needs must be ascertained in order to develop a syllabus that directly addresses those needs. In considering this historical development, it is helpful to reflect on how this applies to the creation of curricula and instruction at the classroom level, starting with the syllabus.

1.6 Teaching Using TBLT

There have been two positions in language teaching: the interventionist approach, where the focus is on form and meaning, and the non-interventionist where the focus is on linguistic code and process of learning (Long, 2015). Those approaches resulted in two kinds of syllabi design: the synthetic syllabus and the analytic syllabus. The synthetic

approach focuses on the language and how to divide it into units of the language items such as words, grammar rules, and sentence patterns. The teaching is done explicitly. It often follows the standard “Presentation-Production-Practice” way, where students are exposed to the language items, followed by practice through exercise, and then practice in real usage of the language. This approach is taught where the target language is the object of teaching. Many foreign languages around the globe are still taught with this approach. Following a synthetic approach, learners often regurgitate what the teacher or textbook teaches them, taking their time to build their interlanguage (IL). It is not a matter of just knowing the rules; it will take them time until they master the target language. Language courses that are based on synthetic syllabus, teaching materials, methodology, and testing can be referred to as forms-focused syllabi (focus on formS; Long, 2015).

The analytic approach focuses on the learning process. Students are faced with L2 authentic samples and then they have to communicate using the language, and teaching is done more implicitly. The L2 is the medium of teaching. Following an analytic approach, learners are faced with more information and authentic materials. The teaching is often done implicitly, which can be time consuming for the learners. Language courses that are based on analytic syllabus, teaching materials, methodology, and testing can be referred to as meaning-focused syllabi (focus on meaning).

A shift has been made towards adopting an analytic syllabus with embedded focus on form, while avoiding the two traditional previously mentioned approaches (Long, 2015). This is supported by research showing that adult second language learners acquire a language best in the context of meaningful interactions and with explicit information (see meta-analyses by Norris and Ortega, 2000, 2001). In this shift, multiple researchers have

advocated for the use of TBLT approach in teaching second languages, with one perspective claiming that TBLT offers an analytic syllabus with embedded focus on form (Breen, 1984; Doughty & Long, 2003; Doughty & Williams, 1998; East, 2021; Long, 1985, 1988, 1991, 2009; Long and Robinson, 1998; Prabhu, 1987; Wilkins, 1976).

From a curriculum and instruction design perspective, TBLT is thus an improved approach from the synthetic *and* the analytic approaches. Students' errors in this approach are addressed through reactive, corrective feedback which is more effective in the learning process (however, as we saw above in the section on task-based methodology, the timing of corrective feedback can vary). SLA theories such as the Interaction Hypothesis (Long, 1983, 1996), the Noticing Hypothesis (Schmidt, 1994, 2001), and the Output Hypothesis (Swain, 1985, 1995; reviewed above), undergird TBLT (East, 2021). Highlighting the importance of focus on form and corrective feedback, these cognitive theories ... “emphasize the fact that corrective feedback assists acquisition when participants are focused primarily on meaning, commit errors and receive feedback that they recognize as corrective” (Sheen and Ellis, 2011, p. 595). This is best done in the context of real-world tasks based on students' needs.

In addition, TBLT is undergirded by educational philosophy. Teaching through the principle of *l'educacion integrale*, or *learning by doing*—advocated by the progressive education philosophers such as John Dewey, John Holt, Ivan Illich, Paul Goodman, Colin Ward—emphasize “educating the whole person, learning by doing, rationalism, free association, learner-centeredness, egalitarian teacher–student relationships, and participatory democracy” (Long, 2015, p. 9). Designing language syllabus based on the previously mentioned information on the different types of syllabi will be helpful for

language syllabi designers, linguists, and teachers in visualizing the appropriate syllabi content for their students.

This historical context provides a transition to the next chapter: the teaching of Arabic as a foreign language. In the chapter that follows, the case of Arabic is described, and a brief linguistic context is detailed in terms of Arabic foreign language acquisition. I then summarize the few studies that have examined Arabic in the context of TBLT.

CHAPTER 2. THE CASE OF ARABIC

Arabic is the official language of the 22 countries that form the Arab League. There are more than 300 million Arabic speakers across the world, though they predominantly live in the region stretching across the Middle East and North Africa (Sayed, 2015). Arabic has been deemed as an important language for the U.S. national security (Association of the United States Army, Defense Language Institute Foreign Language Center, and National Security Education Program). In 2012, the U.S. Senate Committee of Homeland Security and Governmental Affairs called the nation's shortage of people skilled in foreign languages a "national security crisis." This is largely due to the fact that unfortunately, the latest research in second language acquisition, as well as Arabic linguistics and sociolinguistics research (Albirini, 2015) for Arabic foreign language teaching and learning methods, have not aligned with U.S. national security and economy needs.

According to the Modern Language Association of America, not only did more than half of the programs show steady or increased enrollment between 2013 and 2016, but also the number of bachelor's degrees in Arabic grew by 27.3% during the same period (Looney & Lusin, 2019). This increase in enrollment necessitates more rigorous research on Arabic language teaching materials to serve students and also to meet U.S. demand for critically needed languages. The current study will design a fully task-based curriculum that not only addresses the different needs of the students, but also helps them in learning Arabic *communicatively* (Long, 2005, 2015). Specifically, the pedagogic tasks that will be created will fall under the category of teaching both Standard Arabic (SA) as well as authentic and colloquially spoken Arabic varieties (Colloquial Arabic, QA). This project thus aims to

serve the field of Arabic foreign language teaching and learning, given that no task-based curriculum for the teaching of Arabic as a foreign language currently exists.

2.1 Challenges of Teaching Arabic as an FL

There are certain languages that are deemed “harder” than others when learned by English native speakers, such that they require significantly more hours of instruction. The Arabic language is characterized as a Category IV language, described by Foreign Service Institute as “exceptionally difficult for native English speakers” and requiring over 2200 hours of instruction alongside Chinese, Japanese, and Korean (Foreign Service Institute, n. d). Nation (2014) stated that the amount of time needed to learn Arabic is estimated at 24 weeks of 720 hours per week in order to reach a proficiency level of ‘limited working.’ This ‘limited working proficiency’ is described as the ability “to satisfy routine social demands and limited work requirements” (Nation, 2014, p. 49).

Irving (1957) reviewed some of the reasons for which the Arabic language is considered so difficult by governments and scholars alike. Irving considers Arabic a difficult language especially for Indo-European language speakers due to the difference in the system of grammar and vocabulary. For example, the English language the plural is formed by adding the letter ‘s’ with the majority of the nouns; however, in Arabic the majority of the nouns have their own plural forms that are different from the singular forms. To illustrate this, consider the word ‘pen’. In English, the noun ‘pen’ changes into ‘pens’ to get the plural form, whereas in Arabic the noun ‘pen’ which is ‘qalam’ changes into ‘aqlaam’ to get the plural form. This change occurs by adding the letter ‘alif’ or ‘a’ to the beginning of the word and the long vowel ‘aa’ occurs after the first two consonants ‘q’ and ‘l’ in the word. He also pointed out the number of sounds that exist in Arabic and that are

different from English, such as the glottal stop. Another main cause that renders Arabic so difficult for U.S. adults is the writing system. The Arabic language script is different from Romance and Germanic languages and is written from right to left. Arabic also has its own alphabet which learners must acquire. Also, some of the Arabic language sounds do not exist in other languages, such as the velar fricatives /χ/ and /ʁ/ and the pharyngeal fricatives /ħ/ and /ʕ/. Table 3 below shows the Arabic alphabet and their sounds in International Phonetic Alphabet (IPA):

Table 3

The Arabic Alphabet and Their Sounds

Sound	Name	Letter
a / ʔ / aa / ææ	alif	أ
b	baa	ب
t	taa	ت
θ	thaa	ث
g, ʒ	jiim	ج
ħ	Haa	ح
χ	Khaa	خ
d	daal	د
ð	dhal	ذ
r	raa	ر
z	zaay	ز
s	siin	س

ʃ	shiin	ش
s ^ʕ	Saad	ص
d ^ʕ	Daad	ض
t ^ʕ	Taa	ط
ð ^ʕ	Dhaa	ظ
ʕ	ayn	ع
ɣ	ghayn	غ
f	faa	ف
q	qaaf	ق
k	kaaf	ك
l	laam	ل
m	miim	م
n	nuun	ن
h	haa	هـ
w / uu	waaw	و
y / ii	yaa	ي

Note. The Arabic letters, their names, and the sounds from IPA.

2.1.1 Diglossia

Another component that contributes to the Arabic language's difficulty in adult Second Language Acquisition is a social contextual one: diglossia (Albirini, 2015). Diglossia is defined by C. A. Ferguson (1959) as:

a relatively stable language situation in which, in addition to the primary dialects of the language (which may include a standard or regional standards), there is a very divergent, highly codified (often grammatically more complex) superposed variety, the vehicle of a large and respected body of written literature, either of an earlier period or in another speech community, which is learned largely by formal education and is used for most written and formal spoken purposes but not used by any sector of the community for ordinary conversation. (Ferguson, 1959, p. 336)

Ferguson stated that diglossia, in the case of the Arabic language, can be seen in the ‘high’ variety and he referred to it by the letter H and the ‘low’ variety and he referred to it by the letter L. In Arabic, Standard Arabic (SA) is considered the H variety and Colloquial Arabic (QA) is considered the L variety. Diglossia exists in all the Arab countries; every Arab country has Standard Arabic (SA) in formal contexts and then Colloquial Arabic (QA) in the informal contexts (Albirini, 2015). Albirini, the nation’s leading expert on Arabic sociolinguistics, explains further: “The Arabic sociolinguistic scene is characterized by the existence of a number of language varieties that often vary from one country to another and sometimes from one region to another. Even within a geographically small region ... populations may have their own distinct local dialects” (Albirini, 2015, p. 9). The following is an example of the Standard Arabic (SA) and Colloquial Arabic (QA) of some dialects in the Arabic countries:

The question “how is he?” can be phrased as:

SA kayfa ḥaluh? Standard Arabic

QA izzayuh? Egyptian dialect

QA kiifuh? Levantine dialect

QA shlunuh? Iraqi dialect

QA kifdiiruh? Moroccan dialect

Thus, the very nature of the Arabic language is different where there are two varieties: Standard Arabic (SA) is considered a standard unspoken variety, and Colloquial Arabic (QA) refers to the colloquial spoken varieties. Albirini (2015) stated that SA is the variety that children learn at schools and the variety utilized in any formal situation in the Arab World. This variety can be seen in literature, news, and religious speeches, among other genres. Contrarily, Colloquial Arabic (QA) is the linguistic variety utilized in daily life conversations among native speakers and in informal situations. This variety can be seen in movies, TV shows, music, etc. Classical Arabic (CA) and Modern Standard Arabic (MSA) are two additional linguistic varieties that both fall under the definition of Standard Arabic (SA); Albirini, 2015. Classical Arabic (CA) refers to the language found in the Holy *Qur'an* and other classical writings. Modern Standard Arabic (MSA) is a changed version of Classical Arabic (CA) that aligns with the sociocultural as well as the historical Arabic variations that have evolved and that continue to evolve over time (Albirini, 2015). To acquire Arabic as a foreign language, it is important that students have awareness of and knowledge of all of the varieties described above, as well as knowledge of their historical, colonial, and social contexts.

This presents a huge methodological challenge for the teaching of Arabic as a foreign language because of the variation between Standard Arabic and Colloquial Arabic. Standard Arabic is taught in U.S. academic programs with a focus on various language teaching approaches such as fostering communicative competence. Most of those programs do not pay much attention to the spoken linguistic varieties of Arabic in the different

regions of the Arab world, given the fact that standard Arabic is not actually spoken in Arabic countries (Ryding, 2018). While the teaching of Standard Arabic is important as it is (1) the variety used in formal contexts and (2) it will be the way for the learners to read and write formal language texts, it remains to be answered how local Arabic varieties can be effectively taught to students. This is a gap in the field, given that it is precisely these local varieties that learners need to belong to speech communities and to achieve communicative competence with actual speakers, given that *no one* “speaks” Standard Arabic in their real, daily lives.

Horwitz (1985) has stated that students’ main goal in learning a language should be to achieve “communicative competence;” it is thus teachers’ duty to help learners attain this goal (Horwitz, 1985; Hymes, 1967, 1972; see also Canale & Swain, 1980; Canale, 1983; and Celce-Murcia, Dörnyei, & Thurrell, 1995). Celce-Murcia (2007) presented a modified version of communicative competence to include *sociocultural competence*, *discourse competence*, *linguistic competence*, *formulaic competence*, *interactional competence*, and *strategic competence*. Sociocultural competence is concerned with the suitable language choices that speakers make based on the situations, while discourse competence deals with the speakers’ choice and organization of words and sentences to be able to talk in a coherent way. Linguistic competence includes the language rules in phonology, syntax, and morphology. Formulaic competence is concerned with the language chunks that people make in their daily life conversations. Interactional competence refers to the regular and known speech ways that take place in conversations such as the knowledge on starting and ending conversations. Finally, strategic competence

refers to the strategies that speakers use in order to facilitate their acquisition of the language (Celce-Murcia, 2007).

In considering these sub-competencies of communicative competence, it is doubtful that current means for the teaching of Arabic as a foreign language actually results in students achieving communicative competence. In the case of the Arabic language, there should be more courses dedicated to learning the local linguistic varieties of specific Arabic countries, so that students are equipped to perform real-world, meaningful tasks in those linguistic varieties. Doing so would reflect the reality of the Arab-speaking world (Albirini, 2015), and in turn, would meet students' real-world needs: being able to complete real-world tasks in Arabic in society.

Considering these needs, there is one single study that has argued that Arabic be taught with a task-based approach, however the paper was more theoretical in scope. In a Master's degree thesis, Hussein (2014) presented a teaching philosophy for Arabic as a foreign language in the U.S. Following suggestions by the American Council of the Teaching of Foreign Languages (ACTFL), he focused his philosophy on three modes: *interpersonal*, *interpret*, and *present*. He stated that the *interpretive* mode gives the learners opportunities to be exposed to the input learners need for the interpersonal and present modes. Hussein suggested that teachers use warm-up activities informed by Krashen's comprehensible input (Krashen and Terrell, 1988) in the teaching of Arabic. He then went on to describe interactive activities such as jigsaw and information gap activities for the teaching of Arabic, relying on Long's Interaction Hypothesis (1996) approach in the interpersonal mode where the learners have the chance to interact using the language through what Long called *negotiation of meaning*. Finally, Hussein presented the *present*

mode, where learners of Arabic should connect input and output (referring to Swain's Output Hypothesis, 1995). Hussein argued for task-based activities in Arabic foreign language teaching, where tasks fall under the three modes of interpersonal, interpret and present. He also made a case for Computer-Assisted Language Learning (CALL) in the field of Arabic foreign language teaching, arguing that it could (1) give learners more time to use the target language outside of their regular Arabic classrooms, (2) address diverse learning styles, and (3) let learners to learn at their own pace. Hussein argued that technology could enhance the *interpretive* mode through the several sources such as audio, video, and printed texts, the *interpersonal* mode through telecollaboration among students from different institutions with different language backgrounds, and the *present* mode via the production of output through using web tools such as blogs and wikis.

2.1.2 Different linguistic varieties of Arabic alongside Modern Standard Arabic

In his Master's thesis, Abdel-Rahman (2016) explored native Arabic speakers' perceptions of their own regional dialects alongside Modern Standard Arabic. Specifically, Abdel-Rahman aimed to explore participants' ability to identify regional linguistic varieties and, establish which one(s) might be closest to Modern Standard Arabic. Participants were given a map of the Arabic World and were asked to recognize the different 25 dialects of Arabic. Participants were 716 Arabs and very few of them were of dual nationalities from all over the Arab countries. Via questionnaires, the researcher analyzed the data through two parts: participants' own knowledge of dialectal boundaries of the Arab World, and participants' views of their own linguistic varieties, the linguistic varieties of other Arabs, and the relationship of these dialects in regard to the Modern Standard Arabic. Participants' choices varied amongst all of the linguistic varieties. Results

from the map task showed that the Egyptian dialect is the most identifiable one followed by Algerian, Moroccan, and Tunisian, then Jordanian, Lebanese, Palestinian, and Syrian. Then comes Lebanese and Syrian together, and lastly (in order), Sudanese, Algerian, Libyan, Moroccan, and Tunisian. In addition, when it came to the linguistic variety that is closest to Modern Standard Arabic, 25% of participants chose the Kingdom of Saudi Arabia's (KSA) linguistic variety. This variety was followed by Egyptian and Syrian Arabic (tied), followed by Yemeni and Gulf countries: Bahrain, KSA, Kuwait, Oman, Qatar, UAE. Next, Abdel-Rahman presented participants with native speaker audio clips of five different linguistic varieties: Syrian, Kuwaiti, Egyptian, Iraqi, and Tunisian. Participants were then asked to identify the dialect as based on an audio clip. Abdel-Rahman found that Egyptian was the most identifiable, and Tunisian the least identifiable. Participants chose that the Iraqi dialect audio clip (45%) as closest to Modern Standard Arabic, followed by Egyptian and Tunisian (one notes the difference here from the map task outcome). Finally, the researcher examined implicit bias by having them rate unidentified audio clips for measures such as pleasant, kind, and socioeconomic status, among others. He found that participants rated Egyptian Arabic as the most pleasant (61%), Syrian as little pleasant, Kuwaiti as a little unpleasant, and Tunisian and Kuwaiti are unpleasant. This was the first study (and to the author's knowledge, the only study) that examined the perceptions of native Arabs towards their own linguistic varieties and towards Modern Standard Arabic. It highlighted just how diverse the Arabic language landscape is—even for native speakers themselves. This sociolinguistic backdrop to the Arabic speaking world further exemplifies the incredible complexities of trying to teach Arabic as a foreign language.

In sum, there is a paucity of research on the teaching of real, Arabic local linguistic varieties to U.S. students, how to do so most effectively, and how Arabic language teachers can best be supported. U.S. Arabic Foreign Language students' acquisition of Arabic geographical varieties is essential in order for them to be able to engage with native speakers, partake in global learning, and contribute to solving global problems in the context of meaningful communication. There should be more deliberate dedication to the teaching of Arabic linguistic varieties in Arabic FL classrooms in U.S. universities. The present dissertation aims to fill this critical gap in the field by conducting a Needs Analysis to examine U.S. students' real-world needs for Arabic as a FL, and then by designing an entire task-based curriculum based off of their needs.

In the next section, I review the few studies in the field of TBLT that have involved Arabic second and foreign language learning via a task-based approach.

2.2 Task-based Application to the Teaching of Arabic as a Foreign Language

While there is a dearth of research on teaching Arabic as a FL, nor any research on fully task-based Arabic programs implemented in the US, a handful of studies have explored different aspects of TBLT and Arabic, and solely in the countries of the United States, Saudi Arabia, Malaysia, the United Arab Emirates, and Indonesia. That small research base will be briefly described here, organized by geographical region in which they were conducted.

2.2.1 Studies Using Task-Based Language Teaching in Arabic

2.2.1.1 Indonesia

In a study based in Indonesia, Muhammad Kamal bin (2019) analyzed learners' and teachers' needs to explore how Arabic FL writing materials align with daily life skills. The researcher utilized Needs Analysis methodology to understand students' needs in order to provide them with the suitable techniques and to develop the appropriate materials that will help students to develop their writing skill through TBLT. The researcher used qualitative methods such as questionnaires and interviews, and also students, teachers, and university-related documents as sources in his Needs Analysis study. The results showed that both students and teachers had great interest in obtaining authentic writing materials with which to practice and to teach writing skills through real-world tasks. It also showed that in order to develop the writing process, it should be done through task-based learning and not through teaching the theories of writing. Also, the data showed that the teachers felt that the selection of the materials would be more beneficial when they were meant to let the students discuss and share their experience. In order to move from theory to practice, using tasks in the guided writing activities was found to help the students practice Arabic writing in real settings. In summary, Muhammad Kamal bin (2019) found a great need for TBLT in the learning of Arabic writing in Indonesia, and that so far, writing processes are still taught in a very theoretical way. Approaching it through the lens of 'task' would be well received by both teachers and students alike in this context.

In another study in Indonesia, Murodi, Emzir, and Rahmat (2020) explored Arabic foreign language needs of nursing students at As-Syafi'iah Islamic University, a nursing academy in Indonesia. Their goal was to create a fully task-based language syllabus for the

teaching of Arabic in their context, given that language syllabi do not meet the needs of the students and the education globally, nor does it meet students' linguistic and scientific needs. The researchers used qualitative methods such as questionnaires and interviews, as well as sources such as students, teachers, and university- and health-related documents to identify nursing students' real needs to assist in designing an Arabic syllabus. The results of their study revealed what the researchers classified as objective and subjective needs. The objective needs were concerned with students' Arabic linguistic knowledge. Most students reported that they do not consider Arabic a daily life language; many also shared that they are still at their basic levels of Arabic. The subjective needs show that students still need to improve the four language skills in Arabic as a foreign language, in addition to the use of Arabic in the field of nursing in Indonesia. Also, the students reported not feeling capable of participating in or completing class activities due to their difficulties such as the vocabulary activities. The authors stated that designing an Arabic language syllabus using task-based language approach would be appropriate for the nursing students with skills in foreign language. In sum, this study highlighted some real-world needs of nurses in the nation of Indonesia for the Arabic language. It did not report on a created syllabus however, nor any tasks with which to do so (serving as the Needs Analysis step only).

2.2.1.2 Malaysia

In a study administered in a Malaysian international university, Hashim, Selamat and Sulaiman (2014) examined students' perceptions of TBLT in their Arabic as a second language classes. The authors began by providing context in Malaysia, describing the teaching approach there as traditional grammar teaching methods and teacher-centered. As

a result, non-Arabic major graduates cannot perform any very basic Arabic conversations. For this reason, the researchers in collaboration with the Centre for Foundation Studies, started to implement TBLT in the teaching of Arabic. In their contexts, English is a first language and Arabic is a second language in communication across the university. The researchers were interested to examine students' preferences of language learning tasks, the effect of learning Arabic with a TBLT approach, and the usefulness of tasks on speaking and writing. Participants were 313 Arabic language students aged 18 to 19 years old. All students had been exposed to learning Arabic for a minimum of 4 months. The researchers used questionnaires as their main instrument to obtain data with which to assess TBLT approach and Arabic teaching tasks. The questionnaire included a number of tasks for the students to evaluate, such as taking place in language games, role-plays, and demo presentations. In general, the findings of the study showed that students favored and learned from implementing TBLT in their journey to learn the Arabic language. The researchers found that students favored tasks such as playing games and making videos than the role-plays or presentations. They also found that most of the students favored the use of a TBLT approach in learning the language. Students also reported that TBLT helped them in improving their language skills such as vocabulary, speaking, and writing abilities. In conclusion, and based on students' positive perceptions, the authors advocate for the implementation of TBLT in teaching Arabic and urge the teachers to adopt this approach in their teaching styles and techniques.

In another study, Omar and Mukhtar (2017) examined the effect of TBLT on the Arabic foreign language writing and speaking, assessing students' progress through self-reported questionnaires. The study took place at the Language Center of International

Islamic University in Malaysia. Participants were 76 Arabic foreign language learners. Data were conducted through questionnaires that deduced (1) the effect of learning using a task-based approach versus traditional teaching method of lectures, (2) the connection between task-based learning and the progress of the speaking skills of the learners, and (3) the connection between task-based learning and the progress of the writing skills of the learners and their views on task-based as learning approach. Findings of the study showed that learners in the task-based learning group viewed themselves as progressing better in speaking and writing skills. These learners reported that the task-based approach was more helpful and enjoyable for the Arabic language learners to utilize authentic real language through tasks, and that a major advantage was the learner-centered environment that it offered them. Finally, the researchers supported the concept of the learners taking place in the language learning process. Based off of these student perceptions, the researchers concluded by advocating for the teaching of real-life language in which students will have the opportunity to practice later when they actually *use* the language instead of focusing on language forms and rules.

2.2.1.3 Saudi Arabia

In a dissertation study, Bayousef (2019) examined the perception of female Arabic in-service teachers towards TBLT training needs in a Saudi Arabian higher education setting on Arabic as a *first* language. Highlighting shortcomings of traditional, grammar-focused methods, the researcher aimed to explore more communicative teaching and student-centered approaches. Participants were six female Arabic teachers who had applied TBLT in their classrooms for the past six months. The researcher collected data through interviews, classroom observations, and open-ended statements, and a pilot study. In a

qualitative study report, Bayousef divided findings into three sections: teachers' understanding of TBLT, teachers' with applying TBLT, and teachers' choices in TBLT training opportunities. A key finding was that teachers expressed that they had in-service training for teaching using some of the objectives of TBLT but did not have any training on TBLT as an approach. Teachers expressed different attitudes towards their understanding of the meaning of "task" in teaching. Two teachers reported that a task is a kind of exercise used to let students practice what they can encounter in their practical lives, and that it is done through three steps: the pre-task, the task, and post-task, while paying attention to some of the language rules. However, the remaining four teachers did not understand the difference between 'task' and 'activity,' demonstrating that they did not fully understand the principles nor the application process of TBLT. These teachers were found to focus more on forms and language rules than on meaning in their practice as well. A second main finding was in regard to teachers' main concerns. They expressed feelings of having incomplete information on how to do TBLT, and some expressed their desire to learn more about applying TBLT and how to let the students work successfully and be more motivated to participate in class activities through TBLT. Teachers also expressed their concerns that the classroom setting might not be suitable for arranging the students in groups to work together and the amount of time needed to design the lessons following TBLT. In addition, one of the teachers mentioned the misconnect that might occur between teaching using TBLT and then the mandatory exams that measure and assess students following the rules of Modern Standard Arabic. Finally, the teachers reflected on their adequate knowledge of the Arabic language rules and their inadequate knowledge on the pedagogical theories and applications of languages. They also mentioned that they did not

get the chance to practice teaching in actual classrooms. In general, the teachers expressed great optimism in utilizing TBLT in Arabic teaching but said that they need to be better prepared and trained. Teachers suggested that this might be achieved through organized teacher-training workshops. In conclusion, the study supported the use of TBLT in Arabic as a first language context through intensive trainings to the teachers of the principles as well as the application of TBLT, though this still has yet to be done.

2.2.1.4 United Arab Emirates

Zaki (2020) explored the association between corpus-based tasks and the performance of Arabic learners in their learning of writing. The researcher additionally sought to examine error correction that takes place in the language learning process, including self-correction and corpus-based self-correction. Participants were 32 intermediate-level (lower-intermediate and higher-intermediate) students Arabic as a foreign language and intermediate level teachers. As part of the study, students were introduced to the meaning of corpus, corpus-based teaching, and to an Arabic corpus website for a week. Students then spent some time completing corpus-based exercises on vocabulary and grammar for two weeks. In the fourth week, students were introduced to error correction and actual corpus-based tasks. The data were collected in the form of written assignments consisting of 75 and 150 words. Zaki used arabiCorpus with 173-million-word corpus, which shows the context for each word. The researcher used error analysis and from this, developing corpus-based activities. The teacher followed the process of reading the assignments, highlighting the errors, commenting on type and number of errors. Then the teacher created corpus-based tasks to outline the errors and asked students to correct errors themselves. The errors were either collocational errors or

grammatical errors. The researcher conducted a survey before the task took place to understand students' opinions of error correction, how error correction should take place, and by who. Results showed that students preferred that teachers be the ones to correct errors, followed by peer correction. Interestingly, in the high levels there was a tie between a preference for teachers' corrections and self-corrections. Students also expressed wanting to have immediate feedback on their errors. In terms of the study, the corpus-based activities were twenty in total for all the classes, and the high-level students were able to correct all the errors better than the low-level students. In sum, the study enabled the researcher to devise and to propose strategies for the teaching of Arabic as a foreign language, and specifically, writing. Finally, the study showed that students can do self-correct in the Arabic as a foreign language classroom, and do not depend on teachers' corrections. This study gave a picture of how writing skills might be approached in Arabic TBLT, and specifically, that corpus-based tasks hold potentially great promise.

2.2.1.5 United States

In another dissertation study, Diab (1997) explored the difference between teaching Arabic for Specific Purposes (ASP) and traditional teaching on students' performance and development in an Arabic foreign language class in the U.S. Diab also sought to learn about the reasons and purposes of learning Arabic in the U.S. by other language speakers, and what students' specific needs for teaching ASP are. The study took place at Diplomatic Language Institute in Arlington, Virginia (DLI). The participants were 48 male and female students at the intermediate Arabic level across eight classes; all were U.S. foreign service and military officials. Each class had an average of 4 to 8 students per class, and four classes served as the treatment group while the other four classes served as the control

group. The researcher proposed that Arabic for Specific Purposes can be taught in the U.S. through five subcategories: diplomacy, business, religion, occupation, and culture. While not a Needs Analysis, the researcher deduced these subcategories as based on her observations as a teacher in teaching, informal sessions with the students, students' demands and inquires in classes, and collecting written inventories with personal data as well as the reasons for learning Arabic from the students. For the first part of the study, the researcher detailed how she designed the curriculum based on subcategories. For the religion subcategory for example, she referred to Arabic for Religious Purposes (ARP) where students converted to Islam and were interested in learning the religion and be able to comprehend the Qur'an. In this unit, the researcher used six short chapters from the Qur'an to present to students some common principles of Islam to let them learn about the prayers in Islam. For the occupation subcategory, Diab referred to Arabic for Occupational Purposes (AOP) where there are a number of Arab/Muslim professionals in the U.S. This unit used real conversations at doctor's offices and clinics. For the cultural subcategory, Diab referred to Arabic for Cultural Purposes (ACP) to teach students about the culture of the Arab World. This unit included materials on cultural traditions and beliefs of Islam and the Arab World. The units were designed with focus on the different language skills, and the researcher used articles on Middle Eastern history and geography, government and politics, and international relations and organizations. A pretest and a posttest were administered to the four groups. Then the five units were instructed to the treatment groups while the control groups presumed the traditional instruction. The data were gathered through personal demographic information of the students, written questions addressed to the students to know their purpose of learning Arabic in regard to the five subcategories,

and asking students to share on whether their interest in the subcategories by choosing whether they like or dislike any of the five subcategories. The results of the pretest and posttest showed that the treatment group performed significantly better than the control group. This led Diab to conclude that learners' needs, and goals must be taken into account when creating course materials for Arabic language courses. The researcher offered suggestions for instructors and curriculum designers to help them in developing and choosing suitable courses for Arabic for Specific Purposes. In general, the study recommended that teaching should be based on learners' needs. It also indicated that this kind of teaching helps learners be more focused and enthusiastic in learning the language. It also advocated for other subcategories that should be taken into consideration in designing language courses, such as Arabic for Military Purposes (AMP) in future studies. The researcher stated the implications of the study where curriculum design should be achieved through exploring the learners' needs by interviewing them to learn about their actual needs, and to employ task-based syllabus design in the future. In addition, Diab called for Arabists to assess learners' current knowledge, their perceptions on the teaching materials, and their abilities in recalling knowledge. Diab further wrote about the needs of Arabic language teachers, stating that teachers should be acquainted with maintaining effective ASP teaching, teaching real language, creating the lessons to help in the learning process, and ensuring student-centered learning. Again, while this study was not a Needs Analysis such that TBLT Needs Analysis methodology was followed and that led to the design of curricula and tasks, it was the first of its kind to create course content as based on students' needs and goals.

Mohsen (2013) explored the impact of Dynamic Assessment (DA) on learners of Arabic at the Defense Language Institute, Foreign Language Center (DLIFLC) in the U.S. The study was meant to explore the impact as well as the instructors' views of utilizing TBLT along with Dynamic Assessment in Arabic language courses with the focus on speaking at the DLIFLC. The participants in the study were five males and one female in the U.S. military enrolled in an Arabic Basic Course. Students' proficiency levels were first assessed using the U.S. Government language proficiency scale named Interagency Language Roundtable scale (<https://www.govtilr.org/Skills/ILRscale2.htm>). This scale is concerned with assessing the learners' speaking proficiency that is categorized from 'No Proficiency' all the way up to 'Functionally Native Proficiency' in any language. The study took place in three phases: Pre-Dynamic Assessment, Dynamic Assessment, and Post-Dynamic Assessment. In the first phase, students were assessed by two testers in their speaking by using Oral Proficiency Interview (OPI) and the Interagency Language Roundtable Rubrics (ILR). Their performance was evaluated with interventionist-dynamic assessment interviews. The second phase was designed to let the students participate in task-based lessons for one hour every day. The researcher, who also served as the teacher in this study, also used this hour to provide students with feedback using the interventionist-dynamic assessment while they were presenting their outcomes to the class. The final, post phase was designed to reassess the students via OPI and the dynamic-assessment interviews. In the first two phases, Dynamic-Assessment Rubrics Form (DARF) were used to write down comments on the students' performance. Finally, the researcher also conducted an interview with the students to obtain their opinions on Dynamic Assessment and on TBLT. The data were transcribed and coded for themes. Their study took place

when the students were in their final eight weeks of the whole training period (63 weeks). The researcher gathered some background information of them in regard to their language proficiency that aided in creating suitable class materials and exercises for them and in assigning them in groups. The researcher designed the one hour in the DA phase where there was a pre-task. In the pre-task, students were exposed to some exercises where they work together to come up with a final task outcome. Finally, an observer participated in an interview with the researcher to comment of the DA/TBLT process. The data were analyzed across several steps, and pre- and post- data of OPI and the interventionist DA interviews were evaluated. The results showed that the students did better based on the ILR scale. The data also showed that OPI with Dynamic Assessment aid was more successful in assessing the level of proficiency and in giving feedback than the OPI without Dynamic Assessment aid. In looking at the qualitative data, all of the students reported that Dynamic Assessment in the context of TBLT helped them in their learning and in achieving their goals. In summary, the researcher concluded by recommending TBLT instruction for Arabic foreign language teaching, arguing that it would have a positive impact on implementing dynamic assessment in teaching languages.

Khoshaba (2014) was one of the first studies to explore students' views of the impact of using technology in learning the Arabic language, with a focus on listening and speaking in an Arabic Basic Course. The study took place at The Defense Language Institute, Foreign Language Center (DLIFLC) in Monterey, California. The teaching of Arabic at DLIFLC is done through using several technological devices such as Blackboard, SMART Board, iMacs, and iPod Touch. As such, this study was meant to explore students' usage of the tools, the tools that they use in listening and speaking, and the tools that are

most effective for them to learn the language. Participants in this study were 45 U.S. military students. The researcher administered three 50-item surveys with a five-point Likert scale. Results showed that most of the students liked to use the MacBook the most in their learning process in the class, followed by the iPad for specifically listening and speaking skills. Students also reported that they use a SMART Board to develop listening skills. The students did not indicate that they use an iPod. Overall, students expressed positive opinions on using the Apple products over the web-based tools such as SMART Board and Sakai, because they already had all the learning materials downloaded on their iPads. In general, the students were positive about utilizing technology through learning the Arabic language and in developing their speaking and listening skills in particular. The study concluded by suggesting the most effective and utilized tools for Arabic foreign language courses. It also recommended that the students participate in training sessions on how to use those tools most efficaciously. Khoshaba additionally recommended that teachers participate in training sessions on the inclusion and application of the latest technology for teaching languages (computer-assisted language learning, or CALL). To conclude, and while this study did not scientifically test the efficacy of these tools in an empirical way, it did report on students' perceptions of their impact. The author called for more research to precisely do this in the future.

In a dissertation study, Bairaقدar (2014) examined the influence of teaching speaking strategies on Arabic adult learners' speaking performance through a mixed-methods research approach. The study was concerned with exploring the various strategies in learning Arabic as a foreign language which might have a positive impact on the learners' speaking skills. The study took place at the Defense Language Institute, Foreign

Language Center (DLIFLC) in Monterey, California, where Modern Standard Arabic, Levantine Dialect, and Iraqi Dialect are taught to students at DLIFLC for a period of 64 weeks. The courses mainly focused on teaching students speaking, listening, and reading skills. By the end of the course, students participated in an Oral Proficiency Interview (OPI) to examine their speaking level in real-life situations on topics from their textbooks as well as other general topics. Participants were 46 students in Arabic, Levantine, and Iraqi Basic Courses. The data that Bairaqqdar gathered were from a pre- and post-test questionnaire, in-depth interviews, and notes from focus group discussions. The main purpose of the data gathering tools was to look for a way to increase the speaking proficiency of students. The study aimed to define what type(s) of speaking strategies can most effectively help students to improve in their Arabic speaking proficiency. The students had to respond to the strategies they use or perform in the questionnaire. Data were then analyzed to explore the influence of the strategies on the students' speaking proficiency using one-tailed t-test of the questionnaire. The results of the quantitative part of the study showed a positive correlation of utilizing the speaking strategies and building students' speaking proficiency. Examining the qualitative data, results showed that the majority of the students were interested in learning how to speak with others in the daily life situations, being intelligible to others, learning about the Arabic culture, and conversing with native speakers. In addition, almost all the participants agreed that speaking with native speakers is one of the effective ways to pursue developing their speaking proficiency. Also, most of the participants contended that speaking strategies would have a positive impact on the listening and reading skills. Finally, focus group data revealed interesting options and strategy suggestions for students. For example, students might look for other easy words

or other synonyms to catch up in the conversations. These data led to strategies that were thematically organized and divided into three categories: prior to speaking, while speaking, and then after speaking. For example, prior to speaking, learners could plan for the ideas and comforting themselves (arguably comparable to pre-task planning, though this was not the view of the study). Learners could also try to look for new words and focus on the current conversation while speaking. After speaking, they try to evaluate their speech and look for the mistakes to fix them (modified output). In conclusion, the researchers suggested that language teachers and administrators discuss the advantages of using speaking strategies in the teaching of speaking, monitoring, and evaluating those strategies. They called for more studies that empirically compare such strategies.

Highlighting the problem of lack of consistency in teaching vocabulary in contemporary Arabic language curricula, Mohamed (2016) examined the impact of tasks on the learning of incidental vocabulary in Arabic as a foreign language. The study explored incidental vocabulary acquisition with regard to the involvement load hypothesis of Arabic language learners, where the extent to which the involvement load has a control on vocabulary learning was examined. Mohamed also sought to explore the needs of the learners to increase their vocabulary given the foreign language context of Arabic. Participants were 53 native speakers of English learning Arabic at a U.S. university. Their proficiency level was categorized as between intermediate low and intermediate high based on ACTFL exams. In a pretest, posttest, delayed posttest design, Mohamed tested the effect of task-based teaching of Arabic vocabulary through incidental exposure, comparing a writing task to a fill-in-the-blank exercise. Words on the pretest were selected from the students' textbook glossary as well as other unknown words to the learners. After the

pretest, the researcher selected ten unknown words and then created three vocabulary tasks using those ten words. The first task was a reading task with the words (bolded) with their meanings in English; students then had to complete their fill-in-the-blank exercise and answer subsequent questions. The second task utilized the same reading text, but this time, it omitted the ten words under investigation. Instead, the words (translated, defined, and given with an example) were given to students separately and they had to answer fill in the blank questions. After this, students then had to respond to the same subquestions as they did in the first testing session. The third task was conducted by giving students the ten words (translated, defined, and with an example) and they had to create their own sentences using those words. The researcher then used the vocabulary knowledge scale (a 5-point scale) created by Wesche and Paribakht (1996), where learners rate words according to their familiarity or knowledge of the words. The immediate posttest asked the learners to present their own information of the words using the previous scale. Finally, the delayed posttest was the same as the immediate posttest, however it presented the words in a different order. Results showed that the students scored better on the writing test than on the fill in the blank assessments in both the immediate test and in the delayed test. This finding aligned with the hypotheses of the study, such that vocabulary acquisition took place better with tasks than fill-in-the-blank reading exercises. Nevertheless, there was memory decay in both groups in the delayed posttest. There were also slightly significant differences between the groups in the effect of the tasks according to their proficiency levels. In sum, this study showed the potential for Arabic foreign language vocabulary teaching through tasks. Mohamed concluded by advocating for Arabic foreign language

teaching through tasks that focus on high frequency words, arguing that students need multiple exposure points to acquire words and to improve communicative proficiency.

In summary, a total of ten studies have been conducted in TLBT and the teaching of Arabic. The contexts for this small literature base have so far only been in the U.S., Malaysia, Indonesia, Saudi Arabia, and United Arab Emirates. In synthesizing this literature, it is clear that the studies can be divided into two main strands: studies on the *perception or needs* of TBLT for the teaching of Arabic, and then studies on the *impact* of TBLT for the teaching of Arabic. These studies are visually summarized below in Tables 4 and 5:

Table 4

Perceptions or Needs for TBLT for the Teaching of Arabic

Author, year	Country	Goal of study	Participants	Main finding	Manuscript type
Muhammad Kamal bin (2019)	Indonesia	To analyze learners' and teachers' needs to explore how Arabic FL writing materials align with daily life skills	Learners and teachers	Great need for TBLT in the learning of Arabic writing where it is still taught in a very theoretical way	Published article
Murodi, Emzir, and Rahmat (2020)	Indonesia	To create a fully task-based language syllabus for the teaching of Arabic	Students and instructors	Highlighted real-world needs of nurses in Indonesia for the Arabic language	Published article

		for nursing purposes			
Hashim, Selamat and Sulaiman (2014)	Malaysia	To decipher students' perceptions of TBLT in Arabic as a second language classes	313 Arabic language students	Students favored and learned from implementing TBLT in learning Arabic	Published article
Bayousef (2019)	Saudi Arabia	To explore perceptions of female Arabic in-service teachers towards TBLT training needs	6 female Arabic teachers who had applied TBLT	The use of TBLT was well perceived by the teachers and expresses their need to be better prepared and trained on applying TBLT	Doctoral dissertation

Table 5

Impact of TBLT for the Teaching of Arabic

Author, year	Country	Goal of study	Participants	Main finding	Manuscript type
Omar and Mukhtar (2017)	Malaysia	To examine the effect of TBLT on the Arabic foreign language writing and speaking	76 Arabic foreign language learners	Learners in the task-based learning group viewed themselves as progressing better in speaking and writing skills	Published article
Zaki (2020)	United Arab Emirates	To explore the association between	32 intermediate-level (lower-intermediate	Students were able to do self-correction in	Published article

		corpus-based tasks and the performance of Arabic learners in learning writing	and higher-intermediate) students Arabic as a foreign language and intermediate level teachers	the Arabic as a foreign language classroom. The researcher was then able to derive strategies for the teaching of Arabic as a foreign language, and specifically for the writing of Arabic	
Diab (1997)	United States	To explore the difference between teaching Arabic for Specific Purposes and traditional teaching on students' performance	48 male and female students at the intermediate Arabic	Students in the treatment group (TBLT) performed significantly better than the control group.	Doctoral dissertation
Mohsen (2013)	United States	To examine the impact of Dynamic Assessment (DA) on learners of Arabic	5 males and 1 female in the U.S. military enrolled in an Arabic Basic Course	Dynamic Assessment in the context of TBLT helped students in learning and in achieving their goals	Doctoral dissertation
Khoshaba (2014)	United States	To explore students' views of the impact of	45 U.S. military students	Students viewed the utilization of technology	Doctoral dissertation

		using technology in learning the Arabic language		through learning Arabic and developing their speaking and listening skills as positive	
Bairaqdar (2014)	United States	To examine the influence of teaching speaking strategies on Arabic adult learners' speaking performance	46 students in Arabic, Levantine, and Iraqi Basic Courses	Teaching of speaking strategies have a positive impact on the listening and reading skills in Arabic language learning	Doctoral dissertation
Mohamed (2016)	United States	To examine the impact of tasks on learning of incidental vocabulary in Arabic as a foreign language	53 native speakers of English learning Arabic	Arabic foreign language vocabulary can be successfully taught through tasks	Published article

It is important to highlight that none of these studies were not conducted with an actual Needs Analysis methodology. Diab's study is the closest to examining students' needs, but it did not follow a task-based Needs Analysis methodology nor were tasks designed from the scientific Needs Analysis data. Not one of these studies was conducted at a U.S. university, and not one explored U.S. university students' needs for the study of Arabic as a foreign language. The previously mentioned studies highlight the importance of TBLT in designing and developing foreign or second language programs for the teaching

of Arabic, and certainly demonstrate its promise and potential – from both learners’ and teachers’ perspectives. To date, there is no research that had been conducted examining U.S. university students’ needs for Arabic as a foreign language, and then from this, that has designed an entire task-based curriculum. This dissertation aims to fill this critical gap in the literature.

In the chapter to follow, I will review the science of the Needs Analysis process and explain how it is done. A Needs Analysis is considered the first and imperative step in developing a full TBLT program that implements real-world tasks as based on students’ actual needs. I will then explain how in the field of TBLT one derives tasks as based on the Needs Analysis, following the curriculum design steps through to the design of all curricular materials.

CHAPTER 3.LITERATURE REVIEW

3.1 Needs Analysis and Task-Based Language Teaching

There is a long history of Needs Analysis as a methodological requirement in TBLT, with the goal of determining the needs of students for the teaching of foreign and second languages. As far back as 1987, Hutchinson and Waters stated that learners are more encouraged to learn when the course content meets their needs and addresses their interests. Long (2005, 2015) has also argued for language course design to start with Needs Analysis and is to date the field's pioneer in establishing methods with which to do so in the field of language teaching research. Van Avermaet and Gysen (2006) have additionally asserted that course designers should develop "courses where attainment goals match the language learning needs of particular groups of learners" (p. 18). What is essential to emphasize in starting this chapter is the fact that Needs Analysis has a pivotal role in designing language curricula. Put shortly, conducting a Needs Analysis will serve learners better, meeting their various and different needs, and will result in better learning outcomes. It is the basis upon which all tasks should be designed.

Hutchinson and Waters (1987) first named language learners' needs "target needs" and summarized them as "... something of an umbrella term, which in practice hides a number of important distinctions. It is more useful to look at the target situation in terms of necessities, lacks, and wants" (p. 55). The researchers started by defining 'necessities' as "the type of need determined by the demands of the target situation; that is, what the learner has to know in order to function effectively in the target situation" (p. 55). expanding further, they argue that "[one] also needs to know what the learner knows

already, so that [one] can then decide which of the necessities the learner lacks” (p. 56). Finally, they comment on the ‘wants’ as the learners’ own opinions on the reasons and the rationale behind learning a language: “the learners too, have a view as to what their needs are” (p. 56). Hutchinson and Waters (1987) were the first to point out that language learners might have different reasons for learning a language, and as such, being aware of those needs will have a positive effect when designing a language curriculum.

Richards (1990) also states the importance of Needs Analysis in developing language curriculum. He writes:

In language curriculum development, Needs Analysis serves the purposes of:

- 1. providing a mechanism for obtaining a wide range of input into the content, design, and implementation of a language program through involving such people as learners, teachers, administrators, and employers in the planning process*
- 2. identifying general or specific language needs that can be addressed in developing goals, objectives, and content for a language program*
- 3. providing data that can serve as the basis for reviewing and evaluating an existing program (p. 1-2)*

The importance of a Needs Analysis was also described in two seminal papers by Long and Crookes (1992, 1993). They differentiated between synthetic and analytic syllabi, as mentioned earlier. However, they supported the analytic syllabus as it gives the learners the access to authentic language situations. Consequently, they presented three types of syllabi as a step forward to the task-based syllabus: procedural syllabus, process syllabus, and task syllabus. First, the procedural syllabus (Prabhu, 1980, 1984, 1987) puts

the focus on meaning as the crucial step for learners through learning the language. Prabhu also depended on 'task' as the starting unit for developing a procedural syllabus. From his point of view, tasks should pose a kind of challenge to always keep the learners engaged in the task, work towards completing it, and being focused on meaning. However, the procedural syllabus has a few problems: it is not based on learners' needs nor is it task-based; the teachers have to decide on the time devoted to the grading of task difficulty and sequencing of tasks; and it does not provide information on negative evidence, incomprehensible input, and interlanguage progress that is based on instruction. Next, the process syllabus (Breen, 1984, 1987; Breen & Candlin, 1980; Candlin, 1984, 1987; Candlin & Murphy, 1987) is meant to be designed based on exploring and deciding on the learners' needs. This process takes place between the teachers and the students. The process syllabus poses a few problems: the tasks it provides are still not based on learners' needs, there is not a clear design on the grading of task difficulty and sequencing of tasks, it does not provide an explicit focus on form for language teaching, and it is not based on a specific SLA theory or research. Finally, the task-based syllabus is one which depends on 'task' as the unit of analysis (Crookes, 1986; Crookes & Long, 1987; Long, 1985, 1989; Long & Crookes, 1987). TBLT is a form analytic syllabus; it advocates for utilizing pedagogic 'task' as the unit of analysis (Crookes, 1986; Long, 1985). As previously mentioned, in order to design a task-based language syllabus, a Needs Analysis should take place in order to create the authentic real-world tasks to be included in the syllabus. Long and Crookes claim that those tasks will work as the bridge between the learners and samples of the new language being learned where learners can use their cognitive abilities to understand and produce the language. The assessment of learners will be held based on the learners'

carrying out the assigned task or not. Although Long and Crookes believed in the promises that TBLT offers in teaching second languages, they stated some of the problems that might occur with it. First, they argued that there is still need for research to back the assessment of task difficulty and sequencing (fortunately today, this is a robust area of research). Also, the tasks themselves might require multiple tasks within the main task which might be problematic in performing this task. In conclusion, Long and Crookes presented the three different syllabus types that do not focus merely on linguistic aspects and involves more attention to the meaning within the language learning process. Long and Crookes (1992, 1993) also provided historical contexts for the Needs Analysis, explaining that the field started to rely on expertise in Needs Analyses done for English for special purposes courses (ESP) in the 1970s and 1980s.

Long (2015) boldly stated that “TBLT begins with an NA” (p. 110). He argued that Needs Analysis should be conducted with the population of learners to determine their various and different needs in order to develop an effective task-based language course. Long (2015) also stressed the importance of consulting domain experts to obtain their knowledge and perspective in their respective fields to contribute to the development of tasks for any given language curriculum. In so doing, the curriculum content will be authentic and not based on the curriculum designers’ own views and opinions, but rather, on learners’ actual and real-world *needs*. Also, the linguistic knowledge of language experts can and should serve in designing language-centered curricula. In sum, Long’s main approach through TBLT is to let learners be exposed to real and authentic situations through pedagogic tasks that the learners will perform in the real-life situations, and this is critically contingent upon learning about their real-life needs first.

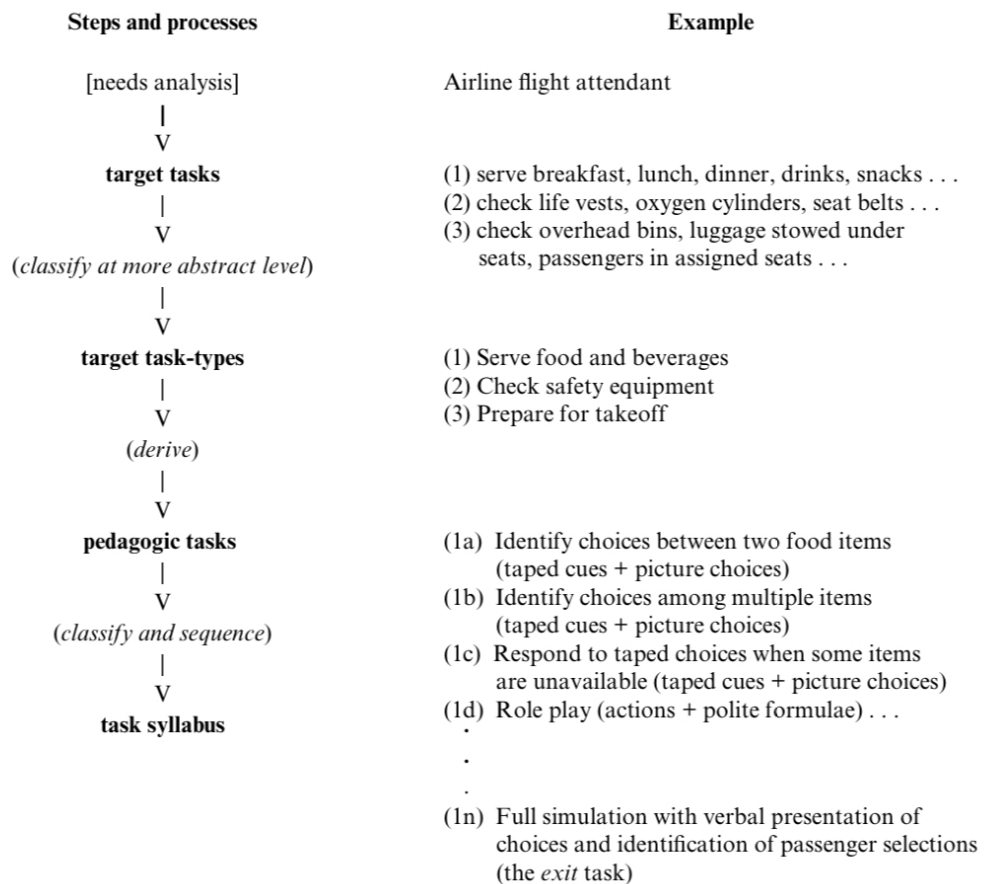
3.2 Target Tasks, Target Task types, and Pedagogical Tasks

In Figure 4 below, Long (2015) presented an overview of the steps involved in designing a task-based syllabus, starting with a Needs Analysis. This example came from a study Long did with colleagues on airline flight attendants' needs for English. According to Long, the very first step in order to develop a task-based curriculum is to derive *target tasks* from the Needs Analysis data (Long 1985, 1997, 2005, 2015; Long & Crookes, 1992, 1993; Richards, 2001). Long and Crookes (1992) defined *target tasks* as the authentic real-world tasks that people perform in their various and different daily life situations. Those tasks can be booking a movie theater ticket, ordering a meal in a restaurant, taking notes in a meeting, etc. Applying this definition to the classroom context, Torres & Serafini (2016) defined *target tasks* as "...specific communicative goals that the learners should be able to successfully carry out by the end of a given course" (p. 291). The target task helps in understanding the actual procedures of the task. Once target tasks are identified from the Needs Analysis, they are classified into what are called *target task types*. Long (2015) described *target task types* as the tasks that share common aspects and can be gathered together. For example, offering greetings in a language can be done through different situations such as greeting a professor, greeting a customer in a restaurant, greeting a friend, etc. All those examples are greetings, yet they occur in different situations. They would all be target task types under the higher target task of "greetings." The definition by Malicka, Gilabert, & Norris (2019) is helpful to understand this categorization, as they described *target task types* as the "classification of the individual tasks into superordinate categories" (p. 85). In explaining the Needs Analysis process for the derivation of tasks, Long (2015) explains that it is not target task types that go into the syllabus, but rather, *pedagogic tasks*.

Pedagogic tasks are the actual tasks that will take place in language syllabi. For example, filling out an application is a real-world task that has several sub-tasks. Ordering these by complexity, it could be classified as follows: first it starts by asking about the personal information of the applicant, and then it is increased in complexity by asking about the educational and work experience information (Long, 2015). The next step would be to sequence the pedagogic tasks into a syllabus as based on task complexity and/or cognitive complexity variables (Baralt, Gilabert, & Robinson, 2014). Consequently, the task-based syllabus can be developed following authentic tasks in any work field.

Figure 4

Steps and Processes in TBLT Syllabus Design



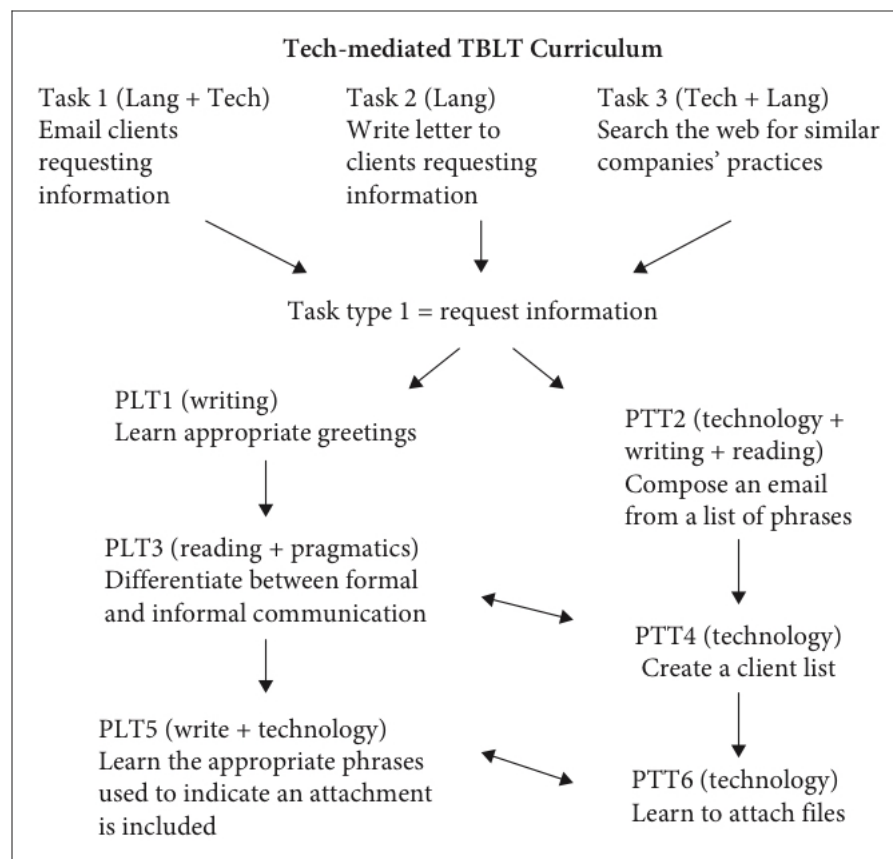
Note. Steps and processes in TBLT syllabus design. Adapted from *Second Language Acquisition and Task-Based Language Teaching* (p. 224), by M. H. Long, 2015, Wiley Blackwell. Copyright 2015 by Wiley Blackwell.

González-Lloret (2014) presented what is arguably one of the best overviews of Needs Analysis literature in the field teaching of languages and in TBLT. Focusing on the importance of students' e-literacy, González-Lloret (2014) stated that doing Needs Analysis in a technology-mediated TBLT requires knowledge on the tasks the learners will do, the language they will need, and the technologies they will use in order to accomplish those tasks. She designed a technology-mediated TBLT model that includes both pedagogic language tasks (PLTs) and pedagogic technology tasks (PTTs) that come out of the Needs Analysis. This model includes both types of tasks to be learned by the students. Describing the example of making a hotel reservation, the tasks would include a language focus such as the vocabulary used in the reservation process, *as well as* a technology focus, such as using an online calendar. Figure 5 below visually demonstrates how this is done; the reader can see how pedagogic language tasks and pedagogic technology tasks are balanced in a task-based unit. The lesson could continue with a pedagogic language task where there could be some focus on letting the students compare between the standard and non-standard language that can take place in some languages in the different communicative settings and contexts. Then, a change to a pedagogic technology task by giving learners the chance to explore the email program and navigate through it to learn other skills such as setting an email list and attaching a file. In reflecting on Long's original concepts of target task, target task type, and pedagogic task, it is helpful to consider González-Lloret's notion of pedagogic language tasks (PLTs) and pedagogic technology

tasks (PTTs) in curriculum design. Arguably, both should be included to meet the real world demands of the 21st century.

Figure 5

Example of Tech-Mediated Curriculum



Note. Example of tech-mediated curriculum. Adapted from *Technology-Mediated TBLT: Researching Technology and Tasks* (p. 44), by M. González-Lloret, 2014. John Benjamins Publishing Company. Copyright 2014 by John Benjamins Publishing Company. Adapted with permission.

In addition, taking into consideration learners' technological knowledge while conducting a Needs Analysis will help in developing a comprehensive curriculum that will be useful to the students in learning not only the language but also the different technology tools.

This is arguably imperative for Arabic foreign language teaching as well and could be incorporated should real-world technology-based tasks come out of the needs analysis.

3.3 Studies Used Needs Analysis

Needs Analysis as a scientific subfield in and of itself is growing extensively in applied linguistics and language education. In the past decade, a significant number of studies on Needs Analysis for adult language learners has been published. These studies can be synthesized into three major categories: (1) Needs Analysis for the teaching of different languages, (2) Needs Analysis for the teaching of ESL, and (3) Needs Analysis for identifying language needs in different professional fields. In this literature base, researchers have conducted Needs Analyses with multiple sources and methods, with most relying on learners, domain experts, and language professionals to identify their views on teaching and learning languages based on the results of their Needs Analysis. Highlighted studies from this literature will be reviewed briefly here (Lee and Kim, 2000; Long, 2005; Brecht and Rivers, 2005; Jasso-Aguilar, 2005; Vandermeeren, 2005; Gilabert, 2005; Kellerman, Koonen, and van der Haagen, 2005; Chaudron, Doughty, Kim, Kong, Lee, Lee, Long, Rivers, and Urano, 2005; Winn, 2005; Bartlett, 2005; Holmes, 2005; Dehnad, Bagherzadeh, Shoaleh, Hatami and Hosseini, 2010; Chostelidou, 2010; Chostelidou, 2011; Abdalla and Al-Batal, 2011; Mehrdad, 2012; Hossain, 2013; Saragih, 2014; Mahmoud, 2014; Serafini and Torres, 2015; Torres and Serafini, 2016; Zohoorian, 2015; Salehi, Khadivar, and Mehrabi, 2015; Alsamadani, 2017; Malicka, Gilabert, and Norris, 2017; and Uzun, 2018).

Lee and Kim (2000) aimed to create and apply a curriculum that is based on students and teachers' needs through a systematic course development approach in language reading skills for Korean as a second and foreign language. Participants were 13 students studying Korean and three instructors in the state of Hawaii, U.S. The data were gathered through two different questionnaires and interviews for the students and the teachers. The content of the two questionnaires was intended to explore their opinions on the materials that they read, what they expected from the course, what they like about the course, and what they suggested to help improve their own reading skills. The results of the study showed that students desired to expand their reading sources—such as newspapers and periodicals—as well as their reading content—such as pieces on culture, history, and societal. Also, students suggested that their knowledge of vocabulary could increase as a result of increased reading abilities. Moreover, students stated that they wanted more vocabulary words and explanations in their Korean textbooks. They also shared that they wanted improvements in their vocabulary repertoire and grammar knowledge from the course. In addition, the teachers indicated that their students wanted to read 'easy readers for pleasure' and 'newspapers,' they also mentioned that their students are interested in culture, society, and social customs topic as well as the vocabulary knowledge as an effective factor to enhance the students' reading skill in Korean. From this, Lee and Kim were able to develop sample lessons that followed the needs obtained from their study. They also derived course goals and objectives that would better serve students through their understanding of the materials as they read, as well as their knowledge of other aspects such as culture.

Long (2005) presents an entire collection of Needs Analyses case studies, including the famous flight attendant study. This study is reviewed here because of the detail it provided to the field on the importance of triangulating sources and methods, and the different types of data each combination yields. The study used multiple sources: written sources (e.g., the Dictionary of Occupational Titles, FA training manuals, and flight attendant competency tests), informants (e.g., four U.S. airlines flight attendants and four applied linguistics graduate students, all native speakers of English) and target discourse samples. The methods used were introspections and unstructured interviews. For the introspections, informants were given two prompts and were asked to respond using written introspections. The prompts were to provide details on the flight attendant as a profession and the language that the flight attendants use. Results from this study showed that the insiders provided more details other than the outsiders on the tasks that flight attendants do in the real world, to include reflections on the language that they use. The written introspections as a method also provided important technical terminology. The unstructured interviews were more effective where the participants provided certain examples when needed. The most reliable sources and methods proved to be the written sources and the insiders and the unstructured interviews and the audio-recordings, respectively. In sum, the study showed the benefits of contacting domain experts in a Needs Analysis to obtain real language needs that students will need to use in their professional fields.

Brecht and Rivers (2005) focused on the social marginal value need of language in the U.S. at the societal level in the state of Maryland. While slightly different and not an empirical paper, the focus on needs for language at different levels of society is

theoretically sophisticated and relevant for the current study, given that it considers needs for language from a social and societal perspective. They stated two examples for need of languages: national security and social justice. Brecht and Rivers started by pointing to the language in national security in the form of “supply” in the federal level of language professionals and “demand” in the US military existence in a large number of countries. They were interested in how the language is represented at the national level needs. It can also be noticed within three aspects: the number of students enrolled in the foreign languages at the college level, the proficiency levels of those students after graduation, and the number of heritage speakers of other languages. In addition, the capacity can be found at several domains such as the academic domain where it supplies the society with bilingual graduates. Federal capacity is represented in the several language institutes and programs such as the Defense Language Institute. Private sector can be seen in the number of companies for language education. Heritage capacity can be seen in the school systems that are intended with heritage languages education, for example, the Chinese language. Overseas domain is represented in the study abroad programs. Finally, a need can take place at other domains such as political, social, or international needs. Afterwards, the authors presented the need of languages within the national security in the form of shortfalls in supply and capacity, need and demand, and national policy. The shortfalls in supply can be seen in the lack of language professionals in foreign languages in several federal agencies. The ‘shortfalls in capacity’ is represented, for example, in the inadequate exchange with the Chinese due to the language obstacle. The ‘need and demand’ is due to the language need for the professionals to work at the governmental and national levels.

Finally, ‘national policy’ determines the importance of languages learning as a government and national security requirement.

Jasso-Aguilar (2005) investigated the language needs of hotel maids at a Waikiki hotel. Methods used were participant’s observations, unstructured interviews, and written questionnaires. The sources were housekeepers from the Philippines, China, Korea, and Vietnam, employees, task force meetings and briefings, housekeeping room, and other documents such as detailed schedule of the housekeepers’ workday and the language situations that they face during their work. Jasso-Aguilar’s findings showed that some domains think that the housekeepers do not need the language since their job performance is mainly on cleaning. Although there were some tasks that require reading and writing. Some others think that the misunderstanding between the housekeepers and the guests might initiate problems. Outsiders of the housekeeping professions think that housekeepers need to know their job terminologies and to answer the guests’ questions in English. In general, the coworkers indicated that they could communicate easily in English with the housekeepers; however, they stated the need for the housekeepers to learn English in an instructed form so they can use the language more efficiently.

Vandermeeren (2005) examined the German language needs of business firms in Finnish companies. She investigated the business relationships of the companies in some European countries, the frequency of foreign languages skills demanded to perform the job tasks, the supply of these foreign languages offered by the company, and the frequency of using foreign languages with those companies. The researcher concluded five needs: subjective need, objective need, unconscious need, objective unmet need, and subjective unmet need. The subjective need requires the employees to be competent in a foreign

language. The unconscious need reflects some managers' opinions who think that their employees do not need foreign language knowledge. The subjective unmet need reflects some employees' complaints of the obstacles that they face when using a specific foreign language. Finally, the subjective unmet need reflects the employees report that they do not use this foreign language regardless to the business that they have with this language's speakers. Although there are many language needs as presented earlier, there is an urgent need for the linguistic aspect or what she called the 'linguistic adaptation' of any foreign language. All in all, the author stated that there should be a mutual use of the other countries' languages in the business domain and do not depend on English only as the only language of communication since it is considered 'a lingua franca.' The data were collected through questionnaires. The results showed that there is a need for German language, almost half of the companies indicate that they do not have enough German language skills. Finally, less than half of the companies report that they do not know how much they need the German language as well as the low frequency of using German although they have a lot of business with Germany. The findings showed that the companies agree with the idea of using German through their interaction with their foreign business clients. Also, there was a tendency towards learning the German culture more than the German language. In addition, the author presented the implications of Needs Analysis of the foreign language use on education. The knowledge of a foreign language in the business domain can increase the mutual communication and understanding as well as increasing the commerce between the involved companies. Moreover, there can be a demand for teaching German in Finnish education to let the students be competent in a foreign language that they can use in their future business careers. Most importantly, there should be an 'intercultural' competence to

increase the awareness of the others' languages and cultures. In conclusion, the author suggests that there should be a connection between the foreign language for business learning and the business needs in order to equip their students with the suitable curricula and to better serve their linguistic needs.

Gilabert (2005) conducted a Needs Analysis of the English language tasks and discourse used by journalists in the Autonomous Community of Catalonia, Spain. The researcher ended up with nine sub-domains within the journalism field such as conventional newspapers, on-line newspapers, radio stations, and TV networks. Afterwards, the author chose a company as a representative of each of the nine sub-domains for the study. The data were collected through multiple methods: non-participant observations, questionnaires, unstructured interviews, and structured interviews. The sources were scholars, company representatives, and domain experts. In general, the scholars, the company representatives, and the domain experts reported the importance of using the English language in the domain tasks. However, there was mismatching between a company representative and a domain expert in the tasks design that might affect the future educational implications. In conclusion, the current study contended the importance of using multiple sources and methods in reaching the reliability and validity of the results and the findings. The domain experts are the main source of reliable and accurate information about the tasks and the language needs. Also, tasks as the units of analysis have their positive effect on gathering information about the tasks and their complex features.

Kellerman, Koonen, and van der Haagen (2005) explored football professionals' knowledge of Dutch as a foreign language in Netherlands. The data were collected through

multiple methods: telephone questionnaires, written questionnaires, and interviews. The sources were football club managers and players, coaches, teachers of Dutch, and press officer. The findings showed that the majority of the clubs teach and use Dutch with their foreign players and contended the use of Dutch by the players. Also, the majority of the players mentioned that they learn and speak Dutch. In conclusion, the overall results of the study revealed that most of the players in the Netherlands clubs believe it is important to learn the language of their new foreign clubs. They also believe that in the future, the clubs should take into consideration the language needs of their teams' members starting from the coaches to the players in their policy decisions as the case with the Dutch clubs.

Chaudron, Doughty, Kim, Kong, Lee, Lee, Long, Rivers, and Urano (2005) examined the task-based teaching approach of teaching Korean as a foreign language in the National Foreign Language Resource Center at the University of Hawai'i for over three years. The study encompassed: Needs Analysis, design of syllabi, developing the required materials, the methodological and pedagogical aspects, the design of tests, and evaluation. The participants in the study were Korean language students and teachers. The data were collected through unstructured interviews and questionnaires with the instructors and the students, respectively. The Needs Analysis showed that most of the participants need Korean to communicate with their Korean relatives and friends, to go to churches with them, to visit and study in Korea, to be aware of their origin and their culture, along other daily activities including but not limited to business and military services. Based on the Needs Analysis findings, the authors developed task-based Korean language materials with the focus on two target tasks: *Directions* and *Shopping*. The tasks have different levels of difficulty: easy, difficult, and complex. The pedagogic tasks, *Directions* and *Shopping* were

designed to engage the students through their initial understanding of the recordings, producing of some language, interacting in the target language, and finally interacting using the language in the target task. In this way, the students would have the chance to start by listening to the input, understanding it, and then finally producing and interacting in the target language. In conclusion, through conducting the Needs Analysis, designing pedagogic tasks, and implementing them in Korean language classrooms, the authors were able to provide the Korean language teaching with exact and actual real-life tasks to be applied in classrooms.

Winn (2005) explored the needs of the immigrants in the US naturalization interviews. The researcher focused on the difficulties and misunderstandings due to the sociolinguistic and cultural differences in order to familiarize the naturalization courses' teachers and applicants with the actual discourse of the interview. The data were collected through interviews, non-verbal reactions, researcher's observations and field notes during the interviews, the ESL/US Citizenship Preparation courses, and the success or the failure of the applicants to obtain the naturalization certificate results. The results showed that the main obstacle to the applicants was the English language and not the history or the government portion of the interview. Therefore, the researcher suggested that a task-based approach can be helpful in preparing those immigrants for their naturalization interviews. Through task-based preparation, the applicants will have the chance to demonstrate to the officers their understanding of the questions and their ability to answer them in English. The current study determined nine tasks that the applicants will go through during their naturalization interview which can be considered as an adequate course content for the applicants. In conclusion, the author advocates for the Citizenship Preparation courses to

be based on the actual interview process to address the applicants' needs and prepare them for the interviews.

Bartlett (2005) explored the authentic and actual conversations and dialogs of ordering coffee in coffee shops and carts in Hawai'i to compare the language used in real-life situations and in ESL textbooks. The participants were coffee shops workers (domain experts) and language professionals (language teachers and linguists) to explore how the language provided by both parties can match each other. The data were collected through tape-recordings of the conversations between the servers and the customers and interviews to obtain the servers' comments on the language they use. The researcher analyzed the discourse collected during the study by using the Conversational Analysis approach. The results showed that the language professionals did not provide the actual language samples used by the domain experts even if those professionals are native language speakers. Also, by comparing some excerpts from ESL textbooks with the data collected in the study, the author found that the collected data do not match with textbooks in ESL courses as they are not based on native speakers' real-life situations. In conclusion, she suggests that there should be more research on the authentic language through CA approach to help in comprehending the interactive competence that takes place within the native speakers' language.

Holmes (2005) explored the 'social needs' of nonnative English speakers and intellectual disabled workers in their work environment in New Zealand. The data were collected through observations, recordings, interviews, and de-briefings. The participants were managers of the non-English-speaking backgrounds (NESB) factories and small business workers to explore the social engagement at their workplace. In general, those

workers are very skilled in their job performance; however, they cannot cope with the sociolinguistic and pragmatic demands at their work such as social talks and interactions with their coworkers. The researcher suggested some observation, training, and practice for those workers through designed opportunities for them such as ‘preparatory courses’. There are two used methods in New Zealand to teach English to NESB immigrants: soap operas and role-plays. On the one hand, soap operas are television shows that take place in work sites with the focus on the interactions among the work individuals. Teachers can use those operas as well as the workplace professionals to provide the learners with such scripts. This can be achieved through the learners’ observation of the topics and the length of the talks. On the other hand, role-plays can help learners to practice the actual and real interactions that happen in the workplace. The author suggested three activities that would be helpful for the workers to learn and to engage in small talk: learn instant and short responses, learn maintaining small talk, and detect the mistakes. In conclusion, the author stressed the importance of learning the sociolinguistic skills where the workers will not only succeed at their workplace but also have a good relationship with their work peers. Through those skills, language teachers and linguists can work to develop the pedagogical materials that will help the workers to get engaged in their work interactions.

Dehnad, Bagherzadeh, Shoaleh, Hatami and Hosseini (2010) explored the needs of graduate students in the management and medical fields in an Iranian university. Participants were Master’s and Ph.D. students, teachers of English for Specific Purposes (ESP), Department heads, and a course development administrator from the Ministry of Health in Iran. The data were collected through a questionnaire and a semi-structured interview. The majority of the students showed their wish to improve their overall language

skills. However, the ESP teachers stated that graduate students' immediate need was to improve their writing skills, followed by reading skills. The majority of the other administrators also stated that the writing and reading skills are of a great importance to the graduate students. In conclusion, the study showed that students and teachers/administrations may have divergent views on their needs, and that in this context, the main need for the graduate students was to develop their writing, reading, and listening skills. It is to be noted that the study focused on skills only, not specific tasks.

Chostelidou (2010) explored English language learners' needs in a post-secondary education setting in Greece who were studying accounting. The data were gathered through a questionnaire and a semi-structured interview. The results showed the students were concerned with specific skills that will be helpful for them in their English course, including reading textbooks, writing emails, understanding verbal presentations better (e.g., listening and comprehension of auditory input skills), and being able to communicate in authentic accounting job tasks. In general, the learners expressed their desire for a needs-based English for Specific Purposes (ESP) course where it will help them to improve their language skills and help them in their future careers related to accounting. Their main concern was with a syllabus that would include the learning of accounting subject-content, alongside authentic ESP course materials. Based on the findings of this study, the researcher proposed a course that covers all the requested needs by the learners.

In a follow up study, Chostelidou (2011) examined the impact of an experimental syllabus she designed, based on the previously explored needs of English language skills (Chostelidou, 2010). The study focused on presenting the results between teaching English for Specific Purposes (ESP) through the needs-based experimental syllabus versus the

traditional pre-existing ESP syllabus. Participants were Business English students in a post-secondary education context in Greece. In a pretest-posttest design, the researcher administered a test to the experimental and control groups that examined students' performance on vocabulary and other skills that were based on authentic tasks. Results showed that the students in the experimental group scored better on the post-test than the students in the control group. These results indicated that the syllabus based on the learners' needs was more helpful than the traditional syllabus. In sum, the study advocated for the development and use of needs-based syllabi in ESP teaching in Greece.

Abdalla and Al-Batal (2011) examined the needs of Arabic language *teachers* in U.S. university contexts. The aim of their study was to obtain a better picture of teachers' circumstances, the institutions and programs in which they teach, and teachers' needs in order to help in improving Arabic foreign language teaching as a field. To do so, the researchers used a survey that collected information on teachers' demographics, their language programs, their views on the curriculum, their conceptions of studying abroad, and their students' overall needs, as well as attitudes in and for jobs where Arabic is a requirement. Respondents were 209 teachers, reflecting what the researchers described as half of the population of Arabic language teachers in the U.S. universities (which they stated as 400 teachers). Most of the participants were Arabic native speakers from a number of Arab countries such as Egypt, Lebanon, and Palestine, while the rest were non-native speakers of Arabic (the non-native speakers reported having L1s such as Russian, Serbo-Croatian, Urdu). Results showed that most teachers taught the Egyptian and the Levantine dialects in U.S. Arabic language programs. Teachers' education levels included Bachelors, Masters, and PhDs as the terminal degree. Less than half of the Arabic non-native teachers

had the experience of being exposed to the language in Arab countries. They also had diverse years of teaching experience, ranging between five and over fifteen years, at both full-time and part-time positions. Most of the Arabic language teachers reported teaching at public institutions, while some taught at private ones. They also teach between six and twenty hours a week. The average number of students in the Arabic classes are between fifteen and twenty students. When it came to teachers' students' background, they were characterized as being both heritage and non-heritage students (Arab and Islamic). Most of the teachers responded that their programs were clear in their Arabic teaching philosophy, and that there was good sequencing and coherence between Arabic section levels at their institutions. They felt however that there was not good coherence between what is taught and testing and/or assessment procedures. Teachers also expressed that the Arabic language is difficult or easy for students, which reportedly affected the way in which they did or did not challenge their students. Teachers also reported that the most difficult language learning aspects for their students were pronunciation, different registers of Arabic, grammar, vocabulary, and culture. Pronunciation was rated as the hardest because its instruction takes place at the beginning of most courses and the majority of the Arabic programs do not teach the Colloquial Arabic. The most commonly used textbook for the teaching of Arabic in the U.S. was reported to be *Al-Kitaab fii ta 'allum al-'Arabiyya* by Brustad, Al-Batal, and Al-Tonsi (2011). When asked about alignment with ACTFL guidelines, teachers reported giving their students listening assignments, asking their students to write sentences using lessons' vocabulary, doing grammar activities, and writing essays. Teachers also reported doing group work activities in class. Less than half of the teachers said they explain grammar, while most said they do not explain grammar

unless it is a complicated form for the students. When asked about linguistic variety taught, less than half of the teachers reported that their programs teach only Modern Standard Arabic (MSA). A third of the teachers reported that the programs do provide dialect courses, however almost fifth of these teachers said that those courses are not offered regularly. Most of the teachers expressed keen interest in teaching Colloquial Arabic, and reported feeling that it should be offered to students at the beginning of the Arabic language program. Most of the teachers felt confident about the effectiveness of study abroad programs on the learning of Arabic. They expressed their needs for more authentic listening, reading, and culture materials. Teachers also said they wanted and needed educational training on how to best teach Arabic communicatively. In sum, this study showed that there is not much attention on the teaching of Arabic linguistic varieties to U.S. students, arguably an omission if the goal of Arabic foreign language program is to set learners up to be able to speak with native speakers. The authors concluded by calling for more programs to offer Colloquial Arabic, while noting that those that do mostly focus on Egyptian dialects. Further, this study showed that teachers' viewpoints play an important role in redesigning the Teaching Arabic as a Foreign Language (TAFL) curriculum to better serve the students communicative needs. Therefore, there should be more dedication from the Arabic language programs in U.S. universities to include teachers' perspectives as domain experts and as contextual explanation providers, and also, to include more linguistic varieties of the Arabic language in the curriculum.

Mehrdad (2012) explored learners' needs in an Iranian university in an English for general purposes course. The participants were students in different majors, and data were gathered through a questionnaire. The major findings of the study, in association with the

focus of the course, revealed a strong need of the students to improve their pronunciation, reading, and writing skills. Also, students expressed their desire to improve their grammar as well as their vocabulary knowledge in relation to the content of their English course. Moreover, students reported feeling concerned with the content that they are taught in the general English course as opposed to what needs might arise in an English for Specific Purposes (ESP) course. In sum, students expressed their desire to improve their language skills that were beyond the scope of their current English course. Overall, learners' needs explored in this study revealed that students do have a strong understanding of the importance of having a well-designed English course that will help them in using the English language in their future academic as well as professional lives, and their needs and voices should be included in such a study.

Hossain (2013) explored the needs of Engineering students at a Bangladeshi university in an attempt to help them to develop their writing and speaking skills. In turn, the study also sought to create an improved curriculum in the field of Business and to enhance students' communicative skills for their future careers. The study used a questionnaire as the main method of data collection. Questionnaire items focused on exploring the *Target Situation Analysis*, which focused on learners' knowledge for the upcoming usage of the language, the *Present Situation Analysis*, which was concerned with learners' language skills, and the *Context Analysis*, which had to do with the setting in which the language would be studied. The overall analysis of the data showed that most of the students were concerned with improving their Business and English communicative skills to help them in their future careers. Results also showed that the students' speaking ability was perceived as less than their writing ability, which speaks to the need to include

more communicative language teaching. The authors called for more studies that provide authentic business-related materials for the development of an effective curriculum for Business students.

Saragih (2014) investigated the needs of nursing students in an Indonesian university with the overarching goal of providing them with suitable learner-centered materials in the nursing field. Participants were nursing students, English for Specific Purposes (ESP) instructors, and professional nurses. The data were collected utilizing questionnaires, interviews, and tests. Results showed that at the needs level, the majority of the students expressed their desire to improve their speaking, listening, and writing skills. Also, professional nurses stated that they were concerned with their limited skills in vocabulary and pronunciation while working with English-speaking patients. Finally, the ESP instructors expressed their concern with materials with which they teach, which they described as profoundly lacking in the area of ESP for the nursing field in Indonesia. It was also reported that students' grammar, pronunciation, speaking, and listening skills were the skills that needed the most attention in ESP courses. Following the outcomes of the study, the ESP professionals as well as curriculum professionals proposed a nursing-based ESP curriculum. In conclusion, the study demonstrated the demand for designing ESP courses with a focus in the nursing domain in order to improve nurses' listening and speaking skills. Doing so would arguably be a service to their professional careers as nurses, and also, to the patients that they serve and to the country's health care in general.

In Saudi contexts, Mahmoud (2014) explored learners' needs for a general English course in a large university, while also aligning the course objectives with the Common European Framework. The learners were students enrolled in a 'foundation year' in

learning the English language. Mahmoud first explored the results of students' placement test to report their level of English. He also conducted interviews with a number of lecturers to determine the outcomes of studying English in the different language skills, as well as interviews with a number of students in the foundation year to obtain their feedback on the course. The results of the placement test and the findings of the interviews showed that the students were at low level in their English language skills. Most of the students had limited English language education before college. The lecturers conveyed their interests in teaching general English along with English for Specific Purposes (ESP) to students, in order to help them in their different majors such as chemistry, biology, and physics. Lecturers expressed their concern over students' limited English language competencies, and that this might negatively impact their performance in their general college studies. The students reported liking some of the course methods such as portfolios and the reading activities, however, they expressed frustration with long lectures that they reported were typical of their language classes. Students also reported feeling that their language knowledge has grown, but not much, and that they had ambitions to improve their language skills—especially writing and listening skills. They shared that they wanted more opportunities to learn authentic English language in the real-life situations. Students also expressed their desire to be able provide input in the design of the language syllabus. In sum, the study brought to light (1) learners' needs in learning general English as well as ESP to help them in their academic as well as their careers, (2) mismatches between students' and teachers' views, and (3) that students want to be able to have a voice in language curricula design.

Serafini and Torres (2015) investigated the needs for Spanish for a Specific Purposes (SSP) course, and aimed specifically to conduct a Needs Analysis following TBLT principles in order to derive real-world target tasks for business Spanish. The study was meant to address the needs of fourth-year advanced Spanish for business purposes learners at two U.S. universities. Across three phases, the researchers utilized a mixed-methods approach with multiple sources and methods to (1) derive the tasks and (2) sequence the tasks, for the purpose of creating a task-based syllabus. In phase 1, insight from graduates as well as business experts helped with the creation of 40 target tasks across the areas of reading, writing, listening and speaking, all related to Spanish for business purposes and all aligned with ACTFL World-Readiness Standards. In phase 2, the researchers asked 54 students majoring in business to rate the difficulty level of each task, as well as the frequency. In Phase 3, Serafini and Torres utilized the task complexity results to group the tasks into five target task types, which would be used to design the pedagogic tasks. This study was one of the first showing the scientific steps one must take to derive pedagogic tasks for the classroom. It also showed that domain experts' (in this case, business students) ranking of tasks can provide insight into how to grade tasks in a sequenced syllabus order (e.g., Ellis, 2003; Baralt et al., 2014). In conclusion, the researchers suggested that Spanish programs should be able to provide their students with authentic, real, and effective tasks, and should furthermore provide their teachers with suitable training in order to create the language for specific purposes curricula.

Torres and Serafini (2016) conducted a Needs Analysis for the teaching of Spanish for specific purposes. The researchers were interested in exploring Spanish learners' views on and motivation for a TBLT course that is based on actual needs. Participants were 26

Business Spanish learners from two U.S. universities. The Needs Analysis and the finalization of tasks were done across three phases. In phase 1, an open-ended questionnaire was administered to domain experts in both the fields of business and in business teaching. The questionnaire included different 40 tasks that were categorized according to the ACTFL World-Readiness Standards. In the same phase, university students majoring in business were asked to rank the tasks as based on frequency of use and the level difficulty. In phase 2, a survey was utilized to obtain the opinions and viewpoints of learners majoring in business. In so doing, the researchers were able to triangulate the data that were obtained in the first phase. In phase 3, the researchers grouped and divided the tasks based on their frequency of use in the field and on their level of difficulty. The total number of tasks derived were 14, and these were classified by type into five target tasks. Exit tasks were then created as based on the target task types. At the end, the researchers modified the tasks to meet different pedagogic requirements for the course, and then asked students to participate in a questionnaire for each of the five exit tasks, performed the tasks, and be evaluated. Results showed that the learners were overall quite motivated about, and had positive attitudes towards, the tasks that they performed. There was only one task that they viewed unfavorably, and this was presumably due to its difficulty. Torres and Serafini concluded by advocating for the use of triangulation of methods and sources to reach a more reliable and valid task outcome. They also argued for designing of pedagogic tasks to meet the various skills that will be helpful for language learners. This study demonstrated the importance of Needs Analysis methodology and showed how to design a language or Spanish for specific purposes course as based on Needs Analysis triangulated data.

Zohoorian (2015) sought to explore overlap (or discords) between English for Academic Purposes course objectives in Iran and computer and information technology students' actual needs. The participants were 66 students studying Information Technology and Computer Science. Data were collected through a triangulation of questionnaires and semi-structured interviews, and Zohoorian categorized these under each language skillset. Results showed that students were eager to accomplish many tasks, such as the ability to read manuals and legal documents (under reading skills). They also wanted to be able to present at conferences (under speaking skills). Also, most of the students wanted to be able to write emails well and to do English-Farsi translations. In terms of listening skills, a large number of students expressed their desire to listen to and to be able to understand lectures and presentations. Most of the students ranked speaking skills as their main priority in learning English, followed by writing, then listening, and then reading skills. For the most part, these needs did not seem to align with what is offered in their EAP courses. The researcher concluded by emphasizing the role of Needs Analysis in determining learners' needs when developing EAP courses.

In the same light, Salehi, Khadivar, and Mehrabi (2015) examined learners' needs in the process of developing an English for Specific Purposes (ESP) course for medical students in Iran, with the goal of better serve students. The study also sought to evaluate an ESP medical book from the perspectives of the students and the teachers. Participants were EFL teachers and medical students in an Iranian university, and data were gathered through both questionnaires and interviews with the teachers and the students. The results showed that the majority of the teachers believe that the grammar was a priority and was well taught. The teachers agreed that the topics were good but were not true and they

proposed that the topics should be related to the learners. Also, teachers reported that the content of the book was well developed to meet students' needs in content and in level of difficulty; they felt that the book also presented suitable medical content for the students. Contrarily, most of the students reported believing that the book needed more relevant skills and challenging exercises to be included in it. However, the students reportedly felt that the grammar as well as the exercises were hard for them and that the book did not encourage students' learning of new skills. Most of the students agreed that the content is related to their needs and that the vocabulary choices meet their level, but that the content could be more interesting and relevant to their lives. In general, the teachers as well as the students agreed on the usefulness of the content of the book yet needed other texts for the professional future. In conclusion, the researchers argued for obtaining both teachers and students' perspectives in the design of both course and textbook content. In so doing, curriculum designers and book writers would be better able to address these perspectives while developing materials, and thereby meet real-world needs more efficaciously. They concluded by claiming that Needs Analysis would be an effective approach to connect learners' needs with course and books' content used in ESP courses.

Alsamadani (2017) explored the needs of engineering students studying English for Specific Purposes (ESP) in a Saudi university. The study was concerned with two approaches of Needs Analysis: the target situation analysis (TSA) and the present situation analysis (PSA). The TSA refers to students' desired goals for the language, while the PSA focuses on learners' current language proficiency. Thus, the TSA is based on the PSA in regard to the tools that are used in developing a course as based on Needs Analysis. The participants in this study were engineering students who were enrolled in an intensive

English course, as well as ESP teachers. The data were gathered through a triangulation of methods: classroom observations, a questionnaire, and a semi-structured interview. Results showed that students ranked the language skills based on their importance as follows: writing, reading, speaking, and then listening. Also, all of the students stated the importance of acquiring English language for their academic as well as professional careers. In regard to the teachers, they reported believing that reading skills are most useful for students, followed by listening, then speaking and writing (note that students ranked writing as most primary). In addition, more than half of the teachers' stated that there should be more focus on the engineering knowledge in the ESP courses. Also, the subject-content teachers expressed their discomfort with the English proficiency level of their students. Results also showed that there were significant mismatches between the course and actual needs. First, the ESP course was taught through a more teacher-centered approach. As for the language skills, there was not much focus on improving students' writing skills. In general, the course did not pay attention to language skills such as speaking and writing, as much as reading and listening. Therefore, students were not receiving adequate communicative opportunities that would help them in their future professional careers. In general, the ESP teachers viewed that the ESP course was not meant to help engineering students in regard to their future jobs. In conclusion, the researcher proposed that Needs Analysis should be always conducted in the field of ESP to better meet the students' needs in their academic as well as professional lives.

Malicka, Gilabert, and Norris (2017) conducted a Needs Analysis that included real language discourse samples to examine actual language used in the field of tourism (specifically, hotel reception work) in an English for Specific Purposes (ESP) setting. The

study was held mainly to identify the tasks and the frequency with which they are performed, the difficulty of those tasks, and if there was any linguistic difficulty due to the performance of those tasks in English. The data were collected in a number of Spanish cities where English is widespread used for tourists in this profession. The researchers collected data using field observations and semi-structured interviews. Participants were Spanish speakers; five were hotel receptionists as the domain experts, and five were students in the tourism field as domain novices. The findings of the study were presented as follows: the authors were able to identify target tasks from the collected data that use the English language. The English language is used between the employees and the customers using listening and speaking more than writing and reading. The target tasks were more than 50 in total, and the researchers categorized them into 8 target task types as well as stating the frequency where each task occurs. The researchers also categorized the tasks based on their level of cognitive complexity; they asked the participants to categorize the tasks from simple (check-in and check-out where the steps and the order of steps do not change) to complex (making recommendations, giving directions, overbooking where the employees do not know how to deliver the appropriate information to the customers). They also commented on the linguistic difficulty of target tasks where the task is considered simple, or complex based on the lexical knowledge of the employees. As a result, the authors created pedagogic units based on the Needs Analysis taking into consideration the complexity of the simple, complex, and plus complex tasks. The authors concluded by arguing that curriculum designers should pay attention to the sequencing of tasks as based on their difficulty. Also, the linguistic difficulty of tasks can be addressed in the design of classroom materials and methodological lesson plans, such that linguistic

items can be included in the pre-tasks section via a focus on form. Also, Needs Analysis in this study not only helped in the design of tasks but also, in task-based assessment of different aspects such as real-world vocabulary used in this domain. In conclusion, this study aimed to explore real-life tasks and the endeavors to utilize those tasks pedagogically, and was one of the first Needs Analysis studies published that utilized real-world discourse samples (arguably a critical need).

Uzun (2018) was a unique study that aimed to explore the English academic needs of research assistants in a nursing department in a Turkish public university. Following the English for Academic Purposes (EAP) approach to determine the academic needs of the English language learners, the author also intended to explore research assistants' reasons for which they were learning English. Turkish research assistants are required to be competent in English. This competence is required for enrolling in Master's and Doctoral programs, in research and publication affairs, and in academic promotion. As such, the author's main question was to explore the target needs of the study's individuals alongside subquestions that elicited the exact needs of the participants. The researcher categorized the subquestions as follows: purpose, medium, content area, interaction, context, frequency, and requests and suggestions. The results of the study showed that all the participants were concerned with learning English to help them in their work. In the medium section, all participants stated that they need the language for presenting, reading, and for writing academic articles. In the content area, they reported needing English for their work in the field of Nursing. Also, the interaction section showed that all of them interacted with their colleagues in English, and so had needs in that arena of life as well. In the context section, participants needed the language for academic conferences and in

their daily office exchanges. All participants additionally expressed that they use English almost every day. Finally, most of them expressed that they are interested in taking EAP courses. In conclusion, this Needs Analysis demonstrated research assistants' needs for English language skills. While it did not design curriculum, it did highlight key, previously non-described needs of an important source in academia that interact with language students: research assistants.

This above-reviewed literature is visually summarized for the reader in Table 6 below:

Table 6

Summary of Needs Analysis Studies

Authors (year)	Context	Sources	Methods	Main finding/ key outcome
Lee & Kim (2000)	Learning Korean in a Hawaiian university	Students Teachers	Questionnaires Interviews	Students' desired to: Expand reading sources Increase vocabulary and explanations
Long (2005)	Flight attendant case study (FA)	US airlines FA (insider informants) Applied linguistics graduate students (outsider informants) Dictionary of Occupational Titles FA training manuals	Written introspections Unstructured interviews	Insider informants as the 'domain experts' provided details in the FA tasks and language than the outsiders who did not provide the exact language used in the job

		FA competency tests		
Brecht & Rivers (2005)	Language at the societal level in the US. (national security) LOTE (Language Other Than English)	State employees	Telephone surveys Written surveys	Demand for policies to provide access for services for LOTE- speaking customers
Jasso-Aguilar (2005)	Vocational English as a Second Language (VESL) Waikiki hotel maids	Housekeepers Employees Task force meetings and briefings Housekeeping room Other documents	Participant's observations Unstructured interviews Written questionnaires	Participants' views: English is not needed for the job English is needed to interact with guests Employees need to know job terminologies Read and write in English
Vandermeeren (2005)	Foreign language needs of business firms German language needs in Finnish companies	Exporting companies	Questionnaires	There is a need for German language skills in education to cope with the huge German business Intercultural competence
Gilabert (2005)	English language of journalists in the Autonomous Community of Catalonia, Spain	Scholars Company representatives Domain experts	Unstructured interviews Structured interviews Questionnaires Non-participant observations Written texts	The importance of using the English language in domain tasks

Kellerman et al. (2005)	Foreign language knowledge by football professionals in Netherlands	Club managers Coaches Players Teachers of Dutch Press officer	Telephone questionnaire Written questionnaires	Clubs provided their players with instruction Dutch Players stated the importance to learn not only Dutch but also the culture
Chaudron et al. (2005)	Teaching Korean in a Hawaiian university	Students Instructors	Unstructured interviews Questionnaires	Students needed Korean to interact in their daily life activities Designed pedagogic tasks: giving directions and doing shopping
Winn (2005)	U.S. naturalization preparation courses	U.S. naturalization applicants	Interviews Researcher's field notes	Task-based approach will help in preparing immigrants for naturalization interviews Citizenship Preparation courses should be based on the actual interview process
Bartlett (2005)	Ordering coffee in some coffee shops	Workers at some coffee shops (domain experts) Language professionals (language teachers and linguists)	Tape-recording conversations Interviews Conversational Analysis (CA)	Language obtained from the actual settings do not match with the ESL textbooks Research on authentic language to comprehend

				interactive competence among native speakers
Holmes (2005)	Non-English-speaking backgrounds (NESB) factories and small business workers' sociolinguistic challenges in New Zealand	Managers of businesses Workers during lunchtime, phone calls, and formal meetings (small talks)	Interviews Observations Recordings De-briefings	Workers should get acquainted with the socio-pragmatic skills through formal teaching (pedagogic tasks), role-plays, and work sites TV shows
Dehnad et al. (2010)	Management and medical field in an Iranian university	Master's and PhD students ESP instructors Departments' heads Course development administrator	Questionnaire Semi-structured interview	Graduate students needed to develop their writing, reading, and listening skills
Chostelidou (2010)	Learning Accountancy in a post-secondary education setting in Greece.	Learners	Questionnaire Semi-structured interview	Syllabus that will include accounting subject-content along with authentic ESP course materials
Chostelidou (2011)	Examined the effect of using a designed experimental syllabus based on previously explored needs of the English language skills	Business English students	Pretest and posttest to the experimental and control groups	Pre and post-test showed students in experimental group scored better in the post-test than the students in the control group

				Designed syllabus based on learners' needs for the experimental group was more helpful than traditional syllabus with the control group
Abdalla & Al-Batal (2011)	Examined the needs of Arabic language teachers in the US universities	Arabic language teachers	Survey with Likert scale	More dedication from the Arabic language programs to include some of the very famous dialects of the Arabic language in the US universities
Mehrdad (2012)	English for general purposes course in an Iranian university	ESP students	Questionnaire	Strong need of the students to improve their pronunciation, reading, and writing skills
Hossain (2013)	Creating a better curriculum in the field of Business and enhance the communicative skills and writing for the students' future careers in a Bangladeshi university	Engineering students	Questionnaire	Students were concerned with improving their Business and English communicative skills. Selecting authentic Business-related materials for the development

				of an effective curriculum
Saragih (2014)	Nursing program in an Indonesian university	Nursing students ESP instructors Professional nurses	Questionnaires Interviews Tests	Demand for designing ESP courses with the focus on the nursing domain to improve nurses' listening and speaking skills
Mahmoud (2014)	General English course in a Saudi university	Students Lecturers	Students' placement test Interviews	Learners' needs to improve language skills to help them in their academic and professional careers
Serafini & Torres (2015)	Change of the language programs based on the demand of Spanish for Specific Purposes (SSP) at two U.S. universities	Students Professors Accountant	Survey Questionnaire	Spanish programs should be able to provide their students with authentic, real, and effective curricula Provided teachers with suitable training to create language for specific purposes curricula
Zohoorian (2015)	Problems of EAP in the Iranian universities	Students	Questionnaire Interviews	Students ranked the skills based on their importance as speaking, writing,

				listening and reading The role of Needs Analysis in developing ESP and EAP courses.
Salehi, Khadivar, & Mehrabi (2015)	A medical ESP course Evaluate an ESP medical book in an Iranian university	Teachers Students	Questionnaire Interviews	Teachers thought that the book needed more relevant skills and challenging exercises
Torres and Serafini (2016)	Spanish learners' views and motivation on the communicative teaching using TBLT based on Needs Analysis	Business Spanish learners in two US universities	Questionnaire	Students were motivated about the tasks they performed in most of the tasks TBLT is an effective approach in designing language or Spanish for specific purposes courses.
Alsamadani (2017)	Students studying ESP in a Saudi university	Engineering students Teachers	Classroom observations Questionnaire Semi-structured interview	Students stated the importance of acquiring the English language for their academic and professional careers
Malicka, Gilabert, & Norris (2017)	Language used in the field of hotel reception of ESP setting in Spain	Spanish speakers' hotel receptionists	Field observations - Semi-structured interviews	Helped language curriculum designers in ranking the

		(domain experts) Spanish speakers tourism students (domain novices)		level of difficulty of the tasks
Uzun (2018)	English academic needs of research assistants in a nursing department in a Turkish public university	Research assistants in Nursing.	Open-ended questionnaire	Learners were concerned with learning English to help them in their work Needs Analysis stated their demand to improve their English language skills

3.4 Needs Analysis for Arabic as a foreign language

Arabic is a commonly taught language in many U.S. universities. According to the last annual report in 2016 of the Modern Language Association, the number of students enrolled in Arabic courses are between 20,000 and 30,000 in higher education in the U.S. A paucity of studies have been conducted on reasons for which U.S. students study the Arabic language. Some of these studies have focused on the learners' views of Arabic language learning in regard to the unique sociolinguistic challenge of having a Standard version of the language alongside a Spoken (diglossia) version in Arab society (e.g., Albirini, 2015). Other studies have explored teachers' attitudes towards teaching the Arabic language in relation to Standard Arabic and the diglossia. This literature will be briefly reviewed here. While it is important to point out that no task-based Needs Analysis has been conducted for the study of Arabic as a foreign language, the small strand of literature

presented here is a key starting point to explore general needs for the field of Arabic foreign language teaching.

Husseinali (2006) was one of the first to explore the “initial motivations” (p. 396) of a number of Arabic language students in a large U.S. university. The participants in the study were Arabic language learners classified as Arabic (23 students) heritage, Muslim (27 students) heritage, and diverse (70 students) heritage. As such, the researcher sought to explore if there were differences in their motivations. The data were collected through a survey that focused on learners’ reasons for studying the Arabic language. The researcher divided the data into three groups: a group for all the participants, a group for the heritage students, and a group for non-heritage students. A *t* test was then run to explore the differences between the heritage and the non-heritage students. Looking at the whole group results, the study revealed that a vast majority of the students were interested in learning the Arabic language for communication purposes with the Arab people during their visits to the Arab world. Also, most of the students were interested to know other cultures, particularly Arabic culture. Most students also reported feeling that their knowledge of Arabic would help them better understand and appreciate Middle Eastern politics. In addition, more than half the students reported that they wanted to learn Arabic to help them in their work careers. Looking at the heritage and the non-heritage results, the findings were varied. Whereas the heritage learners were interested in the language to serve their background knowledge (e.g., family, language, culture), the non-heritage learners were interested in the language to serve their understanding of politics and advance in their careers. This study was revealing in that it showed some of the U.S. learners’ main reasons

for learning Arabic, and that there are differences in motivations between heritage and non-heritage learners.

In his Master's thesis exploring study abroad, Al-Mamari (2011) examined the views of learners studying Arabic as a Foreign Language (AFL) at the World Learning Oman Center in Oman. The participants were 23 Arabic learners who had previous exposure to the Arabic language before their learning experience in the study abroad program; where students were from was not specified. Data were collected through a triangulation of methods: surveys, focus groups, and interviews. The results of the survey showed that students' knowledge of the diglossia situation of the Arabic language, where there is the Modern Standard Arabic and a number of spoken dialects, increased with their exposure to the language. In general, most participants had an advanced knowledge of the difference between MSA and the Omani dialect. However, most of the beginner students expressed their confusion between the Modern Standard Arabic that they learned in class and the spoken language that they faced during daily life interactions in Oman. While there was also a reported confusion with beginning-level students due to the difference between Modern Standard Arabic and the diglossia, they reported that the difference between the two varieties motivated them to learn the language more. Participants reported that being able to interact with native speakers influenced their desire to learn. Interestingly, students reported they understood that learning Modern Standard Arabic was their starting point to be able to learn the spoken varieties of the Arabic language. This study was important in that it revealed students' views of the differences among the language varieties, an aspect about Arabic as a foreign language that must be taken into account when designing curriculum.

Weinert (2012) explored the views of Arabic language learners on a variety of Arabic dialects and the effect on their use of Arabic within or outside the classroom. Participants were twenty-five undergraduate and graduate students who attended a large U.S. university. The data were collected through interviews with the participants. The interviews sought to establish the different dialects that the students first learned, the usefulness of this dialect in their communications, and the positive or the negative effect of learning more than one dialect in their process of learning the language. In general, the results of the study showed that the majority of learners preferred that teachers include several dialects in the classroom, and that exposure to multiple linguistic varieties of Arabic was important. Students felt that this was a responsibility of the teacher, and that they should not be left to their own resources to find exposure opportunities outside of the classroom. Students also suggested that curriculum designers include these dialects in language teaching materials, so the students can have access to them through their curriculum. Moreover, the students expressed their concern over how rare written materials of the Arabic dialects are, let alone their exposure to these realia. They also preferred that the curriculum includes the different words and forms between spoken and standard Arabic. The study thus showed that most of the students expressed that learning different dialects had a positive impact on their linguistic development of the Arabic language. Students suggested that there be more inclusion of the Arabic dialects in the language curriculum, that teachers share their knowledge of the different dialects of Arabic, and that teachers be aware of, and teach strategies for, the difficulties that learners might face when learning a new dialect. This study was instrumental because it showed that students do want exposure to the different linguistic varieties of the Arabic world in the classroom

(Standard Arabic alongside Colloquial Arabic). This is important for future curriculum and instruction design for the teaching of Arabic as a foreign language.

Haron (2013) explored learners' views of Arabic teachers' teaching methods in relation to achieved speaking skills in a Malaysian university. Participants were six Arabic language learners. All data were collected through interviews. The findings showed that the instructors were not fully applying effective and useful techniques to help students improve their speaking skills. Students reported that teachers were more focused on having students memorize texts as opposed to activities or tasks that fostered creative language output production. In general, the students argued for more opportunities to practice their speaking skills freely. They also suggested that speaking skills be taught alongside other contents such as grammar, to facilitate their noticing of such forms. Based on this, the researcher advocated for including students' views of teaching methodology utilized in their language courses. Doing so, they advocated, would help teachers address those views to aid in the development of the students' performance in learning Arabic, especially with respect to improving their speaking skills.

In a thesis portfolio, Kataw (2016) stated her own philosophy for teaching that is based on the communicative approach, the efforts of the teachers to keep the target language through their comprehensible input, and the design of language activities that are task-based. She also included three artifacts that were based on her philosophy of teaching. The first artifact, based on sociocultural theory through concept-based teaching, presented a cultural lesson for Arabic language students where she introduces the differences of concepts that might take place between the Arabic and the English languages. In the second artifact, Kataw presented on how teachers can get involved in teaching in Dual Language

Immersion Programs (DLIP), and the effect of their discourse on teaching. Kataw focused on the teachers' discourse as an important part in teaching for DLIP. In the final artifact, she created a lesson plan to introduce the concept of refusals in the Arabic language (a speech act). In this lesson, Kataw presented on culturally appropriate ways to make refusals in different situations. At the end of her portfolio, the researcher included three annotated bibliographies, and presented on the effect of translation in learning the language, the effect of the communicative teaching approach, and the effect of reading for the learning of foreign languages. Thus, this portfolio study presented a teaching philosophy and ways that might be realized for the teaching of Arabic as a foreign language, with sample activities throughout.

Al-Mohsen (2016) investigated the perceptions of U.S. Arabic language teachers in teaching the standard and the spoken Arabic language varieties, as well as the obstacles that teachers might face. The participants were Arabic language teachers in multiple U.S. universities and colleges. Questionnaires and interviews were used to collect data. There were 60 participants for the questionnaire and seven participants for the interview. The results of the study showed that there is a small number of programs that offer Arabic language teaching and that present on spoken and standard varieties. Thus, this study reached the same results as Al-Mohsen argued that, based on the collected data from her study, curriculum designers for the Arabic language can work to develop a curriculum that includes both the Standard and the diglossia of the Arabic language. In so doing, the learners of Arabic will be exposed to both varieties of the language where they learn the spoken language that is important for their daily life conversations, and the standard variety where they learn literacy foundations as well as foundations for Arabic language

scholarship. The teachers' opinions in this study served as a crucial role in designing TAFL curriculum to better serve students' communicative needs.

Taken together, these six studies arguably lend for the effective role that Needs Analysis plays in designing language curriculum for Arabic as a foreign language. Not only is there a gap in addressing the learners' needs in a curriculum, this small strand of research also highlights very unique needs on behalf of both learners and teachers. A key outcome is the need to present tasks that expose learners to both Standard and to Colloquial Arabic. Another outcome is that heritage language learners have a unique profile in the Arabic as a foreign language classroom, and that teachers need support – through both materials and through training. Therefore, based on the previously mentioned research, studies, and researchers' recommendations, the current study aims to address different Arabic language learners' needs and to develop a curriculum that includes those needs. This study will do so by conducting the very first task-based Needs Analysis for the design of an Arabic as a Foreign Language course, and from the Needs Analysis study, will design a fully task-based language curriculum that addresses these needs. The study will focus on non-native Arabic speakers in the different U.S. colleges and universities who are enrolled in Arabic foreign language courses.

This above-reviewed literature is visually summarized for the reader in Table 7 below:

Table 7*Summary of Needs Analysis Studies for Arabic as a Foreign Language*

Authors (year)	Context	Sources	Methods	Main finding/ key outcome
Husseinali (2006)	Motivations of Arabic language students in a US university	Arabic language learners	Survey <i>t</i> test	Heritage students were interested in the language to serve their background knowledge Non-heritage were interested in the language to serve their understanding of politics and work
Al-Mamari (2011)	The views of Arabic as a Foreign Language (AFL) learners at the World Learning Oman Center	Arabic language learners	Surveys Focus groups Interviews	Students' knowledge of the different nature of Arabic language increased with their exposure to the language
Weinert (2012)	The views of Arabic language learners of a variety of Arabic dialects and the effect on them within classrooms inside or outside the US	Undergraduate students Graduate students	Interviews	The students expressed their desire to learn the different dialects of the Arabic language
Haron (2013)	Arabic instructors' teaching methods in regard to the speaking	Arabic language learners	Interviews	There was more focus on memorizing texts Students argued for chances to practice

	skills in a Malaysian university			speaking skills freely
Kataw (2016)	Efforts of teachers to keep the target language through their comprehensible input, and the design of language activities that are task-based.	None	Philosophy of teaching artifacts	Teaching philosophy and ways that it might be realized for the teaching of Arabic as a foreign language, with sample activities throughout.
Al-Mohsen (2016)	Perceptions of Arabic language instructors in teaching standard and spoken Arabic language Obstacles that might confront this approach in U.S. universities	Arabic language instructors in the US universities and colleges	Questionnaires Interviews	The instructors' opinions in this study serve as an important role in redesigning the TAFL curriculum to better serve the students communicative needs

3.5 Arabic Heritage Language Learners

It is always common to find heritage language learners in foreign as well as second language courses in United States universities. Some studies and research have focused on Arabic Heritage Language Learners due to their enrollment in the different Arabic Courses in U.S. universities. Montrul (2010) defined heritage speakers as: “child and adult members of a linguistic minority who grew up exposed to their home language and the majority

language” (p. 4). Torres (2013) defined heritage speakers as “those individuals who opt to relearn their HL, especially during the time of adolescence upon entering high school or college” (p. 10). Also, Torres (2018) later defined them as “HL bilinguals grow up speaking a family or community language that does not enjoy majority status in their country of residence” (p. 129). Finally, Albirini (2014) defined heritage learners as “children of parents who immigrated from the Arab World and who are native speakers of one of the colloquial spoken varieties” (p. 447). By describing the heritage language learners’ linguistic systems such as phonetics, phonology, vocabulary, and syntax, Montrul stated that, generally, heritage language learners in most of the cases are not as proficient in the home language as in the community language. She differentiated between heritage language learners and L2 learners in terms of their language acquisition. Heritage speakers do not possess the same qualifications in literacy skills; however, L2 learners are better when it comes to reading and writing skills. She elaborated that heritage speakers of any language are not skilled in the writing skill as well as other language advanced structures and vocabulary. Also, heritage speakers are somehow better than L2 in listening and speaking skills. In fact, most of the heritage learners can still read and write; however, they are not as skilled in the language since they are not exposed to the language in the formal instructed settings. She stated that heritage language learners are excelling in communicative competence, however, they must improve their skills in other language areas such as vocabulary, reading, writing, and grammar. In sum, Montrul recommends that adult heritage language learners through formal instruction will be as competent as L2 learners in language and reach a nativelike level.

Husseinali (2012) examined various aspects of Arabic heritage learners such as motivation, learning expectations, skills to reach their learning goals, and the students' own practices. The participants were 50 Arab heritage language learners (HLLs) and Muslim HLLs. The data were collected through surveys. The results of the study showed that, on the one hand, Arab HLLs are interested in Arabic to learn about their culture and to preserve their own identity, but they are interested more to learn how to speak and write in Arabic. On the other hand, Muslim HLLs are interested in Arabic to learn about their religion. In sum, Husseinali urges Arabic courses to differentiate between both types of learners to better serve both groups.

Zabarah (2015) focused on Arabic heritage learners to examine the different needs of 20 Arab Americans students and their interest in learning their heritage language. The study used surveys to elicit information on the linguistic background amongst college level students in an American university. The results showed that the participants were exposed mainly to their spoken dialects through their families, friends, and travel to Arab countries. Also, the participants had a better grasp of their own dialects than Standard Arabic mainly before being exposed to formal teaching. The participants also reported that their listening skills are at the same level or higher than their speaking skills. They expressed their desire to learn Arabic for work, study, family, heritage, religious, and travel purposes. The participants expressed their interest to improve their speaking, followed by vocabulary, then reading and writing skills. Although the study focused only on HLLs, it supports the importance of investigating HLLs needs in learning Arabic. In this case, teachers and educators can better serve HLLs to improve learning their own dialects, expanding their vocabulary, and developing their knowledge of standard Arabic.

Alabd (2016) examined the challenges of Arabic as a foreign/second language amongst college students at the American University in Cairo, exploring teachers' points of view and the methods that they use. The study was designed as a mixed-methods study where data were collected through 58 questionnaires, four class observations, and three interviews. The participants were Arabic as a second language teachers from the Middle East, Europe, and the U.S. The study took place in mixed classes where there is a number of Heritage Language Learners (HLLs) in classes. Heritage learners were defined as learners of Arabic with Arab parents who speak an Arabic dialect, learners with one Arab parent and who do not speak the language, and then Muslim non-native Arabic speakers who know the language through the Qur'an. The results showed that most teachers felt that having HLLs in their classrooms was challenging, particularly in regard to their varying linguistic levels. Also, most teachers responded that HLLs have an impact on teachers' preparedness for the classes. More than half the teachers reported that they had never received any teacher training. Another challenge that more teachers agreed upon was the challenge of the HLLs dialects, and their use of their own colloquial variety in the classroom. Many teachers also expressed that HLLs are not always motivated to choose the topics of class content. Finally, most teachers reported that the misplacement of HLLs students in the Arabic classes might be troubling for them in meeting those students' needs. The results on the teaching methods showed that more than eighty percent of the teachers agreed on the effectiveness of deciding on HLLs needs and placement prior to the beginning of instruction; however, most did not agree on having classes for specifically HLLs. Most of the teachers also agreed that the cultural lessons and cooperative learning strategies could help HLLs to be more active in the classrooms. Finally, teachers also

reflected that the existence of HLLs in their classrooms does not affect their teaching practices or their way in handling the class, and that HLLs can serve in the role of class expert or helper, and/or even as teaching assistants to other learners. In sum, the study showed a number of challenges that the teachers might expect when having HLLs in their classroom. This study was important in that it was the first to explore teachers' needs and views on having HLLs and non-HLLs in their classroom in detail, and certainly provides insight into the needs of an Arabic curricula.

These three studies that focused on Arabic heritage speakers are visually summarized below in Table 8:

Table 8

Summary of Arabic Heritage Speakers Studies

Authors (year)	Context	Sources	Methods	Main finding/ key outcome
Husseinali (2012)	Arabic HLLs and Muslim HLLs' motivation, learning expectations, skills, and students' own practices to learn Arabic	Arab heritage language learners (HLLs) and Muslim heritage language learners (HLLs)	Surveys	Arab HLLs are interested to learn about their culture and to preserve their own identity. Muslim HLLs are interested in Arabic to learn about their religion.
Zabarah (2015)	Different needs of HLLs learning Arabic in a U.S. university	Arab American students (HLLs)	Surveys	- Knowing HLLs needs will let teachers better serve HLLs in improving their own dialects and developing standard Arabic
Alabd (2016)	Challenges of Arabic as a foreign/second language and	Arabic as a second language teachers	Questionnaires Class observations Interviews	The existence of HLLs in their classrooms does not

	heritage learners (AFL, ALS, and HL) in the American University in Cairo	from the Middle East, Europe, and the U.S.		affect teachers' teaching practices Creating communicative tasks to help students

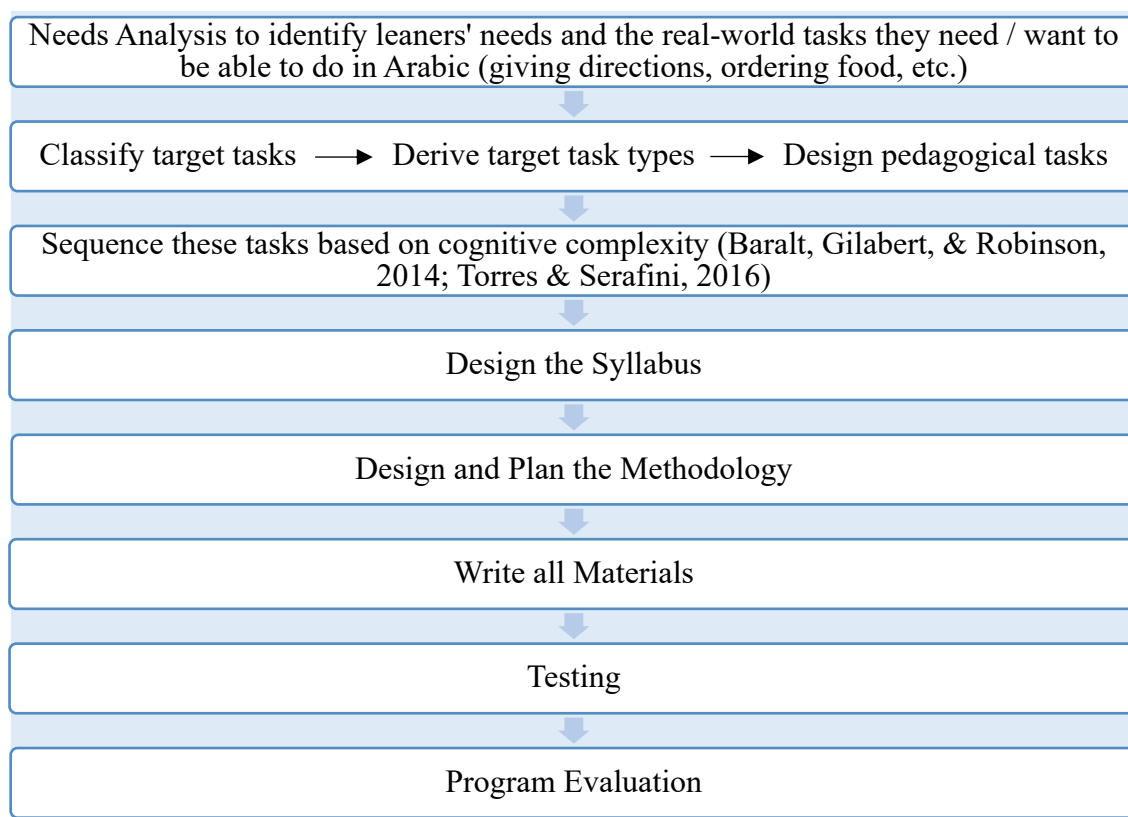
In the next chapter, I discuss the steps of curricula design in TBLT, the critical construct of cognitive task complexity, review the literature on independent measures of cognitive complexity, and then discuss task sequencing. I review how measures of cognitive complexity inform the sequencing of tasks in a task-based curriculum, and discuss the measures to be used in the present dissertation.

CHAPTER 4. SEQUENCING TASKS BASED ON COGNITIVE COMPLEXITY

After collecting and transcribing the data, the researcher will classify the data and will start to design pedagogic tasks based on the knowledge provided by the study participants. As discussed earlier in the literature review chapter, the researcher will follow the recommendations of designing pedagogic tasks to address the students' linguistics as well as nonlinguistic interests. The curriculum will be done following the tenets of TBLT methodology for a fully task-based curriculum design (e.g., Samuda & Bygate, 2008; Ellis, 2003a; Long, 2015). The steps with which this will be accomplished are visually summarized in Figure 6 below:

Figure 6

Curriculum Design Steps



This dissertation completed steps one through six (Needs Analysis to materials writing), culminating in a fully task-based, university-level curriculum for the teaching of Arabic as a foreign language. The researcher first conducted the Needs Analysis to identify learners' needs for Arabic foreign language teaching in a U.S. university setting. Synthesizing all data from the Needs Analysis led to the derivation of the *target tasks*, which are defined as "...specific communicative goals that the learners should be able to successfully carry out by the end of a given course" (Torres & Serafini, 2016). From these, target task types, or tasks that share common features, are derived. Van Avermaet and Gysen's (2006) guidelines are referenced to inform how to combine tasks and task sequencing that best support learners' needs (taking into account features such as language skills, genre, level of information processing, interlocutor, topic of conversation and contextual support). Sixty-four pedagogic tasks, which are tasks done in the classroom (Ellis, 2003a), are then designed based on unit, with 15 units total for beginning-level Arabic. Each unit has three to seven pedagogic tasks, culminating in the exit tasks. Data from the Needs Analysis inform how to design tasks that promote the learning of both Standard and Colloquial Arabic. All tasks are then sequenced following the theoretical principles of cognitive complexity (Baralt et al., 2014). This includes six independent measures of cognitive complexity, as described below in detail.

- (1) **Task difficulty ranking**: students, teachers, and domain experts will be asked to rank the difficulty of the task (following Serafini and Torres, 2015; Torres and Serafini, 2016).
- (2) **Time-on-task judgments**: students will perform the tasks and will be asked to give retrospective judgments on the amount of time they believe that they spent to do the

- task; this will then be compared with the actual time they took to perform it (following Baralt, 2013, and Kim et al., 2015).
- (3) **Task difficulty and mental assessment**: students will be asked to perform the task and will be asked to give their feedback on the mental effort and the difficulty of the task they have just performed using Likert scale questions (following Malicka, 2020).
- (4) **Stimulated recall**: students will be asked to provide comments on what they were thinking in the moment, around the difficulty of tasks they just performed following simulated recall methodology procedures (following Gass and Mackey, 2000, and Kim et al., 2015). Note, this is a qualitative measure.
- (5) **Task Sustainability judgements**: First, students will be asked to give sustainability judgments on the fifteen chosen tasks from the curriculum. They will be asked two hypothetical questions to decide on the tasks they either choose to do or on the easier task to do. First, they will be asked which task they think is easier for them to do: to do the pedagogic task or to carry a bucket of water for half, one, two, or four minutes. They will be asked which task they choose to do: to do the pedagogic task or to carry a bucket of water for half, one, two, or four minutes. Second, they will be asked to report “yes” or “no” on whether they think that they can do the pedagogic task 3, 9, 27, 81, or 243 times. This novel measure follows Rosenbaum and Bui (2019).
- (6) **Task sustainability judgements by language**: Students will be given two questions. In the first question, they will be asked if they have to do only one task, which one will be easier for them, and if they have to do both tasks, which one they will do first. (e.g., ordering a meal in a restaurant in the Arabic language for 10 times, or ordering a meal in a restaurant in the English language for 80 times). The hypothesis is that the students

think that the task in the target language will be more difficult for them than the task in the English language and they will choose to do the task that they think will be easier first and then the other task. This follows the novel method proposed by Higby, Rosenbaum et. al (under revision).

The researcher created and designed all materials, producing a fully task-based curriculum as the final product.

4.1 Deriving Tasks from the Needs Analysis Data

As previously mentioned, once the data are collected and analyzed, the next step is to derive ‘type tasks’ that will be included in the syllabus. Long (1985) stated that the Needs Analysis helps in: collecting *target tasks*, classifying target tasks into *task types*, deriving *pedagogic tasks*, and the final step is to sequence those pedagogic tasks in the language *task syllabus*.

As stated in the results chapter, the participants mentioned a huge number of *target tasks*, over hundred tasks, provided by the students, the instructors, and the domain experts that they want to be able to perform in the Arabic language. However, those target tasks are grouped and combined to narrow down the objectives of the curriculum into the 15 proposed units (Serafini and Torres, 2015). Taking into consideration that the proposed curriculum is dedicated to the beginning level of the Arabic language, some sophisticated and very specific tasks were eliminated or replaced by simple versions of them to meet the beginning level. Some of those target tasks were court appearances, writing legal documents, giving medical advice, writing poetry, understanding Arabic documentaries, read historical resources, having intellectual conversations, etc. Those target tasks will be very helpful in future research projects to design Arabic for Specific Purposes curriculums.

Each unit out of the 15, has from three to seven *pedagogic tasks*, culminating in the exit task. Pedagogic tasks are the actual tasks accomplished by the learners in classrooms. For example, listing, ordering and sorting, comparing, problem-solving, sharing personal experience, etc. (Ellis, 2003a). Pedagogic tasks can be simplified and presented to the learners into ‘sub-tasks’ until reaching the target the target task (Long, 2015). The exit task is designed to evaluate the ability of the learners to do the target task (Long, 2015). For example, if the target task is on giving directions in a street, the pedagogic tasks will prepare the learners with all the aspects needed for such a task to become proficient so they can perform the exit task eventually.

After identifying the target tasks comes the process of classifying those target tasks into *task types* based on the topics derived from the Needs Analysis (Long, 1985, 2015). Long stressed the importance of this step because it will give the learners the opportunity to perform the target task in several forms. In the current study, the task types are designed to meet the different needs captured by the Needs Analysis. See Table 32 for the detailed curriculum topics. For example, if the target tasks deal with asking and giving directions either for places in streets or stores in a mall, those target tasks are classified under ‘asking and giving directions’ as the task type. In so doing, the pedagogic tasks as well are designed to provide the learners with the adequate grammar and vocabulary focus needed to perform those tasks. Also, as will be described in detail in the next section, classifying tasks are made based on the complexity and difficulty of tasks (Long, 2015).

Other factors are taken into account in designing the tasks: the four language skills involved, text genre, level of information processing, topic of conversation, and contextual support as were stated in the objectives of each unit to determine the goals of the tasks

(Van Avermeat and Gysen, 2006). The language skills are divided to meet the learners' needs from the Needs Analysis; reading and writing are designed to promote the learning of Standard Arabic whereas speaking and listening are designed to promote the Colloquial Arabic. The two colloquial varieties here are Egyptian and Levantine, those are the most frequent demanded dialects derived from the Needs Analysis. However, in some tasks, there might be a combination of the skills to meet the target task. For example, tasks designed for social media posts and texting, might be done in the colloquial as it is the way native speakers text each other. Also, when it comes to news and media, the listening tasks are in the Standard variety. In text genre, the tasks utilize various text genre based on the message the learners are required to deliver. In other words, it is concerned with the outcome of the tasks such as description, asking questions, answering questions, story, etc. Referring to the previous example, 'asking and giving directions;' at some point, the task requires the learners to ask questions, and at another point, it requires them to give directions. Level of information processing is concerned with the cognitive processes that the learners utilize in accomplishing the task such as copying, describing, restructuring, evaluating, etc. Some target tasks require the learners to describe entities such as themselves, their families, places, etc. The target tasks are designed to familiarize the learners with the different interlocutors in each situation or task such as talking with family members, elders, strangers, etc. The target tasks also utilize different topics of conversation the learners will be talking about. The contextual support is presented to the learners based on the task itself whether it talks about something familiar or unfamiliar to the learners. Finally, the linguistic features are concerned with the grammatical points, the vocabulary, etc.

4.2 Language Syllabus Design

Candlin (1984) argued that the design of language syllabus is not the responsibility of the teachers solely. In his views, he thinks that designing a syllabus is a mission that should be achieved jointly between the teachers and the students. He also stated that the sequence of tasks in any given syllabus should not be done in advance of teaching languages to learners. In this case, the learners not only would have input on the design and choice of tasks, but also, would have input in sequencing them based on the complexity of tasks. Robinson (2003) has also stated that “syllabuses are also an external representation of two theoretical decisions made about how to optimally stimulate the internal cognitive processes that lead to language development – decisions about what units should be used to organize L2 instruction, and about the sequence in which the units are to be presented to learners” (p. 244). This leads to discussion on an important construct in TBLT and curricular design: cognitive complexity. There is an entire research agenda on this construct (e.g., Baralt et al., 2014; Ellis, 2003a; Robinson, 2001a, 2003, 2007a; Skehan, 1996), and it is interesting to reflect on how it has been differentially operationalized across the past few decades. Crucially, designing a TBLT course syllabus requires attention to the sequencing of tasks in the curriculum, and this sequencing must be informed by cognitive complexity of the tasks. A task-based language syllabus should start with a Needs Analysis so as to derive authentic real-world tasks that will be included in the syllabus. After identifying the target tasks through Needs Analysis, those target tasks must be classified into target task types. Consequently, pedagogic tasks can then be obtained from the task types. Finally, pedagogic tasks will be sequenced so the task-based syllabus will be formed. This task-based syllabus is the product in which teachers and students will deal with in

language learning classrooms. There has been extensive research on sequencing pedagogic tasks for second language teaching syllabi (see e.g., Baralt et al., 2014; Candlin, 1984; Prabhu, 1987; Long and Crookes, 1992; Skehan, 1996; Robinson, 2001a, 2003, 2007a; Robinson, Ting, and Urwin, 1995; Ellis, 2003a). For the most part, task complexity and sequencing have been tackled through the syllabus design, the Cognition Hypothesis, the Triadic Componential Framework, and the SSARC Model. In the next sections, I briefly review the development of this construct and then discuss how it will be operationalized for this dissertation.

4.3 The Construct of Cognitive Task Complexity

Prabhu’s “Reasonable challenge.” Prabhu (1987) was one of the first SLA scholars to tackle this important issue in syllabus design, stating that tasks should pose some challenges on students so they can exert some effort in doing the task. He called this a “reasonable challenge” (Prabhu, 1987, p. 56), and argued that a task should not be either too easy, e.g., where the students cannot have the sense of accomplishing a task, nor too difficult, e.g., where they can fear not succeeding in it. Consequently, Prabhu argued that this “reasonable challenge” strives to make the tasks “more complex at a pace determined by the learners’ ability to cope, and there is ... a general increase in linguistic complexity as task complexity increases” (Prabhu, 1987, p. 98).

Long and Crookes “Cognitive effort.” Long and Crookes (1992) referred to the complexity of task sequencing in language syllabus by suggesting that this can be done through the ‘cognitive effort’ and ‘challenge’ that learners will face in performing the task and not the linguistic aspects. In other words, the tasks should be sequenced in the syllabus

based on the cognitive load that pose on learners and *not* the linguistic form (my emphasis).

They articulate:

The number of steps involved, the number of solutions to a problem, the number of parties involved and the saliency of their distinguishing features, the location (or not) of the task in displaced time and space, the amount and kind of language required, the number of sources competing for attention, and other aspects of the intellectual challenge a pedagogic task poses are just a few of the potential grading and sequencing criteria that have been proposed. (Long and Crookes, 1992, p. 45)

(Long and Crookes also mentioned that students' learning in task-based syllabi should be assessed by implementing "task-based criterion-referenced tests" (p. 45). Those tests will be concerned with the ability of the students in performing a given task based on the assigned criterion). Although Long and Crookes stated that Needs Analysis can effectively select tasks, it is still more challenging to assess the difficulty of tasks and sequence pedagogic tasks in language syllabi. Note that they did not provide a solution or operationalizable way for teachers to do so in their seminal paper.

Skehan's "Code and cognitive complexity." Skehan (1996) has also written extensively on the construct of task cognitive complexity, approaching it with the undergirding construct of attention. Reminding the readers that there must always be an attention to meaning or form for foreign language learning, Skehan proposed that there be a 'principled criterion' in the sequencing of tasks that can thus direct the attention of the learners to the foreign language syllabus. He argues: "Code complexity is concerned with traditional areas of syntactic and lexical difficulty and range ... Cognitive complexity is concerned with the content if what is said, and related to the conceptualization of stage of Levelt's model..."

(Skehan, 1996, p. 52). In his cognitive complexity model, Skehan focused on two areas: processing and familiarity. Processing is concerned with the amount of on-line computation that is required while doing a task, and refers to the extent to which the learner has to actively think through task content. Familiarity, in contrast, involves the extent to which the task draws on ready-made or pre-packaged solutions. Skehan also discusses communicative stress, which he articulates is concerned with five areas: time pressure, modality, scale, stakes, and control. Time pressure deals with the time limit in which the task has to be accomplished. Modality is concerned with the four language skills: speaking and writing, where writing imposes less pressure than speaking and listening and reading, where reading imposes less pressure than listening. Scale is concerned with the number of participants and the number of relationships that take place in each task. Stakes is concerned with the importance and the degree of correctness of doing the task and if there are any consequences from doing this task. Finally, control is concerned with the degree where the participants can affect how the task can be done. It also has to do with participants' role in negotiating the aims of the task as well as imposing clarification questions to help them in doing the task. His metrics for cognitive complexity are visually summarized below in Figure 7:

Figure 7

Skehan's Criteria for Establishing Task Difficulty

Code complexity
Cognitive complexity
Cognitive processing
Cognitive familiarity
Communicative stress
Time pressure
Modality
Scale
Stakes
Control

Note. Skehan's cognitive complexity metrics. Adapted from "A Framework for the Implementation of Task-based Instruction" by P. Skehan, 1996, *Applied Linguistics*, 17, p. 52. Copyright 1996 by Oxford University Press.

Skehan makes the case that following such a system (code complexity, cognitive complexity, and communicative stress) would help in analyzing, comparing, and sequencing the tasks for task-based curricular design.

I now turn my attention to two of the most utilized models of increased task complexity in the field for the reader: that of Robinson (2001a, 2007a, 2010) and of Ellis (2003a).

4.4 Robinson's Triadic Componential Framework for Task Complexity

Operationalizing the construct. Robinson (2001a) stated that designing a language syllabus is the product of two factors: the 'units' to be presented to the students in language

classrooms, and the ‘sequence’ of implementing those ‘units’ in classrooms. As mentioned earlier in TBLT, deciding on the ‘units’ to be included in the syllabus should be a product of a Needs Analysis and the difference between analytic and synthetic syllabus (Long and Crookes, 1992, 1993; Long, 2005, 2015). Robinson (2001a) was one of the first works to operationalize the construct in a way that researchers and teachers alike could manipulate task design variables specifically for their sequencing: “task complexity is represented as a series of options which can be manipulated to progressively increase the cognitive demands of pedagogic tasks, so they approach the full complexity of the target task” (Robinson, 2001a, p. 292). Robinson (2001a) presented three factors that work together to affect the performing of tasks and the learning process: task complexity, task conditions, and task difficulty. The first factor, ‘task complexity,’ is concerned with the cognitive factors that take place in performing a task. According to Robinson, two elements make up task complexity: a) resource-directing and b) resource-depleting features. These are visually summarized below in Figure 8. Resource-directing is concerned with examples as ‘few elements,’ ‘here-and-now,’ and ‘no reasoning demands,’ and an (+ or -) is utilized to indicate the existence or the inexistence of features. For instance, the (+) sign in ‘+ few elements,’ ‘+ here-and-now,’ and ‘+ no reasoning demands’ mean that the cognitive load imposed on the learners is not much as the current tasks deal with easy and direct elements that take place at the moment and less reasoning is required. On the other hand, the (-) sign in ‘- few elements,’ ‘- here-and-now,’ and ‘- no reasoning demands’ mean that the cognitive load imposed on the learners is much as the current tasks deal with hard elements that take place in other times and more reasoning is required. The same concept occurs with resource-depleting factors, where it is concerned with examples such as ‘planning,’ ‘single

task,' and 'prior knowledge.' For instance, the (+) sign in '+ planning,' '+ single task,' and '+ prior knowledge' mean that the cognitive load imposed on the learners is not much as the current tasks offer ahead time to plan and enough knowledge for the task to be performed where it requires only one simple task to accomplish. On the other hand, the (-) sign in '- planning,' '- single task,' and '- prior knowledge mean that the cognitive load imposed on the learners is more, as the current tasks do not offer ahead time to plan and less knowledge for the task to be performed as well as requiring more than one task to be accomplished.

The second factor that Robinson (2001a) presented in his model is 'task conditions' which is concerned with interactive factors that take place while performing a task. Two elements make up this factor: a) participation variables and b) participant variables. Participation variables are concerned with, for example, one-way or two-way participation where the information being processed is either in a one-way direction or two ways and the task requires open or closed results. Participant variables are more internal to the learner, and include gender of the participants, their familiarity with the task, and the dominance of the participants in performing the tasks.

The last factor that Robinson (2001a) presented in the 'task difficulty' which is concerned with more affective learner factors. Robinson proposes two elements here: a) affective variables and b) ability variables. Affective variables are concerned with the motivation, anxiety, and confidence of the participants while performing the task, while ability variables are concerned with the aptitude, proficiency, and intelligence that they bring to the task. The theoretical notion is that these individual differences might affect the way in which they perform the given tasks:

Figure 8

Task Complexity, Task Conditions, and Task Difficulty Affective Variables

Task complexity (cognitive factors)	Task conditions (interactive factors)	Task difficulty (learner factors)
a) resource-directing e.g., +/- few elements +/- here-and-now -/+ reasoning demands	a) participation variables e.g., one-way/two-way convergent/divergent open/closed	a) affective variables e.g., motivation anxiety confidence
b) resource-depleting e.g., +/- planning +/- single task +/- prior knowledge	b) participant variables e.g., gender familiarity power/solidarity	b) ability variables e.g., aptitude proficiency intelligence
Sequencing criteria		
Prospective decisions	Methodological criteria	
About task units	On-line decisions about pairs and groups	

Note. Robinson's task complexity, conditions, and difficulty variables. Adapted from *Cognition and Second Language Instruction* (p. 294), by P. Robinson, 2001a, Cambridge: Cambridge University Press. Copyright 2001a by Cambridge: Cambridge University Press.

Robinson (2007a) presented a detailed version of the above-described categories that affect task performance, taking into account multiple theories and empirical studies to support each variable he includes in his model. In this study, he summarized the variables as cognitive criteria, interactional criteria, and ability determinant criteria. The cognitive variables should be put into consideration while classifying the pedagogic tasks, and this will inform the syllabus design for task sequencing. Those variables should be devoted to facilitate learners' attention, memory, and ways of reasoning to deal with the pedagogic tasks to facilitate their language learning, such that they begin with cognitive simple tasks and gradually increase to cognitively complex tasks. He presents a more fine-tuned way of thinking about cognitive task complexity. The cognitive variables are subcategorized into resource-directing variables and resource-dispersing variables based on the cognitive

demands and the procedural demands of tasks, respectively. Resource-dispersing variables are concerned with planning time provided to the learners, the amount of the topic's background knowledge given to the learners, the number of tasks required to be accomplished, the clarity of the task's structure, the number of steps required for the task, and the sequencing of steps to be followed to accomplish the task. Resource-directing variables are concerned with the timing of the task events, the number of elements needed for the task, the amount of information provided for the spatial reasoning, the amount of causal reasoning needed, the amount of intentional reasoning needed from the personal or others' points of views and personal perspective-taking to be in the first person or the others. Robinson's model is visually summarized below in Figure 9. There, the reader will see these variables listed out, alongside interaction variables (e.g., participation such as task convergence, information flow, and number of participants; versus participant such as learners' proficiency level), as well as learner factors (e.g., ability and affective variables).

Figure 9

Detailed Version of Classifying and Sequencing of Pedagogic Tasks

Task complexity (Cognitive factors)	Task Condition (Interactive factors)	Task difficulty (Learner factors)
(Classification criteria: cognitive demands)	(Classification criteria: interactional demands)	(Classification criteria: ability requirements)
(Classification procedure: information-theoretic analyses)	(Classification procedure: behavior descriptive analyses)	(Classification procedure: ability assessment analyses)
Sub categories: a) resource-directing variables making cognitive/conceptual demands	Sub categories: a) participation variables making interactional demands	Sub categories: a) ability variables and task relevant resource differentials
+/- here and now (Robinson, 1995) +/- few elements (Kuiken et al., 2005) +/- spatial reasoning (Becker & Carroll, 1997) +/- causal reasoning (Robinson, 2005a) +/- intentional reasoning (Baron-Cohen, 1995) +/- perspective-taking (MacWhinney, 1999)	+/- open solution (Long, 1989) +/- one way flow (Pica et al., 1993) +/- convergent solution (Duff, 1986) +/- few participants (Crookes, 1986) +/- few contributions needed (McGrath, 1984) +/- negotiation not needed (Long, 1983)	h/l working memory (Mackey et al., 2002) h/l reasoning (Stanovitch, 1999) h/l task-switching (Monsell, 2003) h/l aptitude (Robinson, 2005b) h/l field independence (Skehan, 1998) h/l mind-reading (Langston et al., 2002)
b) resource-dispersing variables making performative/procedural demands	b) participant variables making interactant demands	b) affective variables and task relevant state-trait differentials
+/- planning time (Skehan, 1998) +/- prior knowledge (Urwin, 1999) +/- single task (Robinson et al., 1995) +/- task structure (Skehan & Foster, 1999) +/- few steps (Fleishman & Quaintance, 1984) +/- independency of steps (Romiszowski, 1981)	+/- same proficiency (Yule & MacDonald, 1996) +/- same gender (Pica et al., 1991) +/- familiar (Plough & Gass, 1993) +/- shared content knowledge (Pica et al. 1993) +/- equal status and role (Yule & MacDonald, 1996) +/- shared cultural knowledge (Brindley, 1987)	h/l openness (Costa & Macrae, 1985) h/l control of emotion (Mayer, et al., 2000) h/l task motivation (Dornyei, 2002) l/h processing anxiety (MacIntyre & Gardner, 1994) h/l willingness to communicate (MacIntyre, 2002) h/l self-efficacy (Bandura, 1997)

Note. Robinson's detailed version of classifying and sequencing of pedagogic tasks. Adapted from *Investigating Tasks in Formal Language Learning* (p. 15-16), by M. P. Garcia Mayo, 2007a. Clevedon: Multilingual Matters. Copyright 2007a by Clevedon: Multilingual Matters. Adapted with permission.

Approaches to task classification for complexity sequencing. Before tasks can be sequenced in a syllabus, they must be classified (Robinson, 2007a). In his 2007a paper, the reader finds one of the first approaches that Robinson detailed in order to do so. Robinson argues for three approaches in order to do so: a behavior descriptive approach, an information-theoretic approach, and an ability requirements approach. The behavior descriptive approach is concerned with observing and describing tasks in actual, real-world usage and application. This information is collected through different types of interviews and filed observations, and encompasses identifying target tasks, subtasks, and the steps in which the tasks will be accomplished. The information-theoretic approach is concerned

with classifying tasks based on the information and cognitive processes that take place between the input presented to the learners and the different output aspects in order to accomplish a given task successfully. Finally, the ability requirements approach is concerned with the cognitive ability of the learners who will do the task in a successful way. Learners are different in their information and cognitive abilities such as memory skills; this may thus have an effect on the final outcome of tasks.

In Figure 10, Robinson (2007a) visually details the different stages, domains, analyses, and outcomes of classifying and sequencing of task for second language instruction. He explained the three stages that constitutes task-based syllabus design: Needs Analysis, syllabus design, and learner assessment. In the Needs Analysis stage, real-world tasks and how they are performed are identified through the description of behavior and discourse, which results in designing test specifications as based on the target tasks and their performance procedures. In the syllabus design stage, target tasks are described where pedagogic tasks are designed through the information and cognitive processes; these are then sequenced into a syllabus. Finally, aptitude profiles are produced where pedagogic tasks are sequenced, taking into consideration the learners' different abilities in the assessment process.

Figure 10

Different Stages, Domains, Analyses, and Outcomes of Classifying and Sequencing of Task

Stage	Domain	Analyses	Outcomes
1. Needs Identification	Real-world L2 use and performance	Behavior and discourse descriptive	Target task and performance-referenced test specifications
2. Syllabus design	Target task descriptions	Information-theoretic	Pedagogic task sequences
3. Learner assessment	Pedagogic tasks	Ability requirements	Task aptitude profiles

Note. Robinson's different stages, domains, analyses, and outcomes of classifying and sequencing of task for second language instruction. Adapted from *Investigating Tasks in Formal Language Learning* (p. 9), by M. P. Garcia Mayo, 2007a. Clevedon: Multilingual Matters. Copyright 2007a by Clevedon: Multilingual Matters.

This scholarship advanced over a few decades; yet still there was no concrete and agreed-upon criteria nor procedure to follow with which to guide and inform task cognitive complexity for the sequencing of tasks in a syllabus. The final culmination of Robinson's work was the development of his Cognition Hypothesis and SSARC Model for task sequencing, which will be described briefly below.

4.4.1 Robinson's Cognition Hypothesis.

The main assumption of the Cognition Hypothesis in pedagogy is to design and sequence tasks for language learners based on the increase of cognitive complexity of tasks. In short, the Cognition Hypothesis affirms that pedagogic tasks be sequenced according to the cognitive complexity of the tasks. This means the researcher must take into account the cognitive load that the tasks present to the learners. Then, the tasks are sequenced from

simple to more complex (Robinson 1996a, b, 2001a, 2003, 2005, 2007a, 2010, 2011); this is key to building the interlanguage system by increasing their complexity gradually:

“...[T]asks should be sequenced for learners from simple to complex in order to promote success in performing complex tasks in the L2, as well as opportunities for further learning and interlanguage development” (Robinson, 2011, p. 4).

Robinson and Gilabert (2007) further articulate this hypothesis, breaking the Cognition Hypothesis into the following theoretical claims. By sequencing tasks from cognitively simple to cognitively complex, it will:

- (1) push learners to greater accuracy and complexity of L2 production in order to meet the greater functional and conceptual communicative demands they place on the learner;
- (2) promote interaction, and heightened attention to and memory for input, so increasing learning from the input, and incorporation of forms made salient in the input; as well as
- (3) longer term retention of input; and that
- (4) performing simple to complex sequences will also lead to automaticity and efficient scheduling of the components of complex L2 task performance.

In general, Robinson (2007a) stresses that the increase of those demands from the simple to the complex will result in successful language outcomes eventually. It is important to point out though that ‘cognitive factors’ are what determine the sequencing of tasks from easy and simple demands to more difficult and complex demands in task-based syllabus design.

4.4.2 Robinson's SSARC Model for Task Complexity Sequencing.

Robinson (2010) put forth his most comprehensive and step-wise approach to sequencing tasks in a language syllabus. Via three steps, one begins with (1) simple and stable tasks (SS), (2) then promotes automatization (A), and then moves on to fostering (3) restructuring and complexity (RC). This thus coined the SSARC Model of Cognitive Task Complexity. As mentioned earlier by Robinson (2001a) the cognitive factors are presented in (+ or -) to indicate the existence or the inexistence of features in any given task. In this first step, resource-directing variables and resource-dispersing variables must be simple on all levels. For example, learners are not required to reason, and are given planning time (- intentional reasoning, + planning time). Then, in the second step, there is a gradual increase in the complexity of resource-dispersing variable(s) first, where the task does not require either planning or intentional reasoning (- intentional reasoning, - planning). The second step here allows more space for the learners to use the language faster which leads to (A) automatization of the learner's interlanguage status. Finally, in the third step, there is an increase in the complexity of the resource-directing variable(s), e.g., where a task does not require planning and requires intentional reasoning (+ intentional reasoning, - planning). This third step here is concerned with (R) restructuring the interlanguage system and introducing the maximum (C) complexity that leads to the development of task demands of resource-directing variables. Robinson (2010) explained how resource-directing variables and resource-dispersing variables of the task can affect the various cognitive challenges the learners might face in going over pedagogic tasks. Dealing with the 'here and now' occasions will be cognitively easier for the learners to pay attention to the present tense rules and structures than it would be for them to pay attention to forms needed to

communicate on events in other times and places. Also, the same goes with the other aspects where it is less complex to deal with occasions that require fewer elements to describe, or not having to take personal perspective-taking when performing a task. Increasing the complexity along these lines will inherently be harder cognitively, and so the linguistic forms required to do so will be necessitated (moving from, e.g., simple listing or comparing to justification, such as “I personally feel that” with syntactic embedded, as an example). On the other hand, resource-dispersing variables are concerned with the procedural aspects of the task. Depriving the learners from ‘planning time’ will make it harder for them as their attention will be scattered over linguistic as well as non-linguistic aspects while working on the task. Also, letting the learners to deal with a task that they do not have any previous information about, will make it harder for them as their focus will be scattered over non-linguistic aspects as well. By increasing complexity along these lines, one is hopefully approximating real-world situations where the learner would not have planning time before doing a real task. In sum, the function of the cognitive factors either the resource-directing or the resource-dispersing is to make the task more approachable to the learners and more appropriate to their interlanguage state until they master the language; their sequencing is deliberate, theoretically informed, and sets up the learner to perform a task at his or her maximum capacity. This peak level performance is theorized to best foster language learning.

It helps to reflect on an example to demonstrate this. Robinson (2010) presented an example on sequencing a second language pedagogic task based on the SSARC model. Figure 11 shows the steps of sequencing the task and increasing the task complexity. This sample task is about ‘giving directions’ on a map to drive to an unknown location in the

second language. The task is designed with five versions with changes on the resource-dispersing aspects as follows: the first pedagogic version is simple in all the complexity aspects where the learners have a planning time, the route is marked on the map, the location is already known to the speaker, and it is a map with few roads and buildings. This first task is concerned with the “SS” of simple and stable interlanguage status. The second version is made more complex, removing learners’ planning time. The third version is made even more complex, with no planning time and the no route marked (thus it is an unknown territory to the learner). The fourth version is made even more complex with no planning time, no route marked, and a new area. The fifth and last version is maximally complex with no planning time, no route marked, a new area, and an occupied area with many roads and buildings to describe. This sequence of pedagogic tasks presented gives us a very clear example of how tasks can be sequenced based on their cognitive complexity; and how on the level of syllabus, the researcher might do the same:

Figure 11

Cognitive Processing in Second Language Acquisition

	Simple				Complex
Dimensions of complexity	1	2	3	4	5
planning time (before speaking)	+	-	-	-	-
single task (route marked)	+	+	-	-	-
prior knowledge (a familiar area)	+	+	+	-	-
few elements (a small area)	+	+	+	+	-
	(simplified data/map)			(authentic data/map)	

Note. Robinson's steps of sequencing the task and increasing the task complexity. Adapted from *Cognitive processing in second language acquisition: Inside the learner's mind* (p. 253), by Martin Pütz and Laura Sicola, 2010. Amsterdam: Benjamins. Copyright 2010 by Amsterdam: Benjamins. Adapted with permission.

4.5 The Ellis Model for Task Complexity Sequencing.

“Grading criteria for sequencing” tasks. The final model for task cognitive complexity in the sequencing of tasks is that by Ellis (2003b). Ellis (2003b) stated that designing a task-based language course demands not only selecting the tasks but also sequencing them in the syllabus. He argued that tasks should be sequenced based on identifying the level of tasks' difficulty for the learners with what he calls suitable “grading criteria” (Ellis, 2003b, p. 75). The main purpose from sequencing tasks is to pay attention to the level of the learners where a task should scaffold to the next task. Ellis identified four criteria that are concerned with task complexity: 1) input, 2) conditions, 3) processes, and 4) outcomes. He then explained the factors that take place with each criterion. These are visually demonstrated below in Figure 12.

Figure 12

Grading Criteria of Tasks

<i>Criterion</i>	<i>Easy</i>	<i>→</i>	<i>Difficult</i>
<i>A. Input</i>			
1. Medium	Pictorial → written		→ oral
2. Code complexity	High-frequency vocabulary/ short and simple sentences		Low-frequency vocabulary/ complex sentence structure
3. Cognitive complexity			
a. Information type	Static → dynamic		→ abstract
b. Amount of information	Few elements/relationships		Many elements/relationships
c. Degree of structure	Well-defined structure		Little structure
d. Context dependency	Here-and-now orientation		There-and-then orientation
4. Familiarity of information	Familiar		Unfamiliar
<i>B. Conditions</i>			
1. Interactant relationship (negotiation of meaning)	Two-way		One-way
2. Task demands	Single task		Dual task
3. Discourse mode required to perform task	Dialogic		Monologic
<i>C. Processes</i>			
1. Cognitive operations	Exchanging → reasoning		→ exchanging opinions
a. Type	opinions		
b. Reasoning need	Few steps involved		Many steps involved
<i>D. Outcomes</i>			
1. Medium	Pictorial		→ written → oral
2. Scope	Closed?		Open?
3. Discourse mode of task outcome	Lists; descriptions; narratives; classifications		→ instructions; arguments

→ *indicates a continuum of difficulty*

Note. Ellis' grading criteria of tasks. Adapted from *Designing a Task-Based Syllabus* (p. 75), by R. Ellis, 2003b, RELC Journal. Copyright 2003b by RELC Journal.

Ellis (2003b) describes the factors that affect input criterion: medium, code complexity, cognitive complexity, context dependency, and familiarity of information. Medium is concerned with the presentation of knowledge to the learners, where for example, written forms and pictures are less difficult for the learners to decode and process than are oral forms. Code complexity refers to the vocabulary being presented to the learners. Thus, common and high-frequency vocabulary are argued to be less difficult for the learners than are uncommon and low-frequency vocabulary. Cognitive complexity in Ellis's view is concerned with the concept presented to the learners, where concrete concepts are less difficult for the learners to understand and perform than abstract concepts (e.g., Brown et al, 1984; Prabhu 1987). Context dependency is concerned with presenting knowledge through visuals where visual information is less difficult to process and understand than non-visual information. Finally, familiarity of information is concerned with the amount of knowledge possessed by learners on specific topics where familiar information are less difficult to understand than unfamiliar information. All of these affect task design criteria that can be used to grade or sequence tasks in a syllabus.

In addition, Ellis examined the factors that affect the conditions of task: conditions relating to the negotiation of meaning, task demands, and the discourse mode required by the task. The conditions relating to the negotiation of meaning are concerned with the ways (one-way versus two-way tasks, Markee 1997) in which tasks are performed to result in more negotiation and more time spent from the learners to accomplish this task. Task demands are concerned with what Robinson (2001a) described as whether the task requires the learners to perform one demand or two demands. Finally, discourse mode required by the task is concerned with the type of discourse performed by the learners and whether it

is a monologue or a dialogue. (Interestingly, this same variable was referenced by Skehan (2001), who believes that monologic tasks lead to fluency whereas dialogue tasks lead to accuracy and complexity).

Finally, Ellis examined the factors that can affect task outcomes, which he argues also take a role in task complexity determination and sequencing: medium, scope, discourse domain, and complexity of the outcome. The outcome medium is concerned with type of tasks that require little linguistic outcome. Therefore, the expected level of outcome will differ based on learners' language level; advanced language learners will produce more advanced linguistic outcome than the beginning language learners. The outcome *scope* is concerned with the limited outcomes from a given task where it is simpler for the learners to be focused with a specific answer for a specific task, while the outcome *discourse domain* is concerned with the amount of language needed for the instructions of task. Less instructions will be easier to comprehend than complex instructions for any given task. Finally, outcome complexity is concerned with making decisions in tasks where the outcome might differ from a task to another; some tasks demand simple outcomes while others demand complex outcomes.

In sum, task cognitive complexity is constructed as follows: Prabhu (1987) stated that tasks should impose some 'reasonable challenge' on the learners. Long and Crookes (1992) argued for the 'cognitive effort' where tasks should be sequenced based on the cognitive load that poses on the learners and not the linguistic forms. Skehan (1996) is concerned with 'code and cognitive complexity' where learners must always draw their attention to the meaning as well as the form of the target language. He also argued that the processing and familiarity as well as the communicative stress that the task imposes on the

learners. Robinson (2001a, 2007a, 2010) stated that language syllabi should be concerned with the ‘units’ as well as the sequencing of those units in the language syllabus. Robinson (2001a) presented three factors that work together to affect the performing of tasks and the learning process: task complexity, task conditions, and task difficulty. Robinson’s Cognition Hypothesis is concerned with designing and sequencing tasks for language learners based on the increase of cognitive complexity of tasks. Also, Robinson proposed the SSARC Model which presents the three steps to follow in designing a language syllabus: (1) simple and stable tasks (SS), (2) then promotes automatization (A), and then moves on to fostering (3) restructuring and complexity (RC). Ellis’s (2003) model states that designing a task-based language course demands not only selecting the tasks but also sequencing them in the syllabus. He argued that tasks should be sequenced based on identifying the level of tasks’ difficulty for the learners. The main purpose from sequencing tasks is to pay attention to the level of the learners where a task should scaffold to the next task. Table 9 shows very briefly the different approaches of Prabhu, Long and Crookes, Skehan, Robinson, and Ellis in task complexity sequencing.

Table 9

Prabhu, Long and Crookes, Skehan, Robinson, and Ellis Task Complexity Sequencing

	Task Complexity Sequencing
Prabhu	Tasks must be sequenced based on the increase of complexity or challenge imposed on the learners
Long and Crookes	Target tasks must be sequenced based on the cognitive load and not the linguistic load
Skehan	Tasks must be sequenced based on code and cognitive complexity
Robinson	Tasks must be based on the increase of cognitive complexity of tasks
Ellis	Tasks must be sequenced based on identifying the level of tasks’ difficulty for the learners

Robinson and Ellis' models are very important to tackle when designing and sequencing tasks in language syllabus. The two models work as a detailed recipe for designing language tasks based on the cognitive complexity of tasks and not linguistic complexity. The two have been implemented and examined by SLA scholars and researchers not only in designing tasks, but also in sequencing them in language syllabi. In the current study, the tasks will be designed to follow their footsteps to increase task complexity from simple to complex.

4.6 Empirical Research on Task Complexity and Task Sequencing

Taking the above-described models for task complexity and task sequencing into account, it is important to now shift to the literature that has put them to the test. There is an extensive amount of scholarship on task complexity, looking at how increasing the complexity of tasks might lead to the best language learning outcomes (see review by Sasayama, Malicka, & Norris, 2015). Most of these studies have examined tasks in isolation and how design changes in their complexity level differentially affect task outcomes such as performance or learning. The majority of these studies have operationalized Robinson's Cognition Hypothesis and SSARC model in order to do so. Overall, findings from this literature show support for sequencing of tasks in the order of simple to complex, such that maximum learning takes place and seems to be retained over time. Baralt (2013) examined the relationship between task complexity and feedback in online classes versus traditional classes with the focus on intentional reasoning where the participants in both settings reported that the complex task is more difficult than the simple

task. Levkina and Gilabert (2014) examined the effect of task sequencing on learning spatial expressions and retaining those expressions. The results showed that sequencing tasks from simple to complex is helpful for learners to memorize new expressions. Malicka (2014) examined the effect of task complexity on students' performance based on reasoning demands where the cognitive complexity affected positively the fluency, accuracy, and complexity, and students' production. Baralt (2014) examined the influence of cognitive task complexity and sequencing of tasks in traditional as well as online. The results showed that the use of complex tasks provided more opportunities for interaction between learners to improve their language learning. Thompson (2014) examined the advantage of guided planning in the production of oral English relative clauses in completing language tasks as well as admitting the difficulty of the complex tasks when compared with simple tasks in Economics and international commerce students. The results showed that sequencing tasks with increasing the cognitive complexity helps in the second language use along the way. Also, the cognitive complexity increase is more helpful for the students' language outcomes. Kim and Payant (2014) examined the influence of task complexity and repetition on learning with the focus on interaction through reasoning demands. The results showed that repeating a task has a positive impact on producing more LREs, automatization later, and gives more chances to learners to improve their linguistic competence and acquisition of second language. Baralt, Harmath-de Lemos, and Werfelli (2014) examined the instructors' views and application of the Cognition Hypothesis in simple to complex sequence of tasks' design as well as including those tasks in their lesson plan. The results showed that utilizing the Cognition Hypothesis in teaching foreign languages and in enhancing the students' language development through exploring the

instructors' own teaching perspectives and readiness to implement task-based language teaching in their classrooms. Finally, Lambert and Robinson (2014) examined the difference between two groups of learners in their final products of a task that demands a story summary where they utilized the SSARC model to demonstrate its effect in designing pedagogic tasks for English language learners through story summarizing tasks. Much of this research has operationalized Robinson's resource-directing variables to do so. Highlights from this literature are briefly and visually demonstrated in Table 10 below.

Table 10

Summary of Studies of Task Complexity and Task Sequencing

Authors (year)	Goal of Study	Participants	Main finding
Baralt (2013)	Relationship between task complexity and feedback take place in online classes versus traditional classes with the focus on intentional reasoning.	84 undergraduate students of Spanish as foreign language students at a US university	Participants in both settings reported that the complex task is more difficult than the simple task
Levkina and Gilabert (2014)	Effect of task sequencing on learning spatial expressions and retaining those expressions	Students studying English in a Spanish university	Students learned spatial expressions Sequencing tasks from simple to complex is helpful for learners to memorize new expressions
Malicka (2014)	Effect of task complexity on students' performance based on reasoning demands and number of elements	English language students studying English in a Spanish university	The cognitive complexity affected positively the fluency, accuracy, and complexity,

			and students' production
Baralt (2014)	Influence of cognitive task complexity and sequencing of tasks in traditional as well as online Spanish language classrooms	94 Students of Spanish as a second language in an US university	The current study backs the use of complex tasks to provide more opportunities for interaction between learners to improve their language learning
Thompson (2014)	Advantage of guided planning in the production of oral English relative clauses in completing language tasks as well as admitting the difficulty of the complex tasks when compared with simple tasks	Economics and international commerce students in a Japanese university studying oral communication English	Sequencing tasks with increasing the cognitive complexity helps in the second language use along the way. The cognitive complexity increase is more helpful for the students' language outcomes
Kim and Payant (2014)	Influence of task complexity and repetition on learning with the focus on interaction through reasoning demands	92 Korean high school students studying English as a foreign language	Repeating a task has a positive impact on producing more LREs, automatization later, and gives more chances to learners to improve their linguistic competence and acquisition of second language
Baralt, Harmath-de Lemos, and Werfelli (2014)	The instructors views and application of the Cognition Hypothesis in simple to complex	Two language instructors at a US university teaching Italian and Spanish as a foreign language	Utilizing the Cognition Hypothesis in teaching foreign languages and in enhancing the

	sequence of tasks' design as well as including those tasks in their lesson plan		students' language development through exploring the instructors' own teaching perspectives and readiness to implement task-based language teaching in their classrooms.
Lambert and Robinson (2014)	The difference between two groups of learners in their final products of a task that demands a story summary	English language major learners in a Japanese university	Utilized the SSARC model to demonstrate its effect in designing pedagogic tasks for English language learners through story summarizing tasks

4.6.1 Validating task complexity: Independent measures

Of course, all of the above-cited research is predicated on the assumption that task complexity can in fact be engineered by the researcher via changing certain design variables of the task. This is often validated with learners' language production elicited during the resultant simple-to-more-complex task. This is a critically important research base, because the very theoretical criterion upon which we should sequence tasks in a task-based syllabus is increased complexity, which has implications for curriculum design.

Two major problems with this logic, however, is (1) there are vast inconsistencies with how task complexity is operationalized (and thus assumed to inform what makes a task more complex), and (2) the "circular reasoning" (Sasayama, 2016, p. 233) by which

studies validate task complexity with learners' putative linguistic complexity. Norris and Ortega (2003), Norris (2010), and Révész (2014) are seminal articles on this logical problem in the field. In other words, the designed complexity features may be interacting with learner-internal variables, and may not be actual complexity features (see, e.g., Sasayama, 2016); and it is a circular logic problem to measure increased task complexity with linguistic output. Resultantly, calls have been made for research that explores and that empirically confirms independent measures of task complexity. These independent measures cannot utilize learner language production to confirm the construct. To quote Baralt (2013): "Cognitive complexity must be measured independently from linguistic production to ensure that the construct has been properly tapped" (p. 695). Sasayama (2016) distinguished between three important terms in order to propel this discussion: task complexity, cognitive load, and task difficulty. Sasayama draws a link between 'task complexity' and 'cognitive' to call it cognitive task complexity. In other words, the learners cannot perform a given task without an interaction between this task and their cognitive skills. Task difficulty is associated with the difficulty of the task regardless of how the learners might perceive its difficulty.

As she and other scholars (e.g., Norris and Ortega 2009) have called for, measures are needed that more scientifically and precisely assess task complexity. Norris and Ortega were the first ones to highlight the logical problem of using students' output to confirm cognitive complexity. They advocated for what they called an 'organic' approach to be able to measure the complexity, accuracy, and fluency (CAF) of students' outcome in order to capture their development of language. Norris and Ortega criticized the syntactic complexity measures such as length of words or morphemes, the amounts of clauses,

coordination, variety, sophistication, and acquisitional timing of grammatical forms. They think that CAF should be measured using multidimensional measures.

Since their seminal paper, an emerging line of research in applied linguistics has aimed to do precisely that, often referring to the field of psychology to independently measure cognitive task complexity. These methods have included questionnaires and/or ratings, retrospective time judgments, stimulated recall, dual-tasks, expert judgments, think-aloud methodology, and eye-tracking technology. Below is a list with a short description of the method's use:

1. Questionnaires or subjective self-ratings ask students to comment on the cognitive load that they had while processing and engaging in the task used to rank the difficulty of the tasks (Baralt, 2013; Gilabert, 2006, 2007; Gilabert & Barón, 2013; Gilabert et al., 2011; Gilabert et al., 2009; Kim, 2009; Levkina & Gilabert, 2012, 2014; Malicka & Levkina, 2012; Révész, 2009, 2011, 2016; Robinson, 2001a, 2007a; Sasayama, 2013).
2. Retrospective time judgments to ask learners to report their estimation of the time they spent on doing the task (Baralt, 2013; Sasayama, 2016).
3. Stimulated recall asks learners to comment about their thoughts when they were receiving feedback using either an audio or a video stimulus (e.g. Egi, 2010; Gass & Mackey, 2000; Kim et al., 2015).
4. Dual-tasks require that learners perform two tasks, one main task with another secondary task. Learners are asked to pay a certain attention to this secondary task (Révész et al., 2014, 2016).

5. Expert judgments, to ask linguists, teachers, or domain experts to give judgments on the tasks (Révész et al., 2014).
6. Think-aloud methodology requires learners have to communicate their own thoughts while they are reading and understanding the input of tasks (e.g., Bowles, 2010; Gurzynski-Weiss, Al-Khalil, Baralt, & Leow, 2015).
7. Eye-tracking technology is used to record the participants eye-movement with a visual stimulus while performing the task (Révész et al., 2014).

4.6.2 Empirical Research on the Independent Measure Method

It is essential to confirm cognitive task complexity with independent measures for the purpose of being able to sequence tasks, from simple to complex, therefore setting up the learner to perform the task at their maximal capacity. Scholars and researchers have examined several methods in order to measure task complexity with second language learners. This section will present the several methods that have been explored and examined in TBLT. Baralt (2010), Révész, Michel, and Gilabert (2015). In the section below, studies that have used task complexity measures to inform the sequencing of tasks across an entire curriculum will be reviewed.

4.6.2.1 Questionnaires and/or Ratings

Robinson (2001b) utilized questionnaires among other measures to examine the impact of task cognitive complexity on producing language, task difficulty perceived by participants, and the sequence of tasks in syllabi. The study took place in a Japanese university where the participants had to give and to listen to directions using a map in a simple and a complex task. After the participants completed the tasks, they had to answer a 9-point Likert scale questionnaire to give their perceptions on the difficulty of the two

tasks. The results showed that the participants reported that the complex task was more difficult than the simple task. This simple questionnaire served as an independent measure of task complexity.

Robinson (2007b) utilized questionnaires to assess the difficulty and complexity of tasks in language production. The study took place in a Japanese university. The participants had to form a story by first arranging the story pictures and then narrating the story. After the participants completed the three tasks with the increase in complexity in intentional reasoning, they had to answer a 9-point Likert scale questionnaire to give their perceptions on the difficulty of the three tasks. The results showed that the participants reported that the complex task was more difficult than the mid task and the mid task was more difficult than the simple task. The questionnaire used in this study served as an independent measure of task complexity.

Serafini and Torres (2015) and Torres and Serafini (2016) utilized questionnaires and rankings to rate the difficulty as well as the frequency of tasks. After completing a Needs Analysis study and deriving target task types, both studies utilized questionnaires to ask Spanish business students to gauge how 'difficult' they thought the tasks were. They also asked the participants to rank the tasks in order of perceived difficulty. From this, the researchers were able to sequence and to group the language tasks. For example, interpretive listening as a task type works as an umbrella to the target tasks such as listening to presentations by guest speakers, listening to debates, and listening to different needs or complaints by customers. In some cases, they designed the exit task that the students will perform at the end. For example, writing a report where learners have to summarize and

analyze a given topic. The measures that they used work as independent measures of task complexity.

Jung (2017) utilized time judgments and questionnaires as a measure of task complexity in English writing tasks completed by Korean native speakers. The researcher captured the amount of time spent in completing the tasks. The results of the time variable showed that the participants spent more time in completing the complex version of the writing task. Also, the researcher used a 7-point Likert scale post-writing questionnaire to elicit the participants' perceptions of the difficulty of tasks. The results of the questionnaire showed that the participants reported that the complex version of the task required more cognitive effort than the simple task. These two measures served as independent measures of task complexity.

Malicka, Gilabert, and Norris (2017) utilized questions in an interview to determine the easiness and the difficulty of the target tasks in the field of tourism using the English language in Spain. After completing a Needs Analysis, the researchers identified target tasks, target task types, and the frequency as well as the difficulty of the tasks. The researchers classified the 50 plus target tasks into 8 target task types. The results showed that the participants were able to categorize the target tasks as either easy or difficult. For example, check-in and check-out tasks might be classified as easy tasks whereas giving directions or making recommendations tasks might be classified as difficult tasks when the interlocutors are dealing with unfamiliar information. In sum, although there was not a direct questionnaire to elicit the information of the ratings of task complexity, the few questions that the researchers utilized in the interviews work as a measure to determine task complexity.

Zalbedia (2017) adopted the self-ratings methodology in the form of the Perceived Complexity Questionnaire with a 6-point Likert scale to determine the task complexity increase. Also, Working Memory Test to examine Spanish as a second language production and proficiency as well as the cognitive load individually. The participants were 32 Spanish learners at a U.S. university and 8 Spanish speakers. They were divided into two groups to perform two simple and complex speaking and writing tasks. The results showed that all the participants (native speakers and nonnative speakers of Spanish) reported that the complex tasks required more cognitive effort than the simple tasks. This supports self-rating as an adequate measure of task complexity.

Malicka (2014) utilized post-task questionnaires to assess the task difficulty and the mental load of the tasks. She examined the effect of task complexity on English language tourism students' performance based on the reasoning demands as well as the number of elements. After conducting the Needs Analysis in the tourism field, Malicka designed the tasks from simple to complex, and then to plus complex. A 9-point scale post-task questionnaire was used to assess the task difficulty, the mental load, the anxiety, and the quality of performance in the task. The study was designed to measure the fluency, accuracy, and complexity of the students' performance that were assessed through the number of syllables produced, the number of errors, and the structural and lexical complexity respectively. The results of the study showed that the cognitive complexity affected positively the fluency, accuracy, and complexity of the students' performance due to the increase of task complexity. The study backed the Cognitive Hypothesis in which the difference in planning task complexity has an influence on students' linguistic production.

4.6.2.2 Retrospective Time Judgments

Baralt (2013) was the first to utilize retrospective time judgments of time-on-task as an independent measure of cognitive complexity. She also used a 6-point Likert scale questionnaire to determine the task complexity increase. Baralt's results showed that, as predicted by the Cognition Hypothesis, the complex task led to better learning of the targeted form (the Spanish past subjunctive) than the cognitively simple task. (This applied to the face-to-face mode only however, not to the online mode). What is more, her independent measures seemed to validate the ways in which task complexity was operationalized: on the questionnaire, the participants in both settings reported that the complex task is more difficult than the simple task. Participants who did the most complex task also rated it as taking the longest (often guesstimated much more time than they had actually spent on the task). These served as independent measures of task complexity.

Jung (2018) utilized retrospective time estimation and a questionnaire to assess the complexity of reading comprehension tasks. The participants had to participate in two reading sessions and then report the retrospective time estimation as well as their perception on the difficulty of tasks in a post-reading questionnaire. The results showed that the participants perceived the tasks to take more time than the actual time they spent to finish the tasks. Also, the questionnaire's results showed that complex tasks were more difficult than simple tasks. These results align with the other research results on perceiving the cognitive complexity of tasks through time estimation and self-rating questionnaire.

Lee (2019a) and (2019b) utilized prospective time judgments, self-rating questionnaires, and dual-task methodology measures to measure cognitive complexity. The researcher examined the time spent on planning and speech to measure the cognitive

complexity. Native speakers of English in an American university participated in three oral task types, every task is composed of three tasks that increase in the complexity: simple, complex, and most complex. The oral tasks were a map task, seating arrangement task, and a car accident task. For the time judgments, the results showed that the time the participants spent to plan and to deliver the tasks increases based on the complexity of the tasks. The results of the 9-point Likert scale questionnaire showed that the tasks with the increase in complexity were harder to do than the simple tasks. In the dual-task measurement, the results showed that the reaction time was shorter in the simple versions of the tasks when compared with the complex versions. Lee's results align with other studies using time judgements and self-rating questionnaires to measure task complexity.

4.6.2.3 Stimulated Recall

Révész and Brunfaut (2013) utilized stimulated recall methodology and perception questionnaires to examine task difficulty in listening tasks. Nonnative English speakers participated in the listening tasks and took the perception questionnaire of a 5-point Likert scale. The results of the questionnaire showed that the participants perceived the difficult tasks as difficult, and they failed more in performing the tasks. Native speakers of English participated in the tasks as well as the stimulated recall to determine the difficult aspects in the listening tasks. The results of the stimulated recall showed that most of the participants perceived the task as difficult when it comes to the lexis and the speed of the listening text. In sum, those two measures served as independent measures of task complexity.

Kim, Payant, and Pearson (2015) utilized stimulated recall to measure the cognitive complexity. The researchers investigated the connection between Working Memory (WM) and task complexity in the outcomes of questions in the English language outcomes in ESL

learners in a U.S. university. The participants were divided into two groups to perform simple and complex tasks followed by three tests (pre-test, immediate posttest, and delayed posttest), and a stimulated recall session. The results showed that the participants in the complex group utilized reasoning processing more than the simple group participants in the stimulated recall responses.

Malicka (2020) utilized three measures of task complexity: affective variables questionnaire, time judgment task, and stimulated recall, in a pilot study. The researcher examined the association between performing tasks from simple to complex in a sequence in opposite to performing them separately regarding the fluency, accuracy, and complexity in the outcomes of English for Specific Purpose students in a Spanish university. The three tasks were designed where the participants had to imagine themselves as the receptionist in a hotel where they have to solve the customers problems with the relocation of the rooms. The results of the three measures were reported as: the participants on a 9-point Likert scale questionnaire rated the most complex task as more difficult than the complex task, and the complex task as more difficult than the simple task. In comparing the time judgments, the participants had provided the real time they spent to perform the task. The results did not support the assumption that the increase in the cognitive complexity of the tasks will lead to longer expected time from the participants when compared with the real time of completing the task. Finally, in the stimulated recall, the participants reported that the increase of number of elements in the task let them perceive the task as difficult because they had to deal with a lot of items in the task. Also, doing more cognitive processes such as describing, apologizing, persuading, etc. made them perceive the task as difficult. In conclusion, these measures served as independent measures of task complexity.

4.6.2.4 *Dual-Tasks*

Sasayama (2016) used several independent measures of task complexity to examine the cognitive load of second language learners in four language tasks in a Japanese university, to include time judgments as did Baralt (2013). The participants were Japanese native university students who completed four narrative tasks whose complexity increased via Robinson's feature of (+/- elements), which was operationalized as one character, two characters, four characters, or nine characters. In order to validate this increase in task complexity independently, Sasayama utilized three methods: a dual-task where learners had detected a change in color at the same time; a 'time' estimation by asking the participants to calculate the time they spent in the task; and a questionnaire, where they self-assess the difficulty of the task. According to the dual-task measure, the cognitive load showed that the first task was the simplest one and the fourth task was the most complex one. The estimated time judgments showed that the participants predicted less time than the real time they spent on the tasks except for the first task, and so this result supports the prospective time judgments and not the retrospective judgements. This result raises a question on the sequence of tasks performed in the study. The task difficulty questionnaire showed that participants rated the first task as the easiest and required less cognitive demands when compared with the rest of the tasks. Interestingly, cognitive complexity and student's proficiency level seemed to interact. Participants with high and low proficiency levels responded to the color change in the first task faster than the other tasks. However, in this stage, participants with low proficiency level were faster than participants with high proficiency level in responding to the color change. The estimated time results showed that participants with low proficiency thought that they would have

spent less time than the demanded time till reaching the third task; whereas participants with high proficiency thought that they would have spent more time than the demanded time till reaching the fourth task. Finally, the questionnaire revealed that the participants with high proficiency reported that tasks are less difficult and required less cognitive demands than participants with low proficiency. Sasayama concluded that time estimation as well as the questionnaires are suitable measures that can be used in second language classrooms. In sum, this study was crucial in showing that independent measures are indeed needed to confirm assumed cognitive task complexity, and that task complexity research in terms of the cognitive load aligns with the pedagogic task sequencing.

Xu, Zhang, and Gaffney (2021) utilized dual-task and self-ratings methodology as the independent measures of cognitive task complexity. The participants were 92 ESL students at a Chinese university. They were divided into three groups where one group was assigned a single-task while the other two groups were assigned a dual-task. In the single-task group, the students had to participate in two writing tasks (simple and complex) and then respond to the questionnaire, whereas the dual-task groups, the students had to participate in the two writing tasks (simple and complex) and respond to stimuli sounds (two sounds for one group, and one sound for the other group). In the two-sounds group, the results showed that the participants produced more accurate writing than the one-sound group in the simple task than the complex task. The results of the self-rating questionnaire with a 9-point scale showed that the participants rated the simple task as easier and requires less cognitive effort than the complex task. In sum, the three measures served as independent measures of task complexity.

4.6.2.5 *Expert Judgments*

Révész, Michel, and Gilabert (2015) utilized a dual-task, students' self-ratings, and experts' judgments to measure the levels of the cognitive load of cognitive task complexity. The participants were ESL 61 teachers and 96 students (English native speakers and ESL learners in a United Kingdom university. All the participants had to do three single and dual oral tasks in the form of a picture narrative, a map task, and a decision-making task. The student participants had to perform the tasks, rate the cognitive effort and the difficulty of tasks, respond rapidly to a color change in the dual-task in the study, whereas the teachers had to report expert judgments on the cognitive effort and the difficulty of tasks. In general, the results showed that the participants in the dual-task, self-ratings, and expert judgments reported that the complex tasks required more mental effort than the simple tasks. In sum, the study investigated the use of triangulated measures to measure cognitive task complexity.

4.6.2.6 *Eye-Tracking*

Révész, Sachs, and Hama (2014) utilized expert judgments, dual-task methodology, and eye-tracking as the methods for task complexity. The study examined the effect of the task complexity measures on ESL adult learners in a British university. The participants performed two tasks with two stages each. In the first stage of the study, the participants had to read two stories about two public figures and then they had to present four pictures that exist in the last section. In the second stage of the study, the participants had to provide reasons for the events that took place. The tasks were designed so the participants had to connect between two pictures using the *if clause* and the *then clause*. In the simple task, the choices were clear whereas in the complex task the choices were

demanding. The results of the study using pre and post-tests showed that the students who participated in the simple tasks did better than the students who participated in the complex tasks. In sum, all the measures, expert judgments, dual-task methodology, and eye-tracking, predicted that the simple tasks required less cognitive effort than the complex tasks. The three measures that they used worked as independent measures of task complexity and were highly correlated with each other.

In sum, this research underscores the need to utilize independent measures of task complexity to determine not only the easiness and the difficultness of tasks, but also to sequence those tasks in a language syllabus. The current study will utilize a number of those methods in sequencing the tasks in the proposed curriculum. The above-described literature is summarized visually for the reader below in Table 11:

Table 11

Studies Measuring Cognitive Complexity of Tasks

Authors (year)	Measures	Main finding
Robinson (2001b)	Questionnaires	Participants reported that complex task was more difficult than the simple task
Robinson (2007b)	Questionnaires	Participants reported that the complex task was more difficult than the mid task and the mid task was more difficult than the complex task.
Malicka (2014)	Post-task questionnaire	Cognitive complexity affected positively the fluency, accuracy, and complexity of the students' performance due to the increase of task complexity

Serafini and Torres (2015) and (2016)	Questionnaires Ratings	Participants were able to rank the tasks based on their difficulty
Jung (2017)	Time judgments Questionnaire	Participants reported that the complex version of the task required more cognitive effort than the simple task
Malicka, Gilabert, and Norris (2017)	Questions in interviews	Categorize the target tasks as either easy or difficult
Zalbedia (2017)	Self-ratings methodology	Complex tasks required more cognitive effort than the simple tasks
Baralt (2013)	Retrospective time judgments of time-on-task Questionnaire	Complex task is more difficult than the simple task Most complex task was rated as the longest
Jung (2018)	Retrospective time estimation Questionnaire	Tasks were reported to take more time than the actual time of finishing the tasks. Complex tasks were more difficult than the simple tasks
Lee (2019a) and (2019b)	Time prospective time judgments Self-rating questionnaire Dual-task methodology	Time of planning and delivering the tasks increases based on the complexity of the tasks Tasks with the increase in complexity were harder to do than the simple tasks Reaction time was shorter in the simple versions of the tasks when compared to the complex versions
Révész and Brunfaut (2013)	Stimulated recall methodology Perception questionnaire	Difficult tasks were more difficult to perform
Kim, Payant, and Pearson (2015)	Stimulated recall	Participants in complex group utilized reasoning processing more than simple group participants

Malicka (2020)	Affective variables questionnaire (AVQ) Time judgment task (TJT) Stimulated recall (SR)	Most complex task is more difficult than the complex task, and the complex task is more difficult than the simple task The increase in the cognitive complexity of the tasks did not lead to longer expected time when compared with the real time of completing the task The increase of number of elements in the task lead to perceiving the task as difficult
Sasayama (2016)	Dual-task Time estimation Questionnaire	Using dual-task showed that the first task was simplest whereas the fourth task was the most complex one. Less time was predicted in completing the task than the actual completion time. The first task was the easiest and required less cognitive demands when compared with the rest of the tasks.
Xu, Zhang, and Gaffney (2021)	Dual-task Self-ratings methodology	There was more accurate writing in the simple task than the complex task. The simple task was rated easier and required less cognitive effort than the complex task
Révész, Michel, and Gilabert (2015)	Dual-task Students' self-ratings Experts' judgments	Complex tasks required more mental effort than the simple tasks
Révész, Sachs, and Hama (2014)	Expert judgments Dual-task methodology Eye-tracking	Students who participated in the simple tasks did better than the students

		who participated in the complex tasks

All the previously mentioned independent measures will be used to measure the cognitive task complexity of the designed tasks in the current study along with a new measure that will be explained to the reader in detail in the next section.

4.7 A New Variable for Cognitive Task Complexity: Task Sustainability

A novel way to robustly assess cognitive complexity may be via the construct of task sustainability. This construct has been explored in the field of psychology, but has never been utilized in applied linguistics nor education curriculum design. Task sustainability is defined by Rosenbaum and Bui (2019) as one's ability to sustain a hard task, whereby the longer they can do it for, the easier it is deemed to be: "the longer the task deemed sustainable, the greater its subjective ease" (Rosenbaum and Bui, 2019, p. 1981), such that the task might be perceived as difficult according to the sustainability estimation of the task. In other words, the longer the task is, the more tiring it will be to the participants. The decision on the easiness or the difficulty of two tasks might be affected by the number of repetitions of performing the same tasks. The construct is operationalized by giving the participants a task to perform and then ask them to provide their subjective sustainability judgments on this task; in other words, they are asked to rate or rank the task according to how many times they could do it for or how long they can "sustain" or withstand the task.

In their experiment, Rosenbaum and Bui (2019) created eight tasks: four tasks were designed to let the participants count loudly and at an ease from 1 up to 8, 12, 16, or 20,

whereas the other four tasks were designed to let the participants walk for a distance of 16-foot-long while carrying a bucket. The weight of the bucket ranged from empty to full of 7 pounds of pebbles. The time was recorded to examine if the participants chose the tasks that take less time. The participants (36 in total and randomly selected) of one group chose a bucket task and a counting task and then provided sustainability judgements. The participants in the other group performed the experiment in an opposite order. The participants had to choose the tasks that they thought was easier for them to perform and they had to give sustainability judgments where they were asked how many times they think they could perform the tasks (where they got to choose from 3, 9, 27, 81, or 243 times). The participants were asked whether they will repeat the task this number of times or not. The authors assumed that the participants would report that the subjective difficulty increases as the number of trials increases as well. The results of the study showed that the participants considered time as a variable that might affect their choices. The researchers concluded that they needed to replicate the study, taking into account the options that the weight of the bucket or the distance of walking could also influence sustainability, and to not conflate it with time.

In another experiment, Higby, Guo, Mendoza, Ramos, and Rosenbaum (under revision) examined the subjective task difficulty in a bilingual setting. This measure we can refer to as task sustainability by language. The authors were concerned with the effect of proficiency of bilingualism on perceiving the difficulty of tasks and the order decision of performing tasks. The researchers proposed that bilingual speakers are always more confident in speaking in their dominant language and vice versa. The participants were 120 Mandarin-English bilingual students in a Chinese university and were divided into two

groups based on their linguistic level in both languages: higher proficiency and lower proficiency. They were exposed to 72 pictures of objects, and they had to name half of them in English and the other half in Mandarin rapidly and accurately as many times as they could. Following this step, the participants had to choose between giving names to pictures in English and giving names to pictures in Mandarin, and to choose between the easier tasks. This was operationalized as their choice in giving names to pictures in either English or Mandarin, and their choice on which task to do first. The researchers assumed that the task choice would be based mainly on the participants' proficiency where more English proficient participants will choose to do the English naming task and more Mandarin proficient participants will choose to do the Mandarin naming tasks. Nevertheless, they theorized that participants might choose to do the naming task in the less proficient language, Mandarin, if and when the task demands naming a small number of objects. On the other hand, participants might refuse to do the naming task in the more proficient language, English, when the task demands are greater, such as naming a large number of objects. In other words, the participants might decide on doing the difficult task for few times than doing the easy task for multiple times. Participants' proficiency level was determined via Language History Questionnaire. Afterwards, the researchers asked the participants to assess their ability to do several versions of the exact same task (choice task) and to reflect on which task they believe is less difficult and which task they would do before the other task. The results of the study showed that the participants tended to do the less difficult task before doing the difficult one. In addition, the participants with more English proficiency decided to do the task in English more than those with low English proficiency level. The current study was designed to understand the difference between the

participants' real skills as well as how well they perceive their own skills. In conclusion, the researchers suggested that these findings will be helpful pedagogically where teachers and students can plan and decide together on the curricular content. In this case, the students' pros and cons can be identified from the several tests that the students take and then afterwards, one can compare those scores with the students' own perceptions of their skills and what they can accomplish over a specific time period.

Fegghi & Rosenbaum (2022) examined the choice to perform easy tasks over hard tasks, and whether they are mental or physical tasks as a means of task sustainability. The study was divided into three experiments: the first experiment was concerned with the difficulty and ordering of mental tasks, the second experiment was concerned with the difficulty and ordering of physical tasks, and the third experiment was designed to include both mental and physical tasks. In the first experiment, the participants (thirty in total) were given math problems such as addition and subtraction. Half of the participants were asked to state which task was easier and the other half were asked to state which task they could perform first in order. There were 12 math problems where half of them were adding and subtracting 2-term problem, and the other half included adding and subtracting 6-term problems. Then the participants were given some questions to decide on both the easier and the first task to perform. The questions (25 for task difficulty and 25 for task order) used the numbers 5, 10, 20, 40, or 80 with either the 2-term or the 6-term problems to determine the number of times the participants can perform with the two digits or the six digits addition and subtraction problems. The results showed that the participants chose the 2-term problems as easier than the 6-term ones and preferred to perform the 2-term problems before the 6-term ones. In the second experiment, the participants (thirty in total)

were given physical tasks such as moving an empty bucket back and forth and moving a loaded bucket back and forth using two sides of a table. They participated in carrying both buckets for six times to grasp the idea of the task. Half of the participants were asked to state which task was easier and the other half were asked to state which task they could perform first in order. The questions (25 for task difficulty and 25 for task order) used the numbers 5, 10, 20, 40, or 80 with either the empty bucket or the loaded bucket to determine the number of times the participants can carry the empty bucket or the loaded bucket. The results showed that most of the participants chose to do the easy task first, whereas the rest of the participants chose the hard task first. In the third experiment, the participants (sixty in total) were given the math problems and the moving of the buckets in four pairs and then the participants had to answer the 5, 10, 20, 40, or 80 with the four pairs. The results showed that most of the participants chose the easy task to be done first as in Experiment 1, where the participants did not think much of the idea of getting tired as they were doing both mental and physical tasks. In sum, the three experiments examined the difficulty as well as the order to choose among tasks to perform.

In summary, the six measures of task complexity are: *task difficulty ranking* to determine how the participants perceive the difficulty of tasks, *retrospective time-on-task judgments* to provide the time the participants think it took them to complete the tasks, *stimulated recall comments* which gives the participants the total chance to reflect on the tasks and their difficulty, *task sustainability judgments* – repeating where it assesses the participants ability to repeat the task of their choice, task sustainability judgments – efforts where it assesses the participants ability to carry out the task for a large number of times,

and *task sustainability judgments by language*, that deals with the participants' choice of doing the task based on their language proficiency.

As presented earlier in the literature of task complexity, this construct is crucial in sequencing the tasks in language curriculum. Designing tasks and then sequencing them in a syllabus for presentation to learners according to cognitive complexity sets the learners up for maximal task performance. Doing so best fosters their attention to form, retention of forms into long-term memory (Baralt et al., 2014; Robinson, 2020), and promotes interlanguage development and accuracy, complexity and fluency.

In the current study, adding the new measures of task sustainability, as well as task sustainability by language, contributes to the field by providing another independent means of determining the complexity level of a task. Following the hypothesis that people choose easier or more effortless tasks will help in knowing which tasks they perceive as easy and which tasks they perceive as difficult. Based on the data gathered in the current study, the participants commented on their own subjective ability in perceiving the difficulty of the task. Participants were asked to give sustainability judgements from their own perspectives, by either agreeing or disagreeing to do the pedagogic task 3, 9, 27, 81, or 243 times. In this sense it is assumed that the increase in number of times to do the task requires more effort from the participants. Therefore, if the participant chooses to do the pedagogic task 3 times, this means that the task is simple, if the participant chooses to do the pedagogic task 9 times, this means that the task is still simple, if the participant chooses to do the pedagogic task 27 times, this means that the task is still simple, but if the participant did not choose to do the pedagogic task 81 or 243 times, this means that the task is complex. This same theoretical logic applies to their language of course in choosing the sustainability of a task.

The current dissertation used all the six measures to assess the difficulty of tasks in order to sequence them in the syllabus. Following the data analysis and given the different nature of the proposed measures, task difficulty rankings (by students, teachers, and domain experts), retrospective time judgments (by students), and task sustainability judgements – effort (by students) are the measures utilized to sequence the designed tasks in the Arabic language curriculum.

In the next chapter, I present on the methodology that I will employ to achieve these goals. I detail the sources, methods, and triangulative plans for the Needs Analysis, as well as the scientific metrics that I will follow to design the task-based curricula and all related materials.

CHAPTER 5. METHODOLOGY

5.1 Research Design

The current study used a mixed-methods research approach for a task-based Needs Analysis, followed by an empirical study examining six independent measures of cognitive complexity with students, teachers, and domain experts in order to sequence the tasks in a curriculum (Baralt et al., 2014). Johnson (2012) stated that the mixed methods research is achieved through mixing and integrating different methods, data, or even paradigms in any proposed research. Using the quantitative as well as the qualitative approaches in a study will help in obtaining a broader and comprehensive picture of the data to be collected (Johnson and Onwuegbuzie, 2004). Task-based Needs Analysis science will be followed as is detailed in Long (2005, 2015) and in the literature based reviewed in Chapter 3.

5.2 Part I: The Needs Analysis

5.2.1 Needs Analysis: Sources

The Needs Analysis was done through triangulation of various sources and methods (Long, 2005, 2015). The Need Analysis utilized numerous sources such as U.S. students studying Arabic as a foreign language, teachers, administrators, Arabic linguists, community members, key stakeholders, domain experts, U.S. diplomats as well as workers who use Arabic in their career and literature on Arabic linguistics (e.g. Albirini, 2015).

The current study used several sources to obtain the data. This was done through *triangulation by sources* (Long, 2005). Learners are considered to be an important source of information and can have an effective input in the courses that they will learn (Long, 2015). Long (2015) also stressed the role of teachers in collaborating with applied linguists

and domain experts in creating useful syllabi (Long, 2005). As such, sources included students studying Arabic, teachers, domain experts, U.S. diplomats, family members, current textbooks used in teaching Arabic in the U.S. universities, literature on Arabic linguistics (e.g. Albirini, 2015), and real job posts as well as job descriptions requiring Arabic. The study also examined current textbooks used in teaching Arabic as a foreign language.

Long (2005) stated that Needs Analysis is conducted through using a ‘convenience sample,’ ‘purposive sample,’ or a ‘random sample.’ A ‘convenience sample’ is conducted with participants who can take place in the study regardless of being part of the desired population. A ‘purposive sample’ is conducted with participants who are chosen by the researchers to obtain the information needed. Finally, the ‘random sample’ in which the researchers select randomly and equally the members that will participate in the study. The sample in the current study was a purposive sample in order to obtain the targeted data for the study. In so doing, the researcher has accessed multiple sources and methods to validate the content of the Needs Analysis (Long, 2015).

5.2.2 Needs Analysis: Methods

The methods for the Needs Analysis component of this study were questionnaires, semi-structured interviews, and observations of Arabic foreign language classrooms. Additional sources and methods were added based on insight that arose during the interviews. Following Long (2005, 2015), triangulation was done by mixing sources and methods, such that interviews were done with students but also with teachers and diplomats, etc. Using more than one method in the same study resulted in obtaining a wider and more comprehensive picture of the research under investigation; this was done through

what is called *triangulation by methods* (Long, 2005). Long (2015) stated that triangulation is used in qualitative research to validate the collected data and to expand its credibility.

5.2.2.1 Interviews

Interviews are used widely in the social sciences and are considered a very effective method in exploring the needs of learners (Johnson & Turner, 2003; Long, 2005; Creswell & Plano Clark, 2017). The current study used semi-structured interview with predesigned questions (Long, 2005). There was a total of three interview types: a Needs Analysis interview with students and with teachers; as well as an interview with domain experts, administrators, Arabic linguistics, community members, key stakeholders, U.S. diplomats, and workers who used Arabic in their career. The interviews were conducted through Zoom meetings. The interviews were recorded to be transcribed later. The researcher also took notes during the interviews that helped in transcribing and commenting on the data later for the purpose of the study. Clandinin and Connelly (2000) recommend that the researcher during interviews should write down their own notes. Lofland and Lofland (1995) refer to it as “logging data” (p. 66). In so doing, the researcher was more engaged with the participants and the information provided through the interview. Please see Appendices D-F for the Needs Analysis interview questions for each of the above sources.

5.2.2.2 Questionnaires

Questionnaire surveys are an ideal method because they can result in large numbers of responses with easy access such as email and online (Long, 2005). Long recommends that questionnaires and surveys come *after* interviews, and that they be short so it will be easy for the participants to answer them. However, a potential challenge is that they might not provide many responses due to the questions with the limited answers’ options as well

as the closed items that do not offer the same space for the responses as in the interviews (Long, 2005). This is why triangulation is so crucial in Needs Analysis science. There were three questionnaires in total: one questionnaire administered to students, one to Arabic language teachers, and one to domain experts. The questionnaires were first piloted to proof they are free of any mistakes and the questions are clear and easy to understand. The questionnaire was done using Qualtrics survey software and was sent to the Arabic language teachers to distribute it to students who are willing to participate in the study. Please see Appendices A-C for the Needs Analysis questionnaires.

5.2.2.3 Observations of Arabic foreign language classrooms

Arabic foreign language classrooms were observed to gain further insight from the classroom. These included classrooms that the researcher attended, and also, recordings of classrooms that teachers share as part of the study. Long (2015) stated that the importance of participant and non-participant observation where they “have the advantage of allowing direct, in-depth, contextualized study of what participants actually do, of interest in their natural environment” (Long, 2015, p. 157).

5.3 Needs Analysis: Data Collection

The researcher contacted over 150 Arabic professors and program coordinators in the U.S. universities to advertise and share the study with their students. This was done through direct emails along with the flyer of the study. This step was the only way to recruit Arabic as a foreign language students to participate in the data collection.

5.3.1 Needs Analysis: Qualitative Data Collection

The first Needs Analysis interview was conducted with the students to obtain key details from the study sources. These included reasons behind choosing to learn Arabic and

goals for learning it, (e.g., communicating with family members, relatives, friends, travel, religious matters, etc.), interests in learning some real-world tasks that they need/needed to be able to do in the Arabic language (e.g., order a meal, discuss a political event, make a purchase, etc.), dependence on technology (e.g., it was important to know if students or teachers or experts use any technology, tools, devices, or smartphone applications to aid them in their learning process, as this information can give curriculum designers and teachers the chance to utilize those applications in their teaching techniques), and information on studying abroad. Eliciting information on studying abroad in Arabic speaking countries was helpful in designing the language curriculum with a specific focus on Arabic linguistic varieties and if the learners can decide on which dialect they prefer to study. The interview aided in addressing the issue of diglossia and their recommendations to better serve the students with regard to teaching both Modern Standard Arabic and regional dialects and their recommendations to curriculum designers to develop a comprehensive curriculum that can manage teaching Modern Standard Arabic and Colloquial Arabic. They were asked what is useful and helpful for them in their learning process, (for example, the sequence of introducing the lesson, starting with generally introducing the topic then describing rules, vocabulary, etc.). They were further asked to share about their thoughts on tasks/activities they do in class and what language focus is more useful for them (meaning, grammar, learning new words). Finally, the interview asked about actual tasks that the students want to explore and learn using Arabic and their recommendations to improve the course to better serve them.

Another Needs Analysis interview was conducted with the teachers to explore the experience that the teachers might have with the Middle East and the Arab countries they

have lived in, their learning experience in Arabic, and the places and the methods that they used to learn the language. It also explored the real-world tasks that they feel are important for their students to survive in the Arab world and they are able to do using the language and if they think that those were useful to their students as well. Their views on teaching Arabic in the U.S., their opinions to make it better, and their suggestions to encourage more American young people to study Arabic, were additionally examined. The questions further addressed the diglossia issue and their recommendations to better serve the students with regard to teaching them Modern Standard Arabic and regional dialects and their recommendations to curriculum designers to develop a comprehensive curriculum that can manage teaching Modern Standard Arabic and Colloquial Arabic. The interview also asked the teachers if they are using any technology tools in their teaching settings. They were also asked to share about their techniques in teaching, in preparing a lesson plan, how they introduce a new lesson to their students (for example, starting with topic's name, vocabulary, grammar, etc.). Teachers were additionally asked about their own knowledge of TBLT, if they implement it in their teaching, and their training experiences. Finally, the interview inquired about students' views as well as their suggestions for an Arabic language curriculum.

The last interview with the domain experts, administrations, diplomats, etc. asked them about their experience with Middle East and their learning experience of Arabic. It was also concerned with their views on encouraging American young people to study Arabic and their views to improve Arabic teaching. The interview also explored their own views on the variety that is most used in their daily interactions and whether it is the Standard Arabic or the Colloquial Arabic. It also explored the real-world tasks that they

think students need to do in Arabic and what are their recommendations for those tasks. It also asked about the technology tools that can help students in their learning experience and their recommendations for designing an Arabic curriculum.

For the Arabic linguist experts, the interview questions were mainly about their learning experience of Arabic and their thoughts on encouraging young Americans to learn the language. Also, they were asked on their views and suggestions on the language or the variety they recommend to be taught for Arabic as a foreign language. They were additionally asked if they suggest a sequence for the teaching of the Standard and the Colloquial. For example, what were their recommendations to either start teaching Arabic students the Standard first or the Colloquial first. I additionally inquired about their own understanding and recommendations for the utilization of TBLT in teaching Arabic and their own views on its effectiveness in teaching the various Arabic varieties.

5.3.2 Needs Analysis: Quantitative Data Collection

The first Needs Analysis questionnaire was conducted with the students. First, the questionnaire gathered students' demographic information: their gender, ethnicity, age, native language, the languages they speak at home, major of study, and the foreign language requirement at their university. Then the questionnaire was directed to elicit information on the Arabic language, the number of years the participants spent learning Arabic, the reasons and specific goals from choosing to learn the language, the opportunities to practice the language outside the classroom, as well as their own interests in specific language skills or activities to have a better grasp of the language, and the specific dialects of their interest. It also asked for the recommendations to better improve the Arabic courses. Also, the information on the approaches of teaching Arabic in formal

classes was important to know. This was helpful to have a better understanding on how the teachers introduce the language to the students and whether the course is taught with teacher-centered or student-centered approach. Then the survey went to ask about the language skills and how much focus is put on any of those skills.

Another questionnaire was conducted with the teachers. It first gathered demographic information: their gender, ethnicity, age, native language, and the number of years they spent in teaching Arabic. Then it asked about reasons their students have to learn Arabic and the approach of teaching and whether it is teacher-centered or student-centered. It also asked about the focus of the language different skills, the preferred dialects, the real-world tasks that they think their students are interested to do in Arabic, and their recommendations for improving Arabic courses.

The last Needs Analysis questionnaire was conducted with domain experts. It first gathered their demographic information: gender, ethnicity, age, native language, and the number of years they spent in learning Arabic. It then asked about the reasons and specific goals from choosing to learn Arabic, the most used Arabic variety at their work, preferred dialects, the tasks they think are important for the students to learn, and finally their recommendation to improve the Arabic courses.

Likert-scale data presented on the questionnaire to students, teachers, and domain experts were assessed quantitatively; these data were utilized to compare different sub-groups when analyzing the qualitative data.

5.3.3 Needs Analysis: Class Observation

Class observation is one of the methods for Needs Analysis. (Chaudron, 1988; Van Lier, 1988; Long, 2005). Observing language classrooms was important to learn about the

different methods and techniques teachers adopt to teach Arabic. Perhaps due to the difficulty of the Arabic language, some teachers focus more attention on grammar. Most of the class time was dedicated to textbook drills and grammar rules such as conjugating the verbs in the different tenses instead of stimulating the students to use and produce the language in a meaningful way and this was also clear in using translation exercises from English into Arabic. Finally, there was more focus on the Standard Arabic without paying attention to the regional dialects of Arabic.

5.4 Needs Analysis: Data Analysis

5.4.1 Needs Analysis: Qualitative Data Analysis

Creswell and Plano Clark (2017) also stated a number of steps that will help in analyzing the qualitative data. First, this requires preparing the data for analysis by transcribing collected data and field observations and examining the data for precision to be ready for the analysis. Second, exploring the data by getting acquainted with the overall database to develop memos and a codebook. Third, analyzing the data by choosing a software that will best analyze the data. Those software programs help in analyzing the data through coding. Finally, representing the data by discussing the themes and including figures of the study (Creswell and Plano Clark, 2017).

For this study, all qualitative data were analyzed using the NVivo software. Saldaña (2011) proposed that the researchers should be ready to code the transcribed data and write analytic memos to reflect on the data and the coding process. A grounded theory approach informed how the researcher interacts with the qualitative data in NVivo. Following Baralt (2012), the following steps were utilized:

The data that were collected from the Zoom-meetings, transcriptions, and the researcher's notes were analyzed for free codes, hierarchical categories, and theoretical coding following the grounded theory approach. Free coding focused on the participants' utterances to obtain their experiences. Those codes were then organized so it was accessible to identify similar subcodes. Then came the hierarchical categories which is described by Baralt (2012) as "moving from description to conceptualization" (Baralt, 2012, p. 234), and the labeling of 'higher-level' concepts or themes, as well as the interconnection of coding decisions. This was done by naming the higher codes to group the free codes and to apply the coding scheme to any focus group. Lastly, the data were interpreted to compare and contrast themes, to reflect on patterns, and to discover all the patterns until the data does not provide any new themes (Baralt, 2012).

5.4.2 Needs Analysis: Quantitative Data Analysis

Creswell and Plano Clark (2017) stated common steps to analyze the data that the researcher follows in this study. First, researchers must prepare the data for analysis by cleaning the database from any errors, assigning and computing variables, and developing a codebook. Second, exploring the data by examining the data and assigning a descriptive analysis and getting the data ready for the descriptive statistics. Third, analyzing the data by choosing the suitable statistical test based on the research questions. Finally, the researcher represents the data in written summaries, tables, and figures (Creswell & Plano Clark, 2017).

The very nature of a Grounded Theory approach (Wertz et al., 2011) also assisted in reducing any bias from the researcher's side, where each level of coding was

documented in detail and coding was done once saturation of possible themes was accomplished (Creswell & Plano Clark, 2017; Gunawan, 2015).

5.5 Part II: Independent Measures of Cognitive Task Complexity

As happened in Phase 1 of the study, to recruit students to participate in the task complexity measure, the researcher contacted over 170 Arabic professors and program coordinators in the U.S. universities to advertise and share the study with their students. This was done through direct emails along with the flyer of the study.

5.5.1 Cognitive Task Complexity: Data Collection

First, demographic information was collected on the participants who performed the tasks and/or measures of cognitive task complexity. The data collected their gender, race and ethnicity, age, native language, home spoken languages, major, number of years of studying Arabic, and their Arabic dialects. Participants were asked to document their proficiency level in both Arabic and English. Also, the teachers and the domain experts provided their gender, race and ethnicity, age, native language, and number of years of teaching and studying Arabic.

The researcher met with the participants via Zoom to perform the pedagogic tasks and to provide their feedback on them. Also, it would not be feasible to find students to perform the 64 tasks. So, the researcher used modified planned missingness design to overcome the lack of adequate number of participants. Planned missingness designs are not common in linguistics. However, they have been recommended for decades by methodologists in other fields for their benefits—reducing participant burden as well as data collection costs (Little & Rhemtulla, 2013; Rioux et al., 2020). In my modified planned missingness design, student participants performed two tasks, and then evaluated

the tasks by performing all six measures of cognitive complexity. In other words, each participant of the 14 had to perform two tasks as follows: Participant 1: performed Task 1 and then rated the task, performed Task 2, and then rated the task. Participant 2: performed Task 2 and then rated the task, performed Task 3, and then rated the task, and so on. To get accurate data, the same participants should perform the same exact tasks. In this case, the comparison will be held based on the performance of all the participants in the same tasks which is not the case in this study. The methods for each measure are briefly described below:

Task difficulty ranking: In this measure, the participants have to answer a Likert scale question of four choices (easy, difficult, very difficult, or not applicable) on the task they have just performed. Torres & Serafini (2016).

Retrospective time-on-task judgments: In retrospective time-on-task measure, participants have to say the time they think it took them to complete the task. Baralt (2013) and Kim et al. (2015).

Task difficulty and mental effort assessment: In this measure, participants have to answer a Likert scale (from 1 to 9) questions on the mental effort and difficulty they think the task required from them. Malicka (2020).

Stimulated recall: In this measure, the participants have to reflect on by answering questions on their own thinking while doing the task. Gass & Mackey (2000), Kim et al. (2015).

Task sustainability judgments: In this measure, participants have to think of performing two tasks: the pedagogic tasks they perform and imagining carrying a bucket of water. Then, they have to answer questions on which task is easier for

them to do and they choose to do first from the pedagogic task or the bucket of water. Rosenbaum and Bui (2019).

Task sustainability judgments by language: In this final measure, the participants have to think of either performing the pedagogic tasks in either their dominant language (English) or the target language (Arabic). Hibgy et al. (under revision)

5.5.2 Cognitive Task Complexity: Data Analysis

The researcher met with the participants where they had to perform the pedagogic tasks and to provide their feedback on them. Each participant performed two tasks and then responded to the task complexity questions during the meeting. They answered questions on the difficulty and mental effort of the tasks. The time they think it took them to do the task. They also answered the sustainability questions where they had to hypothetically imagine themselves performing the task for sustainability judgment which is carrying the bucket of water and not performing the actual task of carrying the bucket, and the subjective task difficulty by language of dominance.

Briefly, the analysis plan for the data from each measure is described below. Then, I provide the statistical plan with which I correlated all of the measures, and then derived the sequence of tasks.

Task difficulty ranking: Each participant in this measure had to answer a Likert scale question on how they perceived the difficulty of the task. They had to choose among four choices (easy, difficult, very difficult, or not applicable). Following their choices, the task was ranked based on its difficulty. For example, one participant chose the task of writing a list of clothes items for a trip as an easy task, whereas describing an apartment as a hard task.

Retrospective time-on-task judgments: The retrospective guesstimated time-on-task was subtracted from the actual time-on-task. For example, in the task of writing down a list of clothes items, the guesstimated time was 3.00 minutes, whereas the actual time it took the participant to perform the task was 1.33. In this case, the longer the guesstimated time when compared with the actual time, the more difficult the task is perceived.

Task difficulty and mental effort assessment: In this measure, the participants had to answer a 9-point Likert scale question on the mental effort and the difficulty of the task they performed. For example, the participant chose the scale of 5 in describing an apartment in both the mental effort and difficulty of the task, whereas the scale of 2 in writing a list of clothes items for a trip.

Stimulated recall: Students comments were based on how they perceived the two tasks they performed. For example, the participant commented on the two tasks saying “the description of the apartment was a little harder than the clothes”.

Task sustainability judgments: In this measure, the participants had to choose between performing the pedagogic task or hypothetically carrying a bucket of water for half a minute, a minute, two minutes, or four minutes. They also had to think of whether they can perform the pedagogic task for 3, 9, 27, 81, or 243 times. For example, if the participant thinks that they can do the tasks for all of the previous numbers, the task is perceived as easy, however, if the participant thinks they cannot go up to 243 number of performing the task, it is perceived to be difficult.

Task sustainability judgments by language: In this measure, the participants had to think of whether they can choose the easier or the first pedagogic task to perform

for 10 or 80 times in either Arabic or English. For example, the participant in performing the two tasks of describing an apartment and writing a list of clothes items, the participant chose that they think that the easier task and the first task to perform is in Arabic 10 times than in English 80 times. This reflects that the participants think, though they are not bilingual based on their low proficiency level in Arabic, they can do the task in Arabic for 10 times and not in English for 80 times.

Cronbach's alpha reliability was then used to measure the correlation among all the measures in the task complexity. Cronbach's alpha is a common measure of reliability in science. (Cronbach, 1951). It is used when the research utilizes different measures to stand for the reliability or the accuracy of the multiple measures used in any research. To quote Cronbach, "a reliability coefficient demonstrates whether the test designer was correct in expecting a certain collection of items to yield interpretable statements about individual differences" (Cronbach, 1951, p. 297). In the current research, my first goal was to examine how much all of the measures correlate all together. As opposed to doing individual correlations, my goal was to utilize reliability, or Cronbach's alpha, as a measure of correlation between two or more items. Correlations were thus calculated amongst all of the six measures, reporting on alpha as well as standardized alpha. This was also done for all of the items for the student measures, as well as for the teachers and domain experts, first amongst each other, and then across all items. This allows me to determine how much these items co-vary together (e.g., how much overlap or information they share in terms of getting at the construct of complexity).

5.6 Human Rights Protection

The Institutional Review Board at Florida International University was contacted to approve the research study for the protection of human rights. Six consent forms were designed to document for the participants' permission to participate in the study. These included (1) a consent form for the adult questionnaire on Needs Analysis; (2) a consent form for the adult interview on Needs Analysis; (3) a consent form for the adult interview with extra credit option on Needs Analysis; (4) a consent form for the adult interview with a gift card on Needs Analysis; (5) a consent form for the adult interview on task complexity; and lastly, (6) a consent form for the adult questionnaire on task complexity. All of these forms are provided at the end of this dissertation in Appendices I-N.

5.7 Research Integrity

5.7.1 Validity and Reliability

The quantitative research is measured through validity and reliability. Validity is attained through the measures that are used to measure a particular aspect in the research, whereas reliability is attained through the consistency of the outcomes (Leavy, 2017). Also, Zohrabi (2013) stated that “validity is concerned with whether our research is believable and true and whether it is evaluating what it is supposed or purports to evaluate” (p. 258). This will be achieved through the questionnaire items that are adapted from previous questionnaires and surveys. Those questions were used to measure the same type of data as in the current study. Reliability will also be achievable through using the SPSS software which is used to obtain the descriptive statistics in quantitative research. Finally, Leavy (2017) recommends piloting the survey to make sure that it is understandable and clear from any language mistakes. Therefore, the questionnaires will be administered to

participants prior to the actual study to confirm that they measure what they seek to measure.

5.7.2 Credibility and Trustworthiness

In the qualitative research, validity is attained through credibility and trustworthiness. The credibility and trustworthiness are concerned with the quality of the research, the accuracy of the methods used, and the audience's opinions that the researcher was able to achieve trustworthiness through the findings of the research (Aguinaldo, 2004). Trochim (2001) states that the "credibility criteria involves establishing that the results of qualitative research are credible or believable from the perspective of the participant in the research" (p. 162). Zohrabi (2013) has also mentioned that "the principles underlying naturalistic and/or qualitative research are based on the fact that validity is a matter of trustworthiness, utility and dependability that the evaluator and the different stakeholders place into it" (p. 258). This will be done through using the questionnaires and interviews, which are common methods in the quantitative and qualitative research, respectively.

The credibility and the trustworthiness of the study were met through the several sources and methods of the data. Gunawan (2015) stated that "to ensure the trustworthiness, the role of triangulation must again be emphasized, in this context to reduce the effect of investigator bias" (p. 11). Zohrabi (2013) commented on quantitative and qualitative research as:

obtaining the similar results in quantitative research is rather straightforward because our data are in numerical form. However, in qualitative approaches to research achieving the identical results are fairly demanding and difficult. It is because the data are in narrative form and subjective. (Zohrabi, 2013, p. 259)

Thus, this is achieved if the results and the findings of the study agree with previous studies on conducting similar research and obtaining similar results.

In the next chapter, I present on the results of this dissertation. I do so in two parts, Part I (the Needs Analysis) and Part II (the empirical study looking at six independent measures of cognitive task complexity). I then answer each research question in turn, followed by the Discussion.

CHAPTER 6. RESULTS

6.1 Participants

6.1.1 Demographic Information

The total number of participants in the dissertation were 190. One hundred and thirty-four participated in the Needs Analysis study, and 56 participated in the Task Cognitive Complexity study. The Needs Analysis was conducted with students, teachers, and domain experts as sources, and then class observations, interviews, and questionnaires as methods. The Task Cognitive Complexity study was conducted with students, teachers, domain experts, and U.S.-based Arabic native speakers, utilizing six independent measures of task complexity.

6.1.2 Needs Analysis Study Participants

The participants of the Needs Analysis were of three categories: students, teachers, and domain experts. All of them participated in the interviews and the questionnaires. The total number of participants in the Needs Analysis was 134. The students were 96 in total: 20 students participated in the interviews and 76 students participated in the questionnaires. The teachers were 20 in total: four teachers participated in the interviews and 16 teachers participated in the questionnaires. The domain experts were 18 in total: three domain experts participated in the interviews and 15 domain experts participated in the questionnaires.

The students' gender was reported as follows: 29 males and 67 females. The students' race or ethnicity was as follows: five are African Americans, three are Asians, 50 Caucasians, 15 Hispanic, and 23 reported other races or ethnicities such as: Gulf, Iraqi,

Lebanese, Palestinian, South Asian, and multiracial. The students' age ranged from 18 years to 61 years (the mean was 22.38 and SD = 6.13). The students' native languages were as follows: 66 students stated that English is their native language, 11 stated Arabic, five stated Spanish, and 14 participants stated other choices or mentioned they are bilinguals such as English/Arabic, Spanish/Arabic, English/Spanish, English/Portuguese, English/Hebrew, Spanish/Catalan, and others stated other languages such as Swedish, German, Bengali, Amharic, Armenian, Hungarian, Bulgarian, Urdu, and ECA. The students reported that their home languages are as follows: 34 students speak English, seven speak Arabic, six speak Spanish, 23 stated English/Arabic, 12 English/Spanish and 14 students stated that their home languages are Turkish, Bengali, Urdu, Sindhi, Hebrew, Amharic, Armenian, Hungarian, Romanian, Darija, and German. The students' learning of Arabic ranged from less than a year up to 24 years (the mean was 3.79 and SD = 5.42). The students additionally reported being enrolled in several majors such as Arabic, International Relations, Religious Studies, Political Science, Linguistics, Statistics, Biology, Engineering, Medicine, Dentistry, Biochemistry, Criminal Justice, History, Psychology, Sociology, Health Science, Economics, Law, Spanish, Graphic Design, Marketing, French, Russian, Library and Information Science, and Non-degree seeking. Fifty-three students stated that Arabic is a language requirement at their universities, while 42 students stated that Arabic is not a language requirement at their universities, and one did not provide this information. The participants in both the interviews and the questionnaires are from several states such as: Alabama, California, Florida, Illinois, Maryland, Michigan, Mississippi, New York, North Carolina, Texas, and Washington

State. Please see Table 12 for a visual summary of the student participants demographics from the Needs Analysis study.

Table 12

Demographic Characteristics of Students from the Needs Analysis Study

Characteristic	n	%	M	SD
Gender				
Female	67	69.8		
Male	29	30.2		
Non-binary				
Prefer to self-describe				
Prefer not to say				
Race or Ethnicity				
African American	5	5.2		
Asian	3	3.1		
Caucasian	50	52.1		
Hispanic	15	15.6		
Other	23	24.0		
Age	18-61		22.38	6.13
Native Language				
English	66	68.7		
Arabic	11	11.5		
Spanish	5	5.2		
Other	14	14.6		
Home Language				
English	34	35.4		
Arabic	7	7.3		
Spanish	6	6.3		
English/Arabic	23	24.0		
English/Spanish	12	12.5		
Other	14	14.5		
Foreign Language Requirement				
Yes	53	55.2		
No	42	43.8		
Years of Studying Arabic	0-24		3.79	5.42

The teacher participants were eight males and 12 females. The teachers' race or ethnicity was as follows: four are African Americans, two are Asians, five are Caucasians, one is Hispanic, and eight reporting other races or ethnicities such as North African, Arab, Arab/Egyptian, and Middle Eastern. The teachers' age ranged from 26 years to 70 years (the mean was 41.80 and SD = 11.63). The teachers' native languages were as follows: seven teachers stated that English is their native language, 12 stated Arabic, and one teacher stated Arabic and English. Their teaching years of Arabic ranged from 1 year up to 25 years (the mean was 11.15 and SD = 7.91). Table 13 below presents their demographic variables.

Table 13

Demographic Characteristics of Teachers from the Needs Analysis Study

Characteristic	n	%	M	SD
Gender				
Female	12	60.0		
Male	8	40.0		
Non-binary				
Prefer to self-describe				
Prefer not to say				
Race or Ethnicity				
African American	4	20.0		
Asian	2	10.0		
Caucasian	5	25.0		
Hispanic	1	5.0		
Other	8	40.0		
Age	26-70		41.80	11.63
Native Language				
English	7	35.0		
Arabic	12	60.0		
Other	1	5.0		
Years of Teaching Arabic	1-25		11.15	7.91

Finally, the domain expert participants consisted of eight males, nine females, and one participant did not answer this question. Their race or ethnicity was as follows: three are African Americans, six are Caucasians, one is Hispanic, and six participants reported other races or ethnicities without mentioning them, and two participants did not answer this question. Their age ranged from 33 years to 76 years (the mean was 55.94 and SD = 13.85). Their native languages were as follows: eight stated that English is their native language, four stated Arabic, and five stated other languages such as Bulgarian, ECA, and Catalan, and one participant did not mention his native language. Their learning of Arabic ranged from one year up to 42 years (the mean was 18.17 and SD = 12.02). Please see Table 14 for the domain experts' demographic variables.

Table 14

Demographic Characteristics of Domain Experts from the Needs Analysis Study

Characteristic	n	%	M	SD
Gender				
Female	9	50.0		
Male	8	44.4		
Non-binary				
Prefer to self-describe				
Prefer not to say	1	5.6		
Race or Ethnicity				
African American	3	16.7		
Asian				
Caucasian	6	33.3		
Hispanic	1	5.6		
Other	6	33.3		
Age	33-76		55.94	13.85
Native Language				
English	8	47.1		
Arabic	4	23.5		

Spanish	5	29.4		
Other				
Years of Studying Arabic	1-42		18.17	12.02

6.1.3 Task Cognitive Complexity Study Participants

The participants in the Task Cognitive Complexity Study were of four categories: U.S.-based Arabic native speakers, students, teachers, and domain experts. First, the U.S.-based Arabic native speakers participated in a questionnaire to determine the frequency of the curriculum tasks. Second, the students performed the fifteen tasks to determine their difficulty through the questions on task difficulty ranking, time-on-task judgments, task difficulty and mental effort, stimulated recall, sustainability judgments and task sustainability judgments by language. Lastly, the teachers and the domain experts participated in the questionnaire to determine the difficulty and ranking of tasks. The total number of participants were 56. They were 22 U.S.-based Arabic native speakers, 14 students, 15 teachers, and five were domain experts.

The U.S.-based Arabic native speakers were 5 males and 17 females. Their race or ethnicity was as follows: one is Asian, seven are Caucasians, and 14 reported other races or ethnicities without stating their preferences. Their age ranged from 18 years to 59 years (the mean was 37.52 and SD = 9.52). The native language of the 22 participants is Arabic. Their Arabic dialects are as follows: five participants stated Palestinian dialect, five are Egyptian, three are Moroccan, one is Jordanian, one is Lebanese, one is Saudi Arabian, one is Shaamii, and one is Syrian. Please see Table 15 for a visual summary of the native speaker participant demographics.

Table 15

Demographic Characteristics of U.S. Based Arabic Native Speakers from the Task Cognitive Complexity Study

Characteristic	n	%	M	SD
Gender				
Female	17	77.3		
Male	5	22.7		
Non-binary				
Prefer to self-describe				
Prefer not to say				
Race or Ethnicity				
African American				
Asian	1	4.5		
Caucasian	7	31.8		
Hispanic				
Other	14	63.6		
Age	18-59		37.52	9.52
Native Language				
Arabic	22	100		
Arabic dialects				
Egyptian	5	22.7		
Palestinian	5	22.7		
Moroccan	3	13.6		
Jordanian	1	4.5		
Lebanese	1	4.5		
Saudi	1	4.5		
Syrian	1	4.5		
Shaamii	1	4.5		

The students consisted of seven males and seven females. Their race or ethnicity was as follows: one is African American, five are Asians, two are Caucasians, two are Hispanics, and four reported other races or ethnicities which are Egyptian and Middle Eastern. Their age ranged from 18 years to 57 years (the mean was 23.79 and SD = 10.87).

Their native languages were as follows: nine participants stated that English is their native language, three participants stated Urdu, one stated Spanish, and one is Kinyarwanda. The students reported their home language as follows: four participants speak English, one speaks Spanish, and seven speak other languages such as Indonesian, French, Khmer, Urdu, Kinyarwanda, and Farsi. The students' learning of Arabic ranged from less than a year up to 12 years (the mean was 3.07 and SD = 3.91). Their Arabic dialects were as follows: two participants do not know a dialect, four stated FusHa (Standard), two stated Egyptian, one stated Levantine, and one stated Tunisian and three did not report any dialect background. Please see Table 16.

Table 16

Demographic Characteristics of Student Participants from the Task Cognitive Complexity Study

Characteristic	n	%	M	SD
Gender				
Female	7	50.0		
Male	7	50.0		
Non-binary				
Prefer to self-describe				
Prefer not to say				
Race or Ethnicity				
African American	1	7.1		
Asian	5	35.7		
Caucasian	2	14.3		
Hispanic	2	14.3		
Other	4	28.6		
Age	18-57		23.79	10.87
Native Language				
English	9	64.3		
Spanish	1	7.1		

Other	4	28.6		
Home Language				
English	4	28.6		
Spanish	1	7.1		
Other	7	50.0		
Arabic Dialects				
FusHa	4	28.6		
Egyptian	3	21.4		
Levantine	1	7.1		
Tunisian	1	7.1		
No dialect	2	14.3		
Years of Studying Arabic	0-12		3.07	3.91

The teacher participants were six males, eight females, and one preferred not to say their gender. The teachers race or ethnicity was as follows: seven are Caucasians, eight reported other races or ethnicities such as: Arab and Middle Eastern. The teachers' age ranged from 28 years to 71 years (the mean was 42.13 and SD = 12.81). Their native languages were as follows: five teachers stated that English is their native language and 10 stated Arabic. Their teaching years of Arabic ranged from four years up to 25 years (the mean was 11.0 and SD = 6.24). Table 17 provides a visual summary of the teacher participants' demographic variables.

Table 17

Demographic Characteristics of Teacher Participants from the Task Cognitive Complexity Study

Characteristic	n	%	M	SD
Gender				
Female	8	53.3		
Male	6	40.0		

Non-binary				
Prefer to self-describe				
Prefer not to say	1	6.7		
Race or Ethnicity				
African American				
Asian				
Caucasian	7	46.7		
Hispanic				
Other	8	53.3		
Age	28-71		42.13	12.81
Native Language				
English	5	33.3		
Arabic	10	66.7		
Years of Studying Arabic	4-25		11.0	6.24

The domain expert participants were five males. All were Caucasians. Their age ranged from 40 years to 68 years (the mean was 53.20 and SD = 13.82), and their native languages were as follows: three participants stated that English is their native language and two stated Arabic. Their learning of Arabic ranged from four years up to 12 years (the mean was 7.60 and SD = 4.09). Please see Table 18 for the domain expert variables. One domain expert is a retired three-star army general from the U.S. military, who had lived in Iraq for two years. Another is a high rank diplomat who had lived and served in many Arab countries and the last one is a translator who had served in many countries and worked with other domains as a simultaneous interpreter.

Table 18

Demographic Characteristics of Domain Expert Participants from the Task Cognitive Complexity Study

Characteristic	n	%	M	SD
Gender				
Female				
Male	5	100		
Non-binary				
Prefer to self-describe				
Prefer not to say				
Race or Ethnicity				
African American				
Asian				
Caucasian	5	100		
Hispanic				
Other				
Age	40-68		53.20	13.82
Native Language				
English	3			
Arabic	2			
Years of Studying Arabic	4-12		7.60	4.09

Also, the students had to report their proficiency level in both English and Arabic in order to complete the task sustainability by language measure. On a scale from 1 to 9, they had to provide their proficiency on speaking, reading, writing, and understanding. All the students had marked their English proficiency level as follows: from 7 to 9 in speaking, reading, writing, and understanding. They had marked their Arabic proficiency level as follows: from 1 to 8 in speaking, reading, and writing, and from 1 to 4 in understanding.

In what follows, I report on the qualitative and quantitative data collected for both studies, respectively. To remind the reader, the research questions guiding this study were as follows:

1. What are the real-world needs of beginning-level U.S. students studying Arabic as a second or foreign language in a university setting, as determined via a task-based Needs Analysis (NA) study utilizing multiple sources and methods?
2. Are there differences in the needs of beginning-level students who are Arabic foreign language learners and of Arabic heritage language learners?
3. What are students' and teachers' needs when it comes to the learning and teaching of Standard Arabic (SA) alongside Colloquial Arabic (QA)?
4. What target tasks, target task types, and pedagogic tasks can be derived from a Needs Analysis (NA) for the teaching of beginning-level Arabic as a second language at the university level, taking into account needs for acquiring Standard Arabic (SA) as well as Colloquial Arabic (QA)?
5. How do the following independent measures of cognitive complexity inform the sequencing of tasks, as well as the methodological lesson planning around tasks, in a beginning-level university Arabic curriculum?
 - a. Task difficulty rankings (by students, teachers, and domain experts)
 - b. Retrospective time-on-task judgments (by students)
 - c. Task difficulty and mental effort assessments (by students)
 - d. Stimulated recall comments (thematic analysis; by students)
 - e. Task sustainability judgements (by students)
 - f. Task sustainability judgements by language (by students)

Part I of this dissertation, the Needs Analysis, answered research questions 1 through 4. Part II of this dissertation, the Cognitive Complexity empirical study, answered research question 5. The first four research questions were answered based on the data of the three types of participants from the Needs Analysis study: students, teachers, and domain experts. They focused on the different needs that learners and teachers of Arabic as a foreign language need to be able to do, perform, and accomplish in the Arabic language. They also dealt with the differences, if there were any, between Arabic foreign language learners and Arabic heritage language learners where they were asked to state their needs and opinions given the diglossia case of Arabic. Also, the target tasks, target task types, and pedagogic tasks that will be implemented in the proposed curriculum. Each research question was to be answered based on the qualitative data findings and then the quantitative data results. The fifth question was answered based on all six of the task cognitive complexity measures, working with students, teachers, native speakers of Arabic, and domain experts. NVivo 12 was used to analyze the interviews and synthesize the main themes and the sub-themes. IBM Statistical Package for Social Sciences (SPSS Statistics 26) software was used to analyze the questionnaires and obtain the descriptive statistics results and all other statistical analyses.

RQ1: Real-world needs of U.S. students studying Arabic as a second language:

1. What are the real-world needs of beginning-level U.S. students studying Arabic as a second or foreign language in a university setting, as determined via a task-based Needs Analysis (NA) study utilizing multiple sources and methods?

6.2 Qualitative Data Analysis

The data from the interviews elicited the real-world needs of learners of Arabic as a second or a foreign language. The analysis captured several themes and sub-themes of the various and different needs. Even though almost all the participants stated that the real needs depend on the learners' own goals from learning Arabic, there was a general agreement on some of the interests for learning the language. To answer the first research question, the analysis will present the different interests and purposes for learning Arabic.

The needs of the participants were elicited from the different interests and purposes behind choosing to learn Arabic as a foreign language at the U.S. universities. The general purpose for the students to decide to learn Arabic is the main theme. From the main theme, there are other sub-themes which are categorized as follows: communicating with family and relatives, communicating with friends, preparing themselves to work in Arab countries, travelling to different Arab countries, exploring the Arabic culture, communicating with native speakers of Arabic, connecting with the Islam religion, and getting to know the language for curiosity purposes such as learning a language with a different alphabet set, reading the history of the Arab world, learning about the Middle East, and fulfilling their language requirement for their degrees. The sub-themes are synthesized as follows:

6.2.1 Communicating with family and relatives

Some of the participants mentioned that they are learning Arabic to communicate with their family members and relatives back in their home countries. Those participants are mainly the heritage speakers of Arabic. One of the participants stated:

Mostly my purpose was to learn Arabic was so I most of my friends as well as my uncle and my family relatives, they mostly speak Arabic and it's since it's our it's

our native language I wanted to learn it so we can you know communicate with each other as well as you know pass it on to each other.

Here the participant not only stressed the importance of learning his own language, but also the importance of passing it on to other relatives and friends, so they can continue to be able to communicate in their native language.

Other heritage learners expressed their intention to improve their linguistic abilities in Arabic and being able to converse with their relatives in the same way that their native relatives speak with each other. A participant stated:

it's like my cousins will like call and they'll start speaking to me in English but I'm like you don't need to do that I understand what you're saying in Arabic but then I can't communicate with them.

This was one of the main needs for the heritage learners, they need to have the linguistic as well as the nonlinguistic abilities in order to speak with their family members and relatives without any difficulty or obstacles.

6.2.2 Communicating with friends

A good number of the participants expressed their interest in learning Arabic so they can communicate with their friends from the Arab world at their universities. This theme is further demonstrated in their comments. One of the participants stated:

I started learning Arabic before, my first goal was just because I had met a lot of Arabs at the university, and I joined the Arab student union and one day they told me you know you should learn Arabic and I was like yeah why not so then that's when I started so at first it was it was really just to like to be able to speak with some of my friends to learn new language.

Another participant said that her friends convinced her to study Arabic at the university and she was happy to do it. A participant said:

I had some friends who spoke Arabic and they're like oh you should do Arabic like that would be so much fun and so I decided to give it a try just because it would be something new.

The language in this sense works as a tool for the learners to get close to their friends, learn their language, and communicate with them.

6.2.3 Preparing themselves to work

Other participants expressed their interests to work in the Middle East and learning Arabic will be their gateway to pursue their careers there. For example, a participant stated:

I really enjoy studying it and for my major I'm looking at like careers and maybe translation in which case Arabic would be a very valuable language to know, or in something related to maybe like literary analysis, academic type things in which case there is a lot of literature in the Arabic language that hasn't been studied so much in the U.S. or potentially something like education related in which case there isn't as strong as the connection but I'm still trying to figure out like what I want to do with the language long term.

Another participant stated that his future goal is to work as a lawyer and learning Arabic will be convenient for him to reach to more people in his career:

I suppose my long-term goal with it is I'm hoping to do go to law school and do some sort of immigration law type thing so hopefully having that proficiency in that language will allow me to help larger degree of people.

There were other participants who expressed their interests in knowing other specific and field vocabulary such as going to the doctor or the dentist and basic medical vocabulary and dialogues. For example, a medical student expressed that it is sometimes hard for her to explain certain procedures and technical terminologies in Arabic since she does not have the full grasp of the language:

yeah I think medical Arabic would be amazing I don't think I've ever seen that anywhere in my like looking for Arabic languages I haven't seen Arabic medical dialogue talked about and sometimes I try to speak even in Darija when I am like slightly fluent in that I find myself not able to say certain procedures to patients 'cause it's not it's not translatable unless I need a medical term in Arabic so I think medical terminology would be helpful.

Thus, most of participants learning Arabic aimed to be able to communicate effectively and easily with Arab people. Learning Arabic would not only help them reach out to the Arab speaking population but would also allow them to get into deeper view of the terminologies they use in their work field to better communicate well with Arabs.

6.2.4 Travel to different Arab countries

A major theme that came out of the needs analysis was the goal to be able to travel. Many participants expressed their interests to travel to Arab countries and learning Arabic will be helpful for them to communicate there effectively:

...to be able to converse in Arabic so if I were to say go in the Middle East visit Egypt visit Saudi Arabia to be able to converse in Arabic and become fluent both conversationally.

Another participant mentioned the same interest from learning Arabic:

my goal is to understand the language enough to be able to travel throughout the Middle East and use it and also to understand Arabic music.

Travelling can be a strong motivation for language learners to be more interested on learning any target language. It will give them the chance to be immersed in the target language community and might ease and accelerate their language learning process.

6.2.5 Desire to explore the Arabic culture and communicate with Arabic native speakers

Some of the participants expressed that they are learning Arabic to maintain their family culture and mainly their dialects. For example, one participant highlighted the following:

...to preserve my culture because I speak like lahja Yamanii, to preserve my culture and say like preserve my heritage while growing here and to pass that on.

Another participant mentioned that he is interested to read old Arabic documents to know more about the history of the Middle East. He also likes music and is interested in the cultural aspects in the Arab world:

I really want to read a lot of these old documents you know about trade you know family life you know cultural studies well and I and I actually like listening to different kinds of music as well, musical traditions including various Arab you know the Arab Tarab for example it's really popular in East Africa and their parts their parts of the Arab world.

Similarly, another participant expressed how she is fan of this culture as she has been watching TV shows and listening to a variety of music to help her to learn more about the Arabic culture:

...so the reason that I studied Arabic is because I like the culture, I like the music, and I find it a very interesting culture.

Finally, a participant mentioned an interesting point where she wanted to learn the language, so she can feel comfortable in using the language and in communicating with native speakers. For example, a participant stated:

I really wanted to be able to talk to more people especially people who speak Arabic and relate to them more in a comfortable way that you know 'cause when you're speaking your native language that's when you can be more of your true self so I wanted to be able to relate to more people and I also just thought that Arabic was such a beautiful language specially written, so I really wanted to be able to communicate in Arabic.

Two other participants mentioned their interest to learn about the cultural aspects in the Arab world such as ways of talking to elders and other cultural-related aspects in speech:

I think one thing I kind of would like to see I think but like it having students being in a scenario like talking to like family members or or going to like a community event where you have to learn the vocabulary as well as the you know trying to learn you know respect you know because you know the way the way you know Middle East culture you know older brothers or talked to a certain way you know uncles or talked to a certain way grandparents are talked and other elders are all talking a certain way I haven't really seen that being taught so much.

Reaching a high level of communicative competence in a foreign language is the ultimate goal of language learners so that they are able to express themselves better eventually. This was a key theme.

6.2.6 Connection with Islam

Some of the participants who have an Islamic background expressed their desire to connect more to their religion through learning Arabic since the Qur'an is written in Arabic. They are aware that learning the Arabic language will help them not only to read the Qur'an but also to understand the Holy Book more. This theme is demonstrated in the following quote by a participant:

...my primary interest in learning Arabic is religious that to have a deeper connection with my religion and my religious practice to be able to understand you know the tenants of my religion directly in the language in which it was revealed ... being able to understand the written language primarily in the Qur'an.

It is challenging for the heritage learners when it comes mainly to knowing their own dialects and knowing the standard variety of Arabic, therefore, they expressed in this theme that they aim to have more of a focus on the standard variety so they can read and understand the Holy Book.

6.2.7 Curiosity

Yet other participants expressed different reasons of curiosity to learn Arabic. One of the participants, for example, shared that she is interested in learning Arabic since it does not follow the Latin, or the Roman alphabet. She wanted to be exposed to a new alphabet and she thinks that Arabic is the right choice for this purpose:

I kind of wanted to do one with a different alphabet and Arabic was you know I I just kind of chose that, I want to little bit at random but once I've started it's been very interesting, and I've had a great experience with it.

Another participant said that he did not have any background knowledge of Middle East area and learning Arabic will help him to explore this area of the world:

I thought that like really the area of language that I know the least about when I came to college was like Middle Eastern languages, so I thought Arabic was like the best choice.

Finally, a participant expressed his interest to learn Arabic, so he can learn more about the Middle East and learning Arabic will help him to achieve this kind of knowledge:

It's just a personal interest in mind to learn about the Middle East since I was a history major, so I wanted to know a lot more about the Middle East and that's not something you learn through that regular schooling.

In summary, the qualitative analysis yielded the following themes as needs for the study of the Arabic language: communicating with family and relatives, communicating with friends, preparing themselves to work, travel to different Arab countries, desire to explore the Arabic culture and communicate with Arabic native speakers, connection with Islam, and learning Arabic for curiosity.

6.3 Quantitative Data Analysis

Quantitative data also served to answer research question 1; these were yielded from the surveys. All the participants expressed different goals from learning the Arabic language as follows:

6.3.1 Goals from Learning Arabic

6.3.1.1 Students' Responses

Fifty-two participants (18.2%) want to travel to Arab countries. Fifty-one participants (17.8%) need Arabic for work. Forty participants (14%) want to learn about

the Arabic culture. Thirty-nine participants (13.6%) to communicate with friends. Thirty-eight participants (13.3%) for education. Thirty participants (10.5%) want to learn Arabic to communicate with family members and relatives. Thirty participants (10.5%) want to learn it for religious matters. Finally, six participants (2.1%) choose other purposes such as to listen to Arabic music, to read Arabic literature, humanitarian reasons, to work as translators in the government or in the medical field, and for fun in Table 19.

Table 19

Students' Goals from Learning Arabic

Characteristic	n	%	% of cases
Goals from learning Arabic			
Communicate with family members and relatives	30	10.5	40.0
Communicate with friends	39	13.6	52.0
Travel to Arab countries	52	18.2	69.3
Religious matters	30	10.5	40.0
Culture	40	14.0	53.3
Work	51	17.8	68.0
Education	38	13.3	50.7
Other	6	2.1	8.0

6.3.1.2 Teachers' Responses

Fourteen participants (17.9%) reported that students need Arabic to travel to Arab countries. Twelve participants (15.4%) want to learn Arabic to communicate with family members and relatives. Twelve participants (15.4%) want it for work. Twelve participants (15.4%) for education. Ten participants (12.8%) want to learn Arabic for religious matters. Nine participants (11.5%) want to learn about the Arabic culture. Eight participants (10.3%) to communicate with friends. Finally, one participant (1.3%) chose other purposes such as university language requirement in Table 20.

Table 20*Teachers' Goals from Learning Arabic*

Characteristic	n	%	% of cases
Goals from learning Arabic			
Communicate with family members and relatives	12	15.4	75
Communicate with friends	8	10.3	50
Travel to Arab countries	14	17.9	87.5
Religious matters	10	12.8	62.5
Culture	9	11.5	56.3
Work	12	15.4	75
Education	12	15.4	75
Other	1	1.3	6.3

6.3.1.3 Domain Experts' Responses

Fourteen participants (19.7%) reported that they need Arabic for work. Eleven participants (15.5%) want to learn Arabic to communicate with family members and relatives. Eleven participants (15.5%) want to learn it for religious matters. Nine of the domain expert participants (12.7%) reported wanting to be able to travel to Arab countries. Eight participants (11.3%) want to learn about the Arabic culture. Seven participants (9.9%) for education. Seven participants (9.9%) to communicate with friends. Finally, four participants (5.6%) choose other purposes such as to increase the U.S. world domination, reactions to 9/11, joining military, and linguistics research in Table 21.

Table 21*Domain Experts' Goals from Learning Arabic*

Characteristic	n	%	% of cases
Goals from learning Arabic			
Communicate with family members and relatives	11	15.5	73.3
Communicate with friends	7	9.9	46.7
Travel to Arab countries	9	12.7	60.0
Religious matters	11	15.5	73.3

Culture	8	11.3	53.3
Work	14	19.7	93.3
Education	7	9.9	46.7
Other	4	5.6	26.7

6.3.2 Perceptions on Arabic Language Skills

6.3.2.1 Students' Perspectives on the Arabic Language Skills

The student participants were asked about their perspectives on learning the different language skills to improve their learning of Arabic. They had to rank their responses on a Likert scale from 1 to 5, assessing the skills of grammar, listening, pronunciation, reading, speaking, vocabulary, writing, and real-world tasks and scenarios. Their ratings on the importance of each area of language are visually summarized below in Table 22. As the reader can see, being able to do real-world tasks was rated as the skill they most needed to improve on in order to acquire Arabic. This was followed by speaking, and then by vocabulary gains. Pronunciation came in next, with 14.4% rating it as 'strongly agree' to be improved upon. Grammar was the area of language least likely to receive a 'strongly agree' as the one needed most improvement.

Table 22

Students' Perspectives on the Arabic Language Skills

	Strongly agree		Agree		Neutral		Disagree		Strongly agree	
	n	%	n	%	n	%	n	%	n	%
Grammar	7	6.6	27	25.5	28	26.4	11	10.4	2	1.9
Listening	14	13.2	45	42.5	14	13.2	2	1.9		
Pronunciation	15	14.2	34	32.1	18	17	6	5.7	2	1.9
Reading	20	18.9	31	29.2	19	17.9	4	3.8		
Speaking	32	30.2	37	34.9	6	5.7				
Vocabulary	27	25.5	36	34	8	7.5	3	2.8		
Writing	16	15.1	38	35.8	14	13.2	5	4.7	2	1.9

Real-world	36	34	26	24.5	11	10.4	2	1.9		

6.3.2.2 Teachers' Perspectives on the Arabic Language Skills

The teacher participants were asked about their perspectives on learning the different language skills to improve their learning of Arabic. They had to rank their responses on a Likert scale from 1 to 5, assessing the skills of grammar, listening, pronunciation, reading, speaking, vocabulary, writing, and real-world tasks and scenarios. Their ratings on the importance of each area of language are visually summarized below in Table 23. As the reader can see, students will learn better if the focus is on learning real-world tasks, followed by speaking, then vocabulary, then pronunciation. finally comes listening, reading, and writing.

Table 23

Teachers' Perspectives on the Arabic Language Skills

	Strongly agree		Agree		Neutral		Disagree		Strongly disagree	
	n	%	n	%	n	%	n	%	n	%
Grammar			5	31.3	4	25	5	31.3	2	12.5
Listening	2	12.5	9	56.3	3	18.8	2	12.5		
Pronunciation	3	18.8	6	37.5	3	18.8	3	18.8	1	6.3
Reading	2	12.5	11	68.8	3	18.8				
Speaking	10	62.5	6	37.5						
Vocabulary	8	50	6	37.5	2	12.5				
Writing	2	12.5	10	62.5	3	18.8	1	6.3		
Real-world	13	81.3	3	18.8						

6.3.2.3 Domain Experts' Perspectives on the Arabic Language Skills

The domain expert participants were asked about their perspectives on learning the different language skills to improve their learning of Arabic. They had to rank their

responses on a Likert scale from 1 to 5, assessing the skills of grammar, listening, pronunciation, reading, speaking, vocabulary, writing, and real-world tasks and scenarios. Their ratings on the importance of each area of language are visually summarized below in Table 24. As the reader can see, the teaching of Arabic should focus on real-world tasks, followed by speaking, then listening, then reading, followed by vocabulary. Finally comes listening and writing. Interestingly, no domain expert chose grammar as an option to consider when teaching the Arabic language.

Table 24

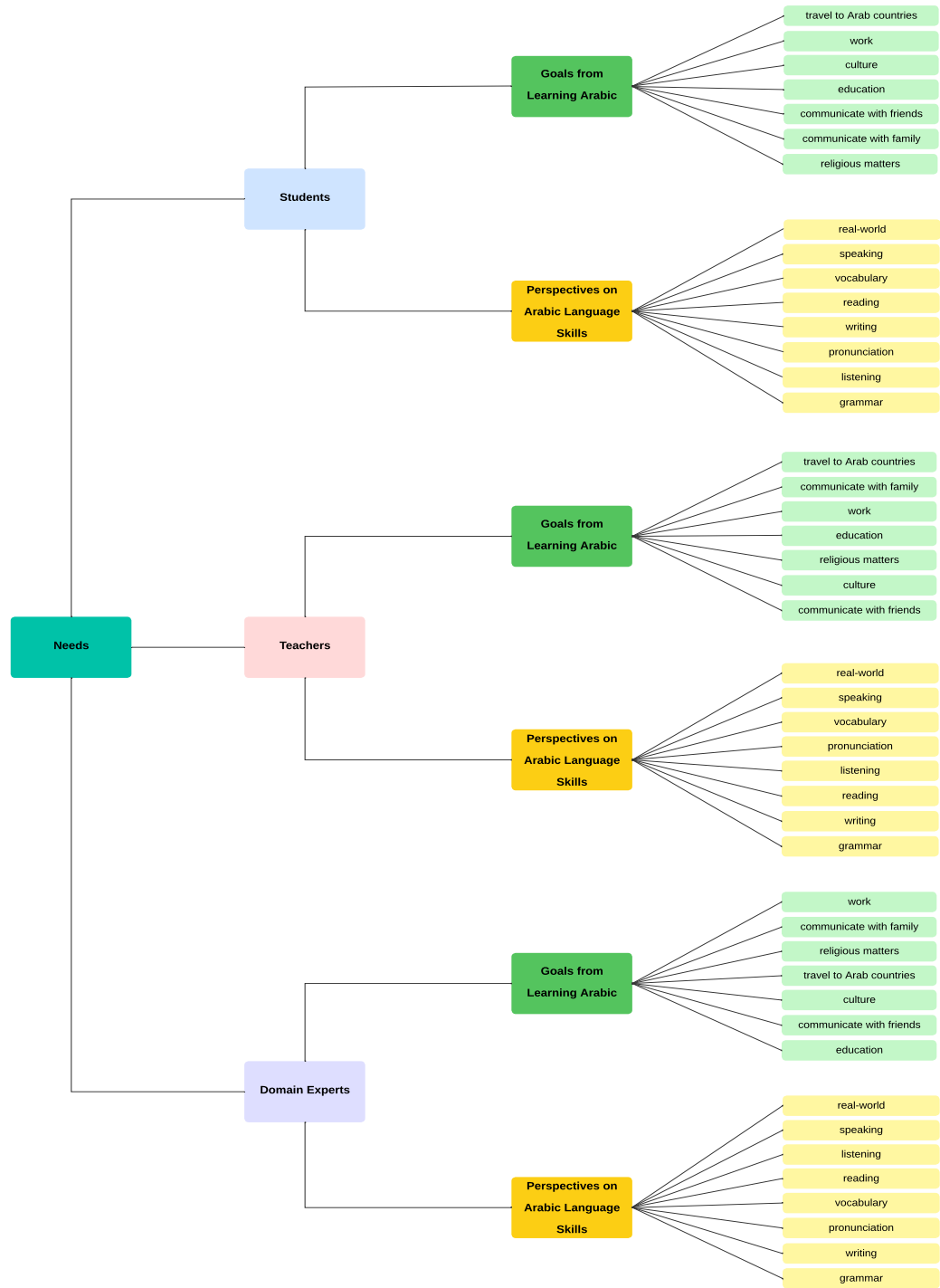
Domain Experts' Perspectives on the Arabic Language Skills

	Strongly agree		Agree		Neutral		Disagree		Strongly agree	
	n	%	n	%	n	%	n	%	n	%
Grammar	0	0	4	26.7	4	26.7	5	33.3	1	6.7
Listening	6	40	6	40	2	13.3				
Pronunciation	3	20	8	53.5	2	13.3	1	6.7		
Reading	5	33.3	6	40	3	20				
Speaking	8	53.3	4	26.7	3	20				
Vocabulary	4	26.7	6	40	3	20				
Writing	3	20	5	33.3	5	33.3			1	6.7
Real-world	10	66.7	3	20	1	6.7				

In summary, the needs for Arabic language learning as informed by students, teachers and domain experts, and with various methods, overlapped significantly. I present the thematic analysis in Figure 13 below, which visually presents on the real-world needs for Arabic language learning in the U.S.

Figure 13

Real-World Needs for Arabic Language Learning in the U.S.



RQ2: Differences in Needs between Arabic Foreign Language Learners and of Arabic Heritage Language Learners:

2. Are there differences in the needs of beginning-level students who are Arabic foreign language learners and of Arabic heritage language learners?

6.4 Heritage Learners' Needs

6.4.1 Qualitative Data Analysis

From analyzing the data and focusing on the different linguistic and nonlinguistic needs between foreign language learners and heritage language learners, there were not many differences between the two categories. However, the nine heritage participants expressed their own needs as mainly being able to communicate with their family members, relatives, and family Arab friends, either over the phones or when they visit their home countries. They are also keen to expand their vocabulary in the related topics of conversations and discussions with their relatives and friends from their home countries. Additionally, many expressed their desire to be able to read and understand the Holy Book, The Qur'an, to maintain practicing their religion. Two heritage medical students expressed their interests to be able to communicate with their future patients in Arabic where at present they find difficulty in communicating. Other than the mentioned needs, the heritage participants expressed their interests to know how to use the language in doctors or dentists' appointments, asking for directions, appointments, ordering things in the store. They needed more emphasis on pronunciation to learn accurately the sounds of the Arabic language and be able to communicate well using the language. Also, they reported that learning how to conjugate the verbs in the different dialects can be quite confusing to them since it is different from the standard variety, and thus they expressed needing more of this

contrastive knowledge. When it comes to the real-world tasks, heritage participants express their interests in how to make appointments, order food in restaurants, asking for directions, making friends, exchange currency, make basic demands, and being able to have regular conversations.

6.4.2 Quantitative Data Analysis

From the questionnaire, the 24 heritage learners expressed different goals from learning Arabic as follows: 21 participants (19.1%) want to learn Arabic to communicate with family members and relatives. Eighteen participants (16.4%) want to learn it for religious matters. Sixteen participants (14.5%) want to travel to Arab countries. Fifteen participants (13.6%) need Arabic for work. Fifteen participants (13.6%) to communicate with friends. Fourteen participants (12.7%) want to learn about the Arabic culture. Finally, 11 participants (10%) for education. This is visually summarized below in Table 25.

Table 25

Heritage Students' Goals from Learning Arabic

Characteristic	n	%	% of cases
Goals from learning Arabic			
Communicate with family members and relatives	21	19.1	87.5
Communicate with friends	15	13.6	62.5
Travel to Arab countries	16	14.5	66.7
Religious matters	18	16.4	75.0
Culture	14	12.7	58.3
Work	15	13.6	62.5
Education	15	10.0	45.8
Other			

Also, when asked about their own perspectives on the important language skills they need to better learn the Arabic language, the real-world tasks were rated as the skill they needed the most to improve on, followed by the speaking skill to receive a ‘strongly

agree' rating. Grammar came in next, followed by reading, then vocabulary, and then writing. Finally, came the listening skill. This is demonstrated below Table 26.

Table 26

Heritage Students' Perspectives on the Arabic Language Skills

	Strongly agree		Agree		Neutral		Disagree		Strongly agree	
	n	%	n	%	n	%	n	%	n	%
Grammar	4	16.7	9	37.5	10	41.7			1	4.2
Listening	2	8.3	16	66.7	6	25.0				
Pronunciation	3	12.5	13	54.2	6	25.0	1	4.2	1	4.2
Reading	4	16.7	13	54.2	6	25.0	1	4.1		
Speaking	7	29.2	17	70.8						
Vocabulary	4	16.7	17	70.8	3	12.5				
Writing	3	12.5	14	58.3	5	20.8	2	8.3		
Real-world	12	50.0	8	33.3	3	12.5	1	4.2		

6.5 Nonheritage Learners' Needs

6.5.1 Qualitative Data Analysis

The 12 nonheritage participants stated that they are curious to learn about the Arabic culture, to communicate with their Arab friends, to fulfill their university language requirements, to travel to the Arab countries to explore this area of the world, and to expand their job opportunities to work in the Middle East or mainly the Gulf countries. In addition to the real-world tasks presented by the heritage speakers, the nonheritage participants expressed their interests to learn how to initiate conversations to make friends by introducing themselves and asking questions. They shared about other conversational topics and tasks. These included the ability to express their interests to others; to communicate in grocery stores, coffee shops; to take a taxi; to communicate well with school issues and activities when studying abroad; to read and learn information about the

Arab countries and some of the laws there; to learn about the daily life expressions and adjectives to help them in using the language effectively; to write emails at work; and to know how to communicate in community events such as family reunions, weddings, and funerals.

6.5.2 Quantitative Data Analysis

From the questionnaire, the 52 nonheritage learners expressed different goals from learning the Arabic language as follows: 36 participants (20.3%) need Arabic for work. Thirty-six participants (20.3%) want to travel to Arab countries. Twenty-seven participants (15.3%) for education. Twenty-seven participants (15.3%) want to learn about the Arabic culture. Twenty-four participants (13.6%) to communicate with friends. Twelve participants (6.8%) want to learn it for religious matters. Nine participants (5.1%) want to learn Arabic to communicate with family members and relatives. Finally, six participants (3.4%) chose other such as working as translators in the medical field, or the government, humanitarian reasons, to read literature in original Arabic, and for fun! This is demonstrated below in Table 27.

Table 27

Nonheritage Students' Goals from Learning Arabic

Characteristic	n	%	% of cases
Goals from learning Arabic			
Communicate with family members and relatives	9	5.1	17.3
Communicate with friends	24	13.6	46.2
Travel to Arab countries	36	20.3	69.2
Religious matters	12	6.8	23.1
Culture	27	15.3	51.9
Work	36	20.3	69.2
Education	27	15.3	51.9
Other	6	3.4	11.5

Also, when asked about their own perspectives on the important language skills they need to better learn the Arabic language, the speaking skill received the highest rate, followed by vocabulary. Then came the real-world tasks to receive a ‘strongly agree’ rating, then the reading skill, followed by pronunciation, then writing, and then listening. Finally, came the grammar skill. This is demonstrated below in Table 28.

Table 28

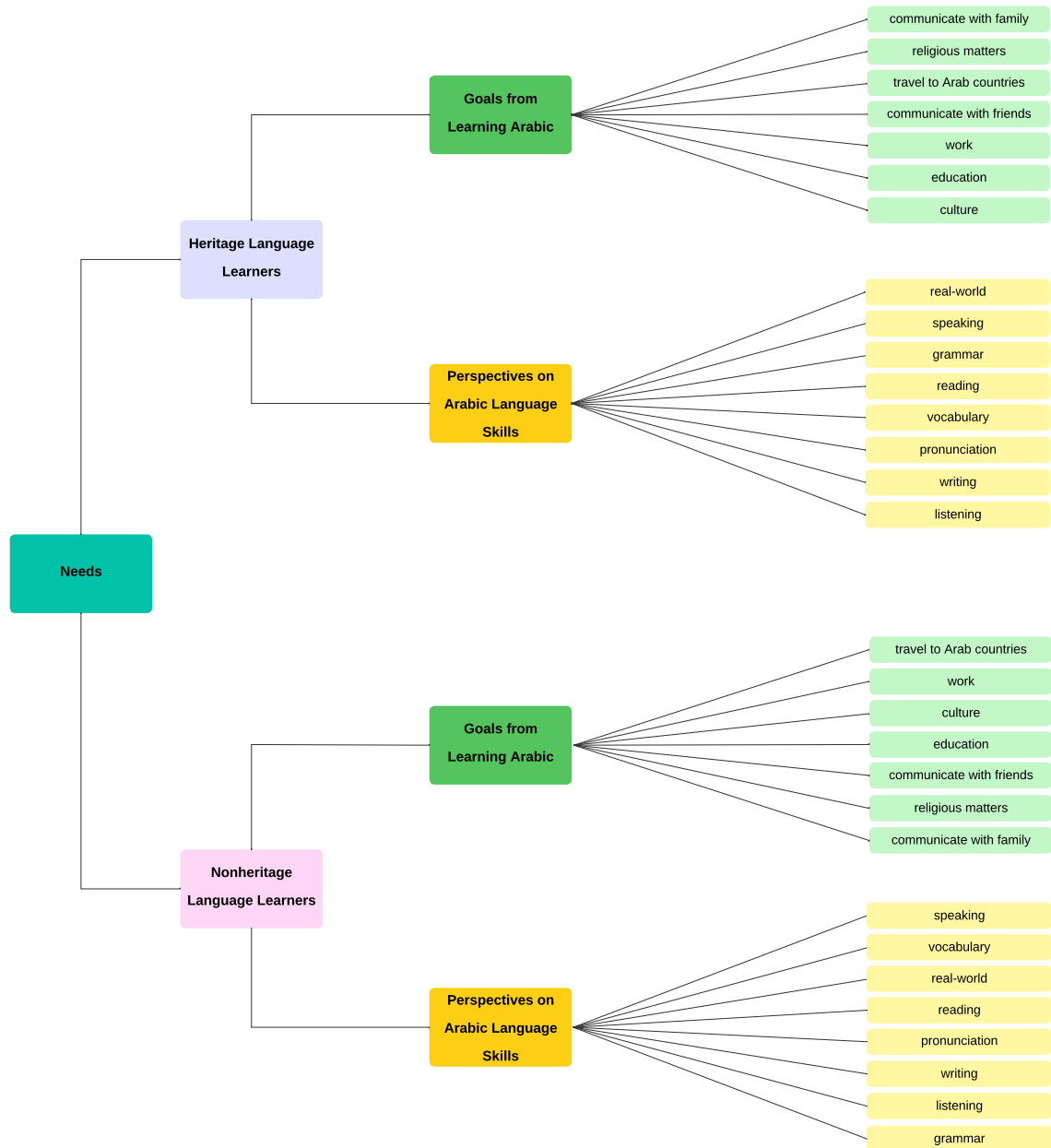
Nonheritage Students' Perspectives on the Arabic Language Skills

	Strongly agree		Agree		Neutral		Disagree		Strongly agree	
	n	%	n	%	n	%	n	%	n	%
Grammar	8	15.4	18	34.6	17	32.7	9	17.3		
Listening	12	23.1	26	50.0	10	19.2	3	5.8		
Pronunciation	14	26.9	19	36.5	13	25.0	4	7.7	1	1.9
Reading	16	30.8	16	30.8	14	26.9	4	7.7		
Speaking	27	51.9	19	36.5	4	7.7				
Vocabulary	24	46.2	18	34.6	6	11.5	3	5.8		
Writing	14	26.9	25	48.1	7	13.5	4	7.7	1	1.9
Real-world	22	42.3	19	36.5	8	15.4	2	3.8		

These data presented on show that there are similarities, but also differences, when it comes to the needs of heritage as compared to non-heritage Arabic language learners. These needs are crucial when it comes to the design of a task-based Arabic language curriculum. In the figure below, I visually summarize their overlap in regards to needs for the Arabic language: Figure 14:

Figure 14

Real-World Needs for Heritage and Nonheritage Arabic Learners



RQ3: Students and Teachers' Needs in Learning and Teaching of Standard Arabic (SA) alongside Colloquial Arabic (QA):

3. What are students' and teachers' needs when it comes to the learning and teaching of Standard Arabic (SA) alongside Colloquial Arabic (QA)?

The third research question addressed the crucial question of diglossia, and explored students' and teachers' needs regarding SA and QA. The diglossia case of Arabic represents a very challenging and complicated situation in both the teaching and learning of both Standard Arabic (SA) alongside Colloquial Arabic (QA). There were different responses from the students, the teachers, and even the domain experts on this issue. Some participants stated that Modern Standard Arabic should always be the foundation and the point of departure in learning Arabic, while others think that the focus should be on the dialect where it is the native speakers' way of communicating and interacting with each other in their daily life situations. Others reported that there should always be a mix of both, where learners need both of them to survive successfully in different Arabic language settings.

The answer to this research question is thus based on all the participants and will be divided into four sections: the challenges regarding the diglossia case of Arabic; the different opinions on teaching either the standard or the colloquial variety; participants favoring Modern Standard Arabic versus participants favoring colloquial varieties; and the participants' views on the Modern Standard Arabic and the regional dialects.

6.5.3 The Challenges Regarding the Diglossia Case of Arabic

It was so important to ask the participants for their views and perceptions on the diglossia case of Arabic. From the interviews data, 15 students stated the challenges they

faced when they started to learn the Arabic language and to know about the diglossia case of the Arabic language. One of the students mentioned the confusion that might take place when learning Arabic and as a result she stated the importance of clarity when it comes to using any of the two varieties. She shared that sometimes it is confusing for her and her classmates regarding when to apply the standard and when to apply the dialect. This is exemplified with the below comment:

...being clear being more clear about when to use a different like dialects or when to use a different types of Arabic 'cause I know there's some like heritage speakers and non-heritage speakers in my class we are not exactly sure when exactly do you use dialect or use Modern Standard Arabic.

Another student talked about the difficulty that they might face when learning both the standard and the dialect especially when it comes to the nonheritage learners. Sometimes they find it difficult when their Arabic heritage classmates cope in whenever any dialectal word is mentioned whereas the nonheritage students cannot have the same advantage as their classmates:

It's kind of difficult 'cause sometimes it feels like you're learning like two different languages and honestly that has been one of my like biggest struggles as someone who's not you know a heritage learner in any sort of way in that I feel like I kind of was focusing on learning Standard or Modern Standard and then they would kind of sprinkle in the Levantine dialect things they're out and then my classmates and peers who you know had some background of Arabic at home kind of already knew it and kind of already picked up on it much quicker.

Another student stated that she was not able to grasp the idea of having two varieties. In fact, she was not even able to express what she wants to say about the two varieties. Meanwhile, she thought that the two varieties are totally different from each other to the sense that she had to decide on which variety to learn and the negative consequences that might occur from learning only one variety:

...because with the standard I feel like you learn a different part of Arabic, but then with the dialect you reach it on more a personal level, so for me it was hard because I was like well such difficult language to learn and I don't really know like if I choose one dialect I feel like I'm limiting myself in one way you know so I think that's I don't have a specific dialect really on which one I wanted.

6.6 What to Teach, Standard or Colloquial?

Participants were asked about their opinions on the teaching of both Standard Arabic (SA) and Colloquial Arabic (QA). The answer to this question will be tackled from the students, teachers, and domain experts' perspectives on both the Modern Standard Arabic and Colloquial Arabic.

6.6.1 Modern Standard Arabic

6.6.1.1 Students' Views

On the one hand, most of the student participants expressed their views and interests in learning Modern Standard Arabic alongside Colloquial Arabic. The qualitative data showed that almost 13 participants prefer to learn the standard Arabic for different reasons. One of the students thinks that learners should always resort to learning the standard Arabic, in this way the learners will get to know the origin of the words in the language

and help them survive in the language regarding the various and different dialects Arabic has later:

I do feel that MSA should be taught because it bridges the gaps between a lot of other dialects, and it helps people understand diglossia I guess you if you know fuSHa or Modern Standard Arabic then you understand maybe the origins of other words you would not have otherwise known if you did not study it.

Another student thinks that learning the standard will be more helpful for the work and the business fields afterwards and this is the reason that most of the Arabic teaching is done in the standard: “schools focus on the Modern Standard Arabic cause is the Standard Arabic and it’s better for the workplace.” Another student thinks that learning the standard will give the learners the chance to deal with all Arabs in the Arab world although it might not be the optimum case when it comes to interacting within the culture of each country or dialect:” Modern Standard like learning fuSHa is probably the most relevant because even though it won't allow you to fit in to that culture, but it will allow you to communicate you know with people across all of Arabia...” Another heritage student expressed her interests in learning both the standard and the colloquial; however, she also expressed her worries over the confusion that might take place due to the differences between the standard and the dialects not only with grammar and vocabulary, but also with pronouncing the same sounds of the alphabet:

I feel like teaching a mix of both in one course would be good because it’s already an Arabii course, but then there’s like some consequences will be bad because it can be more confusing than it already is, in a lot of ways and before you even get to vocabulary and grammar, like even pronunciation alone is different, alHuruuf,

ya'anii elMaSrii yinTuku alHuruuf biTariiqi thanya in certain Huruuf, Yamanii certain Huruuf, hattaa, each country has its own.

Another participant stated that heritage speakers in general might be more interested to learn the fuSHa or the standard variety. She stated that heritage learners are already familiar with the dialect when compared to nonheritage learners. Therefore, nonheritage learners might be more interested in learning the dialect, so they can use the language with native speakers overseas. On the other hand, heritage learners might aspire to learn the standard, so they can learn the aspects of the languages they have missed when growing up in an Arabic as a foreign language environment:

...from what I like from the people that I've talked to in especially like non Arabs who are learning the language for the first time they seem to want to learn the dialect more because they want to learn it to talk to friends and like when they go overseas they know that they're not talking to people who use fuSHa all the time, but for me I because I know the dialect I like I feel I would benefit more from fuSHa because I know that like in perfect like in official documents and stuff that have to do with the government that's what's being used most so that's why I find that like they're both useful but that's how would be the most useful if you wanna take the advanced level about it because there are words that you can only know in that like it's like the the higher like level.

6.6.1.2 Teachers' Views

All the teachers agreed on having a kind of merging programs that teach both the standard and the dialects. They reported believing that the standard variety is needed as a foundation for the Arabic language since it is understood by almost all educated people in

the Arab world. However, they stressed the importance of teaching and learning the different Arabic language varieties in which the learners, in this case, will be more connected to native speakers and their daily life interactions.

The Palestinian teacher shared that the choice will be determined based on the students' end goal from learning Arabic. Specifically, she highlighted that they are interested in being capable of speaking with native speakers, they will go with the colloquial variety of the country they will go to, whereas, if they are interested to look for professional jobs in the Arab world, they will go with the standard variety:

...it depends on what the students actually goal or motivation to learn it like if they some students for instance wanted to be competent in colloquial languages or colloquial accents so they wanted to do for instance Egyptian one or or Lebanese Levantine or they wanted to do Moroccan or so that's gonna be a totally different motivation or goal for the students themselves versus if they wanna do the the language itself if they're doing it for working purposes or you know jobs or they would more most likely they would go for Modern Standard Arabic but I have seen some students who are after like after they finished their levels in MSA, they resorted to some local one just to get just to get the fit and peace so when you are overseas for instance and in Jordan or Palestine you know the Levant where they have similar accents, I've seen some students who wanted to get that aspect because speaking in the streets with the fuSHa or the MSA is is not gonna do it so they're not really fit like you know everyone can spot then everyone can label them everyone can tell that they're not Arabs versus if they speak the dialect of that

place it's going to give them kind of more of an advantage that even for them not to be taken care you know taken advantage of even for them themselves.

However, the Lebanese instructor reported being in favor of teaching the Modern Standard Arabic as it is the underlying variety of the Arabic language, and it can be understood by all Arab speakers. He also stressed the fact that the different dialects and the subdialects might be confusing to learners:

...fuSHa, this is the Modern Standard Arabic is universal so we emphasize on teaching the Standard Arabic because it's not confusing, the problem with us that in Arabic we have many colloquial we have a lot of colloquial, in Lebanon only one country we have many different colloquial, up North we speak something, in South of the mountain in Lebanon, we speak different different dialects different this is what is colloquial.... So here I'm telling you the dialect is important everywhere, but it depends on the student which one and remember always you are trying to focus on the Standard Arabic because this is universal.

The Jordanian instructor stated that there are already some institutions in the U.S. that are teaching both the standard and the colloquial and she is in favor of that. However, she reported that teaching standard should always be the base to start with, otherwise the students will not fully be grasping the language:

I mean in terms of merging or doing a hybrid version of teaching Arabic which is combining both the standard and the dialects, it's still a new and emerging field so I know that some institutions in the U.S. have been experimenting with mixing both colloquial and MSA. I think you know it's a trend in the right direction however we need to for me in particular, you know in particular I just would wait just a bit

to see what is the experience from those institutions before I do the transition to such a model, but I believe that it's you know it's it's a step in the right in the right direction given that we provide our students with good foundation in MSA. So, without a good foundation in MSA, there will be gaps later on in their acquisition of Arabic, yeah.

6.6.1.3 Domain Experts' Views

One of the domain experts, who is an U.S. military officer, reported believing that the learning of Arabic should focus on Modern Standard Arabic as the foundation and then the dialect will come later after the exposure to the different dialects in the various Arab countries. He stated:

...but my opinion of the Arabic programs that are offered I I think it should be the comprehensive curriculum managing and teaching the uh the Standard Arabic, the MSA as the baseline, from which because that needs to be the baseline so people must understand that basic that MSA of Arabic, and then from that those dialects that are unique to particular areas that I mentioned whether it's South, I mean even in the Saudi Arabia, Jordan, etc. certainly a different dialect and clearly a different how should I say accent perhaps even in in the UAE and Saudi and Jordan etc. accents clearly are very different uh but the baseline of MSA should be the standard.

Another domain participant, a diplomat who has served in the Arab world for several years and visited more than ten different countries, reported that it is important to learn the MSA and to try to get along with the other dialects when the situation permits. He stated the following during the interview:

...well I mean I that's kind of hard for somebody in my position to say, I would favor Modern Standard Arabic over Colloquial Arabic not because everyone uses it because everybody tends to use Colloquial Arabic, but you can either learn fuSHa and manage to get along with just about everybody or you can learn Darija in Morocco which is fine but nobody else will never understand you so you know you can, I would say start with Modern Standard Arabic and do the best you can colloquially what I think it just doesn't have enough broad appeal to be useful...

Finally, another domain expert who is a translator, shared that he thinks that it all depends on the learners' goals from learning Arabic. He specified:

...if he's going to be involved in politics, if he's going to be involved in the military, if he's going to focus on one region and understanding Modern Standard Arabic or learning Modern Arabic is going to serve him very well, but if he's going to be focused on for example only on Egypt he loved being in Egypt, he loved the history of Egypt and he wants to work only in Egypt I think it's best for him to learn that dialect.

6.6.2 Dialects of Arabic

6.6.2.1 Students' Views

The data from the interviews indicated that 14 students expressed their interest in learning the different dialects of the Arabic language. They think that the best way for them to be able to communicate well with native speakers of Arabic is through learning their own dialects and get themselves familiar to use the language in the daily life interactions. Also, from the questionnaires, 56 students (73.7%) stated that they already know the Arabic dialect they are interested to learn whereas 19 (25.0%) stated that they do not know which

dialect they want to learn. Most of the students reported Levantine as the first dialect 37 participants (48.7%), followed by Egyptian 16 participants (21.1%), North African, 10 participants (13.2%), Gulf, nine participants (11.8%), and Iraqi, three participants (3.9). Below are excerpts from the data with students' comments in learning the dialects of Arabic in Table 29.

Table 29

Students' Rank of Arabic Dialects

Dialect	n	%
Egyptian	16	21.1
Gulf	9	11.8
Iraqi	3	3.9
Levantine	37	48.7
North African	10	13.2

One of the students mentioned that it was exceptionally hard for her to communicate with her Arab friends when she started to speak with them in the standard and to use the same language that she learned in the Arabic course. Therefore, she prefers to learn the same variety or varieties that her heritage classmates and friends know. She stated:

I did also realize that I couldn't really communicate with people like some friends that I have that speak Arabic like, I would try and talk to them and they would be like, what are you saying like, I could understand what you're saying but like not really, and so it did feel like there was that barrier where I was learning a language that I could use in very specific contexts, but not like in a communicative way as much in for me that's like one of the really exciting things about learning the language is being able to communicate with people.

Another student shared that if people are planning to live in an Arab country, it will be more useful for them to learn the dialect of this country so they can communicate smoothly and without facing any problems:

but I feel like if they want to actually live in the Middle East somewhere then it is most relevant for them to learn the lahja, the dialect of that area or both, depending on their reasons, but I think like fuSHa still has a relevance, but I think it's not good to teach and have only fuSHa available in like the education system because it's the most it's the least relevant to application outside of professional.

It is of note that a heritage student participant through the whole interview referred to the Arabic variety or the conversations that she is interested to learn, practice, or being able to conduct as “regular Arabic” or “regular conversations.” She thinks that the dialect is the form of language that Arabic language learners should learn and use when interacting with native speakers as this is the way native speakers speak:

...it would be best to teach students how to have conversations in regular Arabic than trying to enforce them to speak the proper proper Arabic because that one you don't actually use it unless it's work-wise with people you just talk like regular like for example when I speak to you I don't speak with fuSHa, I speak regular I don't speak like with the accent like strong accent get me like with the special words like with English that people use like very, I call them fancy words because it's like the proper English vocabulary it's more like, if you're going to a restaurant you wouldn't want like you wouldn't be like oh I'm gonna speak to you in very proper and eloquent Arabic, you would just talk like you know regular Arabic like friendly you know conversational-wise not something like job-wise.

Another student reported that the dialect is the best choice to learn since this is the variety the people use in their daily life communications and conversations:

I think that it's probably more important to emphasize like the dialect since that's what you're gonna be using in an everyday context.

Similarly, another student stated that although Arabic foreign language learners learn the language through the standard form first, they should be exposed to the dialects as well. This will allow them to know and to understand that this language has a standard form and other regional dialects:

...if you start with fuSHa, I would say introducing the different dialects like little pieces here and there so they can understand that there are differences between different areas of Arabic or Arabic speakers whether it's from Lebanon whether it's from Egypt or Saudi whatever whatever the location, maybe that way they can understand that there aren't very differences, and that way they can take in the cultural differences versus the fuSHa.

Finally, a different student shared that Arabic language learners will eventually find themselves in situations where native speakers of every Arab country have their own way in saying specific phrases. Therefore, Arabic language learners should get accustomed to knowing those differences between the standard and the dialects:

...but then be aware of these phrases 'cause for example like everyone has very unique phrases for example again like I said like what's your color like shuu lunak? or for example that Egyptians use instead of /j/ they use /g/.

6.6.2.2 Teachers' Views

Overlapping with the domain expert and student data, data from the interviews indicated that the teachers are in favor of teaching the different dialects of the Arabic language to their students. Also, from the questionnaires, nine teachers (56.3%) stated that they already know the Arabic dialect they are interested to learn whereas six teachers (37.5%) stated that they do not know which dialect their students want to learn. Most of the teachers reported Levantine as the first dialect 11 participants (68.8%), followed by Egyptian, four participants (25.0%), Gulf, three participants (18.8%), North African, one participant (6.3%), and Iraqi, one participant (6.3%). Below are excerpts from the data with teachers' comments in learning the dialects of Arabic in Table 30.

Table 30

Teachers' Rank of Arabic Dialects

Dialect	n	%
Egyptian	4	25.0
Gulf	3	18.8
Iraqi	1	6.3
Levantine	11	68.8
North African	1	6.3

The Lebanese instructor shared that because of the diglossia case of Arabic, the teachers of Arabic should work on drawing the students' attention to the different dialects that the Arabic language has:

... our our task as a teacher we have to facilitate the learning for this student and to make some comparison between Standard Arabic and colloquial.

The U.S. instructor stated a very interesting point from his own experience with learning Arabic at the U.S. universities. He reported that learning the standard per se does not give

the learners the appropriate foundation of the language to be used in real-life communication opportunities:

We learned only Modern Standard Arabic or *alfuSHa*, and it wasn't that that was only our focus it was just that all of the different varieties of Arabic I mean it it it just there seemed like there was a very concerted effort to try to put those aside and almost this false notion that the only thing you use in the Arab world like if you use nothing but you know Modern Standard you're good to go no matter where you go.

The instructor also mentioned his actual visit to an Arab country where it was difficult for him if not impossible to interact and talk to an Arab person over there:

...the problem was the first trip I made to the Middle East right after graduation was to Jordan, the first gentleman that picked me up from the airport was a Bedouin and he is *baddou*, and he didn't he wasn't I don't I don't know how to I don't want to say this pejorative but he just he didn't have a very high education I mean he was very well versed in his colloquial variety of the Arabic he learned and I I mean it was to the point where you know listening to the conversations it wasn't just with him but going to the office it was just it was incredibly awkward for me speaking only Modern Standard Arabic a typical conversation or an interaction would be composed of the Jordanians using their you know *Shaamii* or some derivation of *Shaamii* to communicate with each other and then when they would want to communicate with us knowing that we only spoke Modern Standard Arabic it's like their tone would change they would have to slow down incredibly and then they didn't really seem I mean they they spoke beautiful Modern Standard Arabic but they did not seem comfortable using it and just kind of day-to-day conversation so

to summarize all of that I I did not feel comfortable I did not feel well prepared and it was incredibly frustrating for me after going through this long intensive program and then actually going out to the Middle East and just struggling immensely where during many of the initial conversations and interactions with Arabs ... I don't think focusing on nothing but Modern Standard Arabic adequately prepared me to to do the job and do what I was trying to accomplish building communicative bridges with other people I was working with and interacting with.

In addition, the U.S. instructor shared that the teaching of Arabic should be done through teaching both the standard and the colloquial. It should be designed in a way that will expose the learners to the actual and exact usage of the language in the different contexts. He thinks that teaching only the standard will not be helpful to the nonnative learners of Arabic when it comes to the every-day speaking scenarios that native speakers carry every day. He suggests that teaching speaking and listening should be done in the colloquial, whereas as reading and writing should be done in the standard:

I would just say by employing an integrative approach for Arabic teaching ... the integrative approach is that you teach Modern Standard Arabic and at least you can choose one of the dialects either Shaamii or MaSrii, you teach it side by side primarily you're teaching Modern Standard Arabic for primarily reading writing and special purpose speaking scenarios meaning it's not just for only reading and writing but in certain cases scenarios.

6.6.2.3 Domain Experts' Views

From the questionnaires, six domain experts (40%) reported Egyptian as the first dialect, followed by five participants (33.3%) who stated Levantine. Then, it is followed

by Gulf, three participants (20%), North African, three participants (20%), and Iraqi, one participant (6.7%). Below are excerpts from the data with students' comments in learning the dialects of Arabic in Table 31.

Table 31

Domain Expert's Rank of Arabic Dialects

Dialect	n	%
Egyptian	6	40.0
Gulf	3	20.0
Iraqi	1	6.7
Levantine	5	33.3
North African	3	20.0

Another domain expert who is an Arabic language translator stated the challenges that should be considered when teaching and learning standard and colloquial Arabic. He mentioned that it depends on the working experience the learners will be faced with, their goals from learning the language, and their titles in using the Arabic language:

...it all depends on what their title is if their title is you know as an analyst for example analysts the best thing that can work for them it's going to be the Modern Standard Arabic obviously because a lot of these foreign military or U.S. military, what they do is you know they they listen to news you know they want to know what's going on in the news and the media obviously majority of the media as you know they speak the Modern they read the newspaper so they wanted to get familiar with the newspaper so that's what serves them best no matter where they go what region they go obviously is going to be the Arabic the Modern Standard Arabic is going to serve on best...

However, he mentioned that the case might be different when it comes to daily life conversations with people who use their dialects and varieties in almost all their daily conversations:

...now the other challenging parts they go for you know they they have to communicate with everyday personnel there as you know if if you talk to a normal Iraqi, Egyptian or a lot of them that they're not going to speak the standard or but they just going to speak their dialect from that region so a lot of times they're not going to understand, they have no idea now...

All of the teachers and the domain experts reporting believing in an integrative approach of teaching Arabic. While they shared that it may be a burden on the curriculum designers, teachers, and students, they felt that it is the only way to be able to cope with all the aspects of the Arabic language.

In sum, all the participants state that there is no doubt that it is necessary to teach *both* the standard and the colloquial forms of the Arabic language. In so doing, Arabic language learners will have a broader picture of the situations in which they can use the two varieties, and it will also help them to start applying the appropriate language in the appropriate context.

RQ4: Target Tasks, Target Task Types, and Pedagogic Tasks:

4. What target tasks, target task types, and pedagogic tasks can be derived from a Needs Analysis (NA) for the teaching of beginning-level Arabic as a second language at the university level, taking into account needs for acquiring Standard Arabic (SA) as well as Colloquial Arabic (QA)?

A multitude of target tasks, target task types, and pedagogical tasks came out of the Needs Analysis study of this dissertation. Working with various sources, methods, and sources x methods, many different ideas for tasks they need to perform in the Arabic language. Below I report on their needs as well as excerpts from the data to showcase the Needs Analysis outcome. I then report on all tasks that came out of the study.

Almost all participants expressed their interests in knowing how to start and maintain simple conversations with native speakers. They stated some ideas such as knowing common greetings, introducing themselves to others, asking for the well-being of others, asking polite questions, conversing with people for the first time, having casual informal conversations, talking to people at their ages and to elders, asking and talking about family, relatives, friends, studies, interests, and disinterests. For example, a participant expressed her interests in learning how to initiate conversations with native speakers in mosques, in Arab communities, and other conversational type scenarios. Also, making friends in communities and universities, asking, and answering basic questions, and the different ways in saying them based on the different dialects:

...even just having that initial conversation right like getting over the hesitation of like introducing yourself in Arabic and then asking the other person who they are, asking them contact about their life who they are what they're doing in America you know and how they you know where they come from in the Arab world or whatever right like just that conversation of building a friendship right that potential friendship but using doing it in Arabic.

Almost all the participants, and in particular nonnative speakers and nonheritage learners, mentioned that it will be useful for them to learn about the different issues that

tourists need to know and to accomplish when visiting Arab countries such as buying things in grocery stores, going to the market, ordering food in restaurants, ordering coffee in coffee shops, asking for directions, exchanging of currency, taking a taxi, booking a plane flight, reserving rooms in hotels, shopping in clothing stores, etc. For example, a participant said:

...but I think the most important is how to speak with locals like, like you said for ordering food especially when you're in a restaurant that's the most important because you're most likely gonna be going to restaurants often, or all the time or whatever, restaurant, stores any questions that like when you go grocery shopping when you have to get anything done if you have to exchange currency, you have to use money like things like that.

Also, another nonnative Arabic speaker participant reported being interested in learning the language used in different community events such as weddings, funerals, and family reunions.

I think for like practical work stuff I I think it be good idea if we have, if there's more scenarios ... maybe like scenarios like going to a funeral or going to a wedding you know or going to you know family reunion or going to the market, could have done more scenarios like that more more scenario-based exercises. I think would be a good way to learn, yeah!

Some participants from the interviews also stated that they need to know how to make appointments such as doctor appointments or filling in medical forms when they visit the doctors or the dentists' office. Yet other participants expressed their interests to know how to write emails especially to their professors, writing their resumes, and writing short

texts to communicate with their relatives and friends. They mentioned that they are interested in knowing how to tell a story and share their own opinions about different topics. They also expressed their interests to know how to describe and share information about different entities such as a person, a room, a place, and even their feelings in Arabic. Also, they wanted to understand different means of media such as watching YouTube videos, songs, and television, and writing social media posts. Finally, they are interested to know how to read and understand the news in general and particularly the news about the weather. All participants mentioned interests representing the needs that they think will be more useful to them in learning Arabic. All participants reported that getting acquainted with relevant topics and scenarios in the daily life situations in learning Arabic will aid them to build their linguistic competence and will help them to interact in the Arab communities successfully.

6.7 Curriculum Design

From the Needs Analysis study, a curriculum was created that is comprised of fifteen units, where each unit has from three to seven pedagogic tasks (64 tasks in total). From these and following the methodology of Serafini and Torres (2015) and Vandermeeren (2005). The target tasks, and then target task types were generated. All of these are presented below in Table 32.

Table 32

Target Type Tasks, Target Tasks, and Pedagogic Tasks that Came out of the Needs Analysis

	Target type tasks (Superordinate category, TTT)	Target tasks (All of the subordinate tasks within the same TTT; these share the same characteristic)	Pedagogic tasks (What we actually do in the classroom)
1	Introducing and talking about yourself, family, and friends	A. Introduce yourself to new classmates B. Introduce your family to other families C. Introduce your friends to other friends D. Introduce yourself in an internship interview	- Introduce yourself to your classmate (mention your name, age, major, and where you are from, and why you study Arabic). - Introduce your families to your friends (your parents and your siblings – their names, schools they attend, jobs they work, etc.). - Introduce your three classmates to your other friend from your sports' practice and vice versa. (Mention names, majors, names of universities, interests about the types of movies, and you might exchange phone numbers so you can plan for another trip in the future). - Record yourself making a small presentation for an internship interview to share information about yourself, your hobbies or interests, and your future plans.
2	Making purchases at the grocery stores	A. Write down a list of grocery and produce items B. Write down quantities of grocery and produce items C. Read grocery stores' flyers and compare the prices D. Write a list of ingredients for an Arabic dish	- Write down a list of the items you need to buy from a grocery store. - Write down a list of the grocery items with the quantities you need to buy from a grocery store. - Look at the two grocery flyers and compare the prices in both flyers for the items you need to buy. Write down the items that you need with their prices and indicate from which store you

			will buy them from and the reasons for choosing a store over the other. - Write down the ingredients of a dish you will cook with the exact quantities you need.
3	Ordering food in restaurants and cafes	A. Know names of Arabic food items in a restaurant B. Order a meal in an Egyptian restaurant C. Order food over the phone in a Syrian restaurant D. Solve an issue with a check	- Check an online menu of restaurant. Write down some of the meals you want to eat from a restaurant menu. - Record yourself and your partner making a video in which each one of you order the meals for yourselves in an Egyptian restaurant.. (Make sure that each one of you chooses something different). - Your task is to record yourself making an audio in which you read the menu of a Syrian restaurant and make a list with the meals for yourself and three of your friends. Make your orders over the phone. - Your task is to record yourself making a video in which you explain to the waiter in a restaurant of charging you an extra item and ask him/her to solve the check issue.
4	Writing emails	A. Write an email to your Arab classmate to ask for the Arabic class assignment B. Write an email to your professor to recommend to you an Arabic short story C. Write an email to your professor to ask for a letter of recommendation D. Write an email to your professor to apologize for	- Write an email to your Arabic language classmate to ask about the lesson you missed, the assignment, and the due date. (Greet your classmate, thank him/her, sign the email). - Write an email to your Arabic professor to recommend to you a short Arabic story to read. (Greet your professor, mention the type of stories you like to read, thank him/her for their help, and sign the email). - Write an email to your Arabic professor to ask to you a letter of recommendation to apply for an internship in the summer. (Greet your professor, provide the name of the program, the deadline, the website to submit the letter, thank your professor, and sign the email).

		missing the last class because you had a family emergency	- Write an email to your Arabic professor to apologize for missing the class due to a family emergency, state the reason for missing the class, mention that you have asked your classmates about the assignment, and that you are attaching the assignment in this email. (Greet your professor, write the email content, thank your professor, and sign the email).
5	Writing text messages	A. Text your friend to tell him/her that you forgot your jacket at his/her house B. Text your friend to know what he/she will do in the winter break C. Text your classmates to plan for a study time for your exams D. Text your friends to plan a day to go to the mall together	- Write a text message to your friend to decide on how you will get your jacket back that you left at your friend's house. - Write a text message to your friend to share your plans for the winter break. (Mention the place that you will travel to, the duration of the stay, and the attractions you will visit). - Work with your partners where each one of you will write down on What's app group chat their availability to decide on the time, day, and place to meet to study for your midterm. - Work with your partners to write texts to each other to plan on the time and day to go to the mall together. Make sure when your friends mention some suggestions to apologize and say that you have some other commitments on that day and plan for another day.
6	Giving and asking for directions	A. Talk about locations of cities in Egypt B. Ask a police officer in a street for directions to your hotel C. Ask your friend for directions to a store in the mall D. Instruct an Uber driver to destination	- Look at Egypt map and write a paragraph to describe the locations of Alexandria, Sharm Elsheikh, Luxor, and Giza from Cairo. - Look at the map with your partner and record an audio conversation where you are the tourist, and your partner is the police officer to give you directions to get to your hotel. - Record an audio with your classmate to ask for directions to a store in a three-story mall to meet each other.

		E. Leave directions to your friend in a voice-note	- Use Uber application and start to order a ride by providing your location and your destination. Instruct an Uber driver where specifically to drop you off. - You are meeting your friends in a café in a shopping plaza. Record an audio in which you send your friend a voice-note with directions on how to get to your place.
7	Making appointments	A. Make an online appointment with a doctor B. Make an appointment with a doctor's office over the phone C. Leave a voice message on the doctor's answering system D. Cancel a doctor's appointment	- Fill in an online form with the required information to book a doctor appointment for a regular checkup. (Specialization of the doctor, region, insurance, and name of doctor). - Record yourself and your partner making an audio in which you both are taking roles in scheduling a doctor's appointment, you as being the patient, and your partner as being the office receptionist. - Record yourself making an audio in which you leave a message in the doctor's office answering machine: leave your name, your phone number, and a brief message for the reason of your call. - Record yourself and your partner making an audio in which you both take roles in cancelling a doctor's appointment, you as being the patient, and your partner as being the employee. (Mention the reason for cancelling the appointment).
8	Describing and sharing information	A. Describe a person B. Describe a room C. Describe an apartment D. Describe your childhood room	- Write a text message with a detailed description of your friend to share with your relative who will meet your friend in the airport. (Mention hair color, height, clothes, etc.). - Write a detailed description of your room with the quantities of the items you have in the room to share in your university's Arab Club What's app chat group to look for a roommate. - Write a detailed description of the apartment you live in to share with your friend who is looking for a similar apartment. (Number of rooms, kitchen, restroom, etc.).

			- Record yourself and your partners making a video in which each one of you states something very special you all liked about your childhood bedrooms and state the reason for that.
9	Shopping in clothing stores	A. Make a list of clothes items B. Buy clothes at stores C. Order clothes online or on Facebook D. Return an item in a store	- Write down a list of the clothes items you will take with you in your trip, so you do not forget anything. - Record yourself and your partner in which both of you take turns in a clothes store where one of you is the customer and the other one is the seller. Make sure to say that you do not have an item in the store, and you will wait until the seller finds you the right size. - Write a text message to the seller on a Facebook clothes page to ask about the size, the shipping cost and how long it will take to receive your order for your dress or suit. - Record yourself and your partner making an audio in which both of you take turns where one of you is the customer and the other one is the seller to return a shirt or a dress. Make sure to say the cause for returning the item and to ask for another one.
10	Attending social events	A. Understanding rituals of Iftar in Ramadan B. Exchanging news of family members in a family reunion C. Attending a wedding party D. Presenting condolences E. Wishing people to feel better F. Attending a birthday party G. Congratulate your cousin on high school graduation	- Record yourself and your partner making a video in which you exchange questions and answers on the rituals and the traditions they make in an Iftar in the Holy month of Ramadan. - Record yourself and your partners making a video in which you all take turns in exchanging news about each other in a family reunion. (Use appropriate phrases with elders in the family). (Topics that might be included in the conversations: joining and graduating from university, getting married and expecting babies, accepting new job offers, etc.). - Write a card to a marrying couple using the appropriate Arabic phrases to congratulate them on their wedding.

			- Write a note of condolences in a text message on the passing away of your friend's relative using appropriate Arabic phrases for this occasion. - Write a text message to your sick classmate wishing him/her to feel better using appropriate Arabic phrases for this occasion. - Work with your partner to think of a birthday gift for your friend, state the reasoning for choosing this gift over another gift. Then, write a card to present it along with the gift. - Write a card to congratulate your cousin on the college graduation using the appropriate Arabic phrases for graduation ceremonies.
11	Booking flight tickets and hotel rooms	A. Book a flight ticket online B. Book a room in a hotel over the phone C. Exchange of currency D. Plan an itinerary for one day	- Browse a travel website to buy a ticket and provide the required information to book your ticket. (Departure city, destination city, dates, and number of travelers). - Record yourself and your partner making an audio in which you both take turns over the phone where one of you is the customer and the other one is the hotel receptionist to book a room in Beirut, Lebanon. (Mention number of guests, nights, rooms, beds, etc.). - Record yourself and your partner making an audio in which one of you is the customer and the other one is the bank employee to exchange currency. (Mention the amount of money you want to exchange, and they name of currency). - Write an itinerary of a day your foreign friend will spend with you. (Provide the times and the places you will visit).
12	Sharing our opinions, interests, and perspectives	A. Express your likes and dislikes B. Express your opinions in a topic	- Record yourself and your partner making a video in which you take turns in talking about the favorite drinks and what people drink during the day in your communities.

		C. Express your own interests and hobbies D. Express your personal feelings E. Share your own perspectives	- Take turns with your partner to talk about the different beverages you like to drink and express your rationale in the different types of beverages and whether they are healthy, unhealthy, etc.) - Write a short paragraph on your own interests and hobbies that you like to do in your free time. - Write down a text message to your parents to tell them that you have been selected for the internship you applied for. Make sure to describe your feelings through the whole process until you got accepted. Also, describe your feelings if you would not have been selected. - Write from three to five points on the best ways to learn a foreign language.
13	Telling stories and anecdotes from the past	A. Talk about your high school graduation day B. Tell your friend about your holiday C. Talk about an anecdote that took place in the past	- Record yourself and your partner making an audio to tell your relative about your school graduation day over the phone. - Record yourself and your partner making a video in which you both take turns to talk about how you spent the holiday and the different activities you usually do during holidays. - Work with your two partners in which each one of you share an anecdote or an unpleasant experience that happened in the past.
14	Understanding and interacting with different forms of media	A. Make a Facebook post for your high school reunion B. Make an Instagram post of a beach/park clean-up event C. Make a TikTok Video on a city you visited D. Make a YouTube video to review a product you have purchased	- Write a high school reunion post by providing the place, date, cost, number of attendees, food catering, and other details of the event and post it on Facebook. - Write a beach/park clean-up day voluntarily event flyer by providing the location, date, and other details about the event and post it on Instagram. - Your task is to record yourself making a TikTok video in which you talk about a city you have visited. (Mention the most

			interesting places, names of hotels and restaurants, historical and cultural events, means of transportation, etc.) - Record yourself making a video in which you review a product you purchased (Mention the name of the product, place of purchase, pros and cons of the product, and your recommendations).
15	Checking the weather	A. Names of seasons and adjectives of weather B. Share the weather update with a friend via text message C. Talk about your favorite seasons D. Talk about the weather in your city	- Listen to the audio and understand the news about the weather. - Listen to the audio about today's weather and summarize the content in few sentences to share it in a text with your friend. - Take turns with your partner to talk about your favorite seasons (Make sure to mention the reasons where you like this season over the other seasons). - Take turns with your partner where each of you talk about the weather in your cities through the whole year.

The target tasks were designed with increases in complexity as discussed earlier in the literature. Using Robinson's (2001a) features for task complexity, they were sequenced in the following way according to task complexity and/or task condition variables (see Table 33):

Table 33

Target Tasks Ordered according to Increases in Task complexity and/or Task Condition Variables

	Target Tasks	Increase in Complexity
1	Introduce yourself to new classmates	+ here & now, + few elements, + planning time, + single task
2	Introduce your family to other families	+ here & now, + few elements, + planning time, + single task
3	Introduce your friends to other friends	+ here & now, - few elements, + planning time, + single task
4	Introduce yourself in an internship interview	+ here & now, - few elements, - planning time, - single task
5	Write down a list of grocery and produce items	+ here & now, + few elements, + planning time, + single task
6	Write down quantities of grocery and produce items	+ here & now, + few elements, + planning time, + single task
7	Read grocery stores' flyers and compare the prices	+ here & now, + few elements, + planning time, + single task
8	Write a list of ingredients for an Arabic dish	+ here & now, - few elements, - planning time, - single task, + causal reasoning
9	Know names of Arabic food items in a restaurant	+ here & now, + few elements, + planning time, + single task
10	Order a meal in an Egyptian restaurant	+ here & now, + few elements, + planning time, + single task
11	Order food over the phone in a Syrian restaurant	+ here & now, - few elements, + planning time, + single task
12	Solve an issue with a check	+ here & now, - few elements, - planning time, + single task
13	Write an email to your Arab classmate to ask for the Arabic class assignment	+ here & now, + few elements, + planning time, + single task, + prior knowledge

14	Write an email to your professor to recommend to you an Arabic short story	+ here & now, + few elements, + planning time, + single task, + prior knowledge
15	Write an email to your professor to ask for a letter of recommendation	+ here & now, + few elements, + planning time, + single task, + prior knowledge
16	Write an email to your professor to apologize for missing the last class because you had a family emergency	- here & now, - few elements, - planning time, + single task, - prior knowledge, + causal reasoning
17	Text your friend to tell him/her that you forgot your jacket at his/her house	+ here & now, + few elements, + planning time, + single task, + prior knowledge
18	Text your friend to know what he/she will do in the winter break	+ here & now, + few elements, + planning time, + single task, + prior knowledge
19	Text your classmates to plan for a study time for your exams	- here & now, - few elements, - planning time, + single task, - prior knowledge, - few participants, + causal reasoning
20	Text your friends to plan a day to go to the mall together	+ here & now, + few elements, + planning time, + single task, + prior knowledge, + causal reasoning
21	Talk about locations of cities in Egypt	+ here & now, + few elements, + planning time, + single task, + prior knowledge
22	Ask a police officer in a street for directions to your hotel	+ here & now, + few elements, + planning time, + single task, + prior knowledge
23	Ask your friend for directions to a store in the mall	+ here & now, + few elements, + planning time, + single task, + prior knowledge, - visuals
24	Instruct an Uber driver to destination	- here & now, - few elements, - planning time, + single task
25	Leave directions to your friend in a voice-note	- here & now, - few elements, - planning time, + single task, - prior knowledge, - few participants, + causal reasoning
26	Make an online appointment with a doctor	+ here & now, + few elements, + planning time, + single task, + prior knowledge
27	Make an appointment with a doctor's office over the phone	+ here & now, + few elements, + planning time, + single task, + prior knowledge, + causal reasoning
28	Leave a voice message on the doctor's answering system	+ here & now, + few elements, + planning time, + single task, - prior knowledge
29	Cancel a doctor's appointment	- here & now, - few elements, - planning time, + single task, - prior knowledge, + causal reasoning

30	Describe a person	+ here & now, + few elements, + planning time, + single task, + prior knowledge
31	Describe a room	+ here & now, + few elements, + planning time, + single task, + prior knowledge, + causal reasoning
32	Describe an apartment	+ here & now, + few elements, + planning time, + single task, - prior knowledge
33	Describe your childhood room	- here & now, - few elements, - planning time, + single task, - prior knowledge, + causal reasoning
34	Make a list of clothes items	+ here & now, + few elements, + planning time, + single task
35	Buy clothes at stores	+ here & now, + few elements, + planning time, + single task
36	Order clothes online or on Facebook	+ here & now, + few elements, + planning time, + single task, + causal reasoning
37	Return an item in a store	+ here & now, - few elements, - planning time, - single task, + causal reasoning
38	Understanding rituals of Iftar in Ramadan	+ here & now, + few elements, + planning time, + single task
39	Exchanging news of family members in a family reunion	+ here & now, - few elements, + planning time, + single task
40	Attending a wedding party	+ here & now, + few elements, + planning time, + single task
41	Presenting condolences	+ here & now, - few elements, - planning time, - single task, + causal reasoning
42	Wishing people to feel better	+ here & now, + few elements, + planning time, + single task
43	Attending a birthday party	+ here & now, - few elements, - planning time, + single task, + causal reasoning
44	Congratulate your cousin on high school graduation	+ here & now, + few elements, + planning time, + single task
45	Book a flight ticket online	+ here & now, + few elements, + planning time, + single task
46	Book a room in a hotel over the phone	+ here & now, + few elements, + planning time, + single task
47	Exchange of currency	+ here & now, + few elements, + planning time, + single task
48	Plan an itinerary for one day	+ here & now, - few elements, - planning time, - single task, + causal reasoning
49	Express your likes and dislikes	+ here & now, + few elements, + prior knowledge, + planning time, + single task
50	Express your opinions in a topic	+ here & now, + few elements, + prior knowledge, + planning time, + single task

51	Express your own interests and hobbies	+ here & now, + few elements, + prior knowledge, + planning time, + single task
52	Express your personal feelings	- here & now, - few elements, - planning time, + single task, - prior knowledge, + causal reasoning
53	Share your own perspectives	- here & now, - few elements, - prior knowledge, - planning time, + single task
54	Talk about your high school graduation day	- here & now, + few elements, + prior knowledge, + planning time, + single task
55	Tell your friend about your holiday	- here & now, + few elements, + prior knowledge, + planning time, + single task
56	Talk about an anecdote that took place in the past	- here & now, - few elements, - prior knowledge, + planning time, + single task
57	Make a Facebook post for your high school reunion	+ here & now, + few elements, + prior knowledge, + planning time, + single task
58	Make an Instagram post of a beach/park clean-up event	+ here & now, + few elements, + prior knowledge, + planning time, + single task
59	Make a TikTok Video on a city you visited	+ here & now, + few elements, + prior knowledge, + planning time, + single task
60	Make a YouTube video to review a product you purchased	- here & now, - few elements, + prior knowledge, - planning time, + single task
61	Names of seasons and adjectives of weather	+ here & now, + few elements, + prior knowledge, + planning time, + single task
62	Share the weather update with a friend via text message	+ here & now, + few elements, + planning time, + single task
63	Talk about your favorite seasons	+ here & now, - few elements, + planning time, + single task
64	Talk about the weather in your city	+ here & now, - few elements, - planning time, + single task

The next step was how to sequence the tasks in the curriculum. This was done as follows:

First, the topics of the curriculum and the initial order of the curriculum units (15 units) was decided based on the qualitative data of the Needs Analysis. All tasks were sequenced by difficulty and frequency data to derive an initial curriculum sequence and target task types. In other words, the first unit was the most frequent category and the last

one was the least frequent category by the participants from the Needs Analysis data. This followed the methodology of (Gilabert & Malicka, 2022; Torres & Serafini, 2015).

Second, after designing all the tasks (64 tasks), an anonymous questionnaire was conducted with U.S.-based Arabic native speakers to determine, from their own perspectives and experiences, the frequency of the tasks. This followed the methodology of (Serafini & Torres, 2015; Torres & Serafini, 2016). This step, relying on native speakers to determine the most frequent and least frequent language situations or real-world tasks that they encounter in their daily life communications, was what established the original order of units from which to work for the Task Complexity study.

Third, based on the results of this questionnaire, the most frequent task from each unit of the fifteen units was selected for the participants to perform to decide on the difficulty and complexity of each task. That is, the most frequent task from each unit served as the unit-level task that would be utilized in the Task Complexity Study. Given that it would have been impossible to recruit 64 participants to perform all the 64 tasks six times to determine the difficulty and complexity of the tasks, a modified planned missingness design was the best solution as informed by established methods in the field and that would allow a study with six independent measures. Although the researcher reached out to over 170 professors, the response rate was very low. Therefore, this step was crucial in order to conduct the empirical study with real Arabic language participants. See Table 34 for the fifteen most frequent tasks to be performed by the participants.

Finally, the teachers and the domain experts provided the ranking of the 15 units in the whole curriculum in Table 34 as well as the difficulty ratings on all the 64 tasks to be sequenced within each unit in Table 35. This was necessary to decide on the final sequence

of both the curriculum units and tasks. They also were asked to provide their suggestions, opinions, and perceptions on the difficulty of the pedagogic tasks since they are the experts here from their own Arabic as a foreign language teaching experience and they are the ones who might utilize this curriculum in their teaching with their students.

Table 34

Fifteen Most Frequent Tasks to be Performed by Participants in Task Complexity Study

	Target type tasks (Superordinate category, TTT)	Target tasks (All of the subordinate tasks within the same TTT; these share the same characteristic)	Pedagogic tasks (What we actually do in the classroom)
1	Introducing and talking about yourself, family, and friends	Introduce yourself to new classmates	<i>Speaking:</i> Imagine that today is the first day of instruction and you are meeting your new classmates. Share information about yourself with your classmates.
2	Making purchases at the grocery store	Write down a list of grocery and produce items	<i>Reading:</i> You are going to do grocery shopping for the items that you ran out at home. Look at the flyer and write down a list of the produce items you will buy.
3	Ordering food in restaurants and cafes	Order a meal in an Arab restaurant	<i>Reading:</i> You are going out to eat lunch in an Arab restaurant. Read the menu and tell the waiter your order.
4	Writing emails	Write an email to your professor to ask for a letter of recommendation	<i>Writing:</i> You are applying for an internship opportunity in the summer. One of the requirements is to provide a letter of recommendation. Write an email to your Arabic professor to ask

			him/her to write you a letter of recommendation.
5	Writing text messages	Text your friend to tell him/her that you forgot your jacket at his/her house	<i>Writing:</i> You went to visit your friend and you forgot your jacket at his/her house. Write a text message to your friend to decide on how you will get your jacket back.
6	Giving and asking for directions	Leave directions to your friend in a voice message	<i>Speaking:</i> You are meeting your friend in a café in the mall. When you have arrived, both of you cannot reach each other because there is no signal in your area. Send your friend a voice-note with directions on how to get to your location.
7	Making appointments	Make an appointment with a doctor's office over the phone	<i>Speaking:</i> You are not feeling well. Call the doctor's office to schedule an appointment over the phone.
8	Describing and sharing information	Describe an apartment	<i>Listening:</i> One of your friends lives in an apartment and you contacted him/her to ask if there are any available apartments in the same building where he/she lives in. Your friend has offered to describe to you the apartment to see if you might like it or not. Listen to his/her description and then write a detailed description of the apartment.
9	Shopping in clothing stores	Make a list of clothes items	<i>Writing:</i> You are travelling and you are packing your bag. Write down a list of the clothes items you will take with you, so you do not forget anything.

10	Attending social events	Attending a wedding party	<i>Writing:</i> You are invited to a wedding party, and you want to buy a gift for the couple. Write a card to present it with the gift to congratulate the couple with the Arabic appropriate phrases for wedding celebrations.
11	Booking flight tickets and hotel rooms	Book a flight ticket online	<i>Writing:</i> You are travelling and you want to book the flight ticket online. Browse the website to buy your ticket.
12	Sharing our opinions, interests, and perspectives	Express your own interests and hobbies	<i>Writing:</i> Your teacher asked you to write a short paragraph about your own interests and hobbies. Write down what interests you to do in your free time.
13	Telling stories and anecdotes from the past	Talk about an event that took place in the past	<i>Speaking:</i> You are sitting with your two friends, and you all decided that each one of you will narrate an event that took place in the past.
14	Understanding and interacting with different forms of media	Make a Facebook post for your high school reunion	<i>Writing:</i> You and your friends are planning a high school reunion event. Create a Facebook post for your high school reunion. Write down the invitation text, place, day, time, and cost in the below template.
15	Checking the weather	Talk about your favorite seasons	<i>Listening:</i> You are in the Arabic classroom and today's lesson is about the weather. Listen to the audio about the weather and then talk about and describe your favorite seasons.

Table 35*Teachers and Domain Experts Within Units Rankings of Difficulty of Tasks*

	Target Tasks	Easy		Difficult + Very Difficult		Order
		n	%	n	%	
1	Introduce yourself to new classmates	20	100			1
2	Introduce your family to other families	16	80	4	20	2
3	Introduce your friends to other friends	16	80	4	20	3
4	Introduce yourself in an internship interview	11	55	7	35	4
5	Write down a list of grocery and produce items	14	70	4	20	1
6	Write down quantities of grocery and produce items	11	55	7	35	2
7	Read grocery stores' flyers and compare the prices	8	40	10	50	4
8	Write a list of ingredients for an Arabic dish	9	45	9	45	3
9	Know names of Arabic food items in a restaurant	16	80	2	10	1
10	Order a meal in an Egyptian restaurant	13	65	4	20	2
11	Order food over the phone in a Syrian restaurant	10	50	7	35	3
12	Solve an issue with a check	6	30	11	55	4
13	Write an email to your Arab classmate to ask for class Arabic assignment	9	45	8	40	1
14	Write an email to your professor to recommend an Arabic short story	7	35	10	50	2
15	Write an email to your professor to ask for a letter of recommendation	6	30	11	55	3
16	Write an email to your professor to apologize for missing class due to an emergency	6	30	11	55	4
17	Text your friend to tell him/her that you forgot your jacket at his/her house	8	40	10	50	4
18	Text your friend to know what he/she will do in the winter break	9	45	8	40	1
19	Text your classmates to plan for a study time for your exams	8	40	9	45	3
20	Text your friends to plan a day to go to the mall together	9	45	9	45	2
21	Talk about locations of cities in Egypt	11	55	9	45	1
22	Ask a police officer in a street for directions to your hotel	8	40	10	50	4
23	Ask your friend for directions to a store in the mall	10	50	8	40	3

24	Instruct an Uber driver to destination	11	55	7	35	2
25	Leave directions to your friend in a voice-note	9	45	10	50	5
26	Make an online appointment with a doctor	16	80	2	10	1
27	Make an appointment with a doctor's office over the phone	9	45	8	40	2
28	Leave a voice message on the doctor's answering system	7	35	11	55	4
29	Cancel a doctor's appointment	7	35	10	50	3
30	Describe a person	12	60	6	30	1
31	Describe a room	12	60	6	30	2
32	Describe an apartment	12	60	6	30	3
33	Describe your childhood room	9	45	9	45	4
34	Make a list of clothes items	16	80	2	10	1
35	Buy clothes at stores	10	50	7	35	3
36	Order clothes online or on Facebook	14	70	4	20	2
37	Return an item in a store	8	40	9	45	4
38	Understanding rituals of Iftar in Ramadan	13	65	7	35	6
39	Exchanging news of family members in a family reunion	8	40	9	45	7
40	Attending a wedding party	20	100			1
41	Presenting condolences	17	85	3	15	5
42	Wishing people to feel better	20	100			2
43	Attending a birthday party	19	95	1	5	3
44	Congratulate your cousin on high school graduation	19	95	1	5	4
45	Book a flight ticket online	9	45	7	35	3
46	Book a room in a hotel over the phone	9	45	9	45	4
47	Exchange of currency	9	45	7	35	2
48	Plan an itinerary for one day	11	55	7	35	1
49	Express your likes and dislikes	18	90	1	5	1
50	Express your opinions in a topic	12	60	7	35	2
51	Express your own interests and hobbies	12	60	7	35	3
52	Express your personal feelings	5	25	14	70	4
53	Share your own perspectives	8	40	12	60	4
54	Talk about your high school graduation day	8	40	11	55	3

55	Tell your friend about your holiday	11	55	8	40	1
56	Talk about an anecdote that took place in the past	9	45	10	50	2
57	Make a Facebook post for your high school reunion	10	50	7	35	1
58	Make an Instagram post of a beach/park clean-up event	7	35	10	50	2
59	Make a TikTok Video on a city you visited	5	25	12	60	3
60	Make a YouTube video to review a product you purchased	5	25	12	60	4
61	Names of seasons and adjectives of weather	11	55	9	45	4
62	Share the weather update with a friend via text message	11	55	8	40	2
63	Talk about your favorite seasons	11	55	8	40	3
64	Talk about the weather in your city	12	60	6	30	1

After designing all the tasks, then came the time to test them to determine their difficulty and complexity rankings based on empirical evidence from Arabic language learners. This leads us to address research question 5.

RQ5: Independent Measures of Cognitive Complexity:

5. How do the following independent measures of cognitive complexity inform the sequencing of tasks, as well as the methodological lesson planning around tasks, in a beginning-level university Arabic curriculum?
 - a. Task difficulty rankings (by students, teachers, and domain experts)
 - b. Retrospective time-on-task judgments (by students)
 - c. Task difficulty and mental effort assessments (by students)
 - d. Stimulated recall comments (thematic analysis; by students)
 - e. Task sustainability judgements (by students)
 - f. Task sustainability judgements by language (by students)

The fifth research question leads into Part II of this dissertation: an empirical study where one task from each unit were assessed in terms of their complexity, as measured via six independent measures of cognitive complexity by students, teachers, and domain experts. This was for the purpose of generating the final sequenced order of the tasks in the curriculum.

6.8 Measures of Cognitive Complexity

The results of the independent measures of cognitive task complexity will be presented with answering every question separately and then some of the questions will be grouped and combined to show the correlation among all the questions.

Since the study has used several measures for the task complexity, the data analysis focused on how much all these measures correlate together. Instead of doing individual correlations, Cronbach's alpha α , which is a measure of correlation between two or more items to stand on the reliability of the data, was used. Cronbach's alpha calculations was determined to be the best approach given the sample size and the number of measures (six total). Across all measures on the student data analyses, the correlation (more specifically "reliability") was $\alpha = .67$. This number ($\alpha = .67$) is high considering the varied nature of the questions. Taking from these two numbers, all the items were considered to be decently correlated:

Raw Alpha: 0.673703

Standard Alpha: 0.804844

6.8.1 Separate Results of Task Complexity Measures

a. Independent Measure 1: Task Difficulty Rankings

Task difficulty was elicited based on how the participants perceived the difficulty of the tasks (Serafini & Torres, 2015 and Torres & Serafini, 2016). The results are shown as follows:

Task difficulty ranking, answering the question: "How difficult was the task you just did?" This item does not show as much correlation with the other items:

Raw $r = .48$

Standard $r = .68$

b. Independent Measure 2: Retrospective Time-on-task judgments

The retrospective time-on-task, as compared to the real time-on-task, is as follows:

Time the participants think it took them to do the tasks:

Raw r: 0.82974450

Standard r: 0.4449807

Time the participants took to do the task:

Raw r: 0.72911740

Standard r: 0.3646521

Next, Cronbach's correlation was calculated for this variable. For the time the participants think it took them to complete the task, this item was highly correlated with the other items, Raw $r = .83$ and the Standardized $r = .44$. As for the time it took the participants to complete the task, this item was also highly correlated with the other items, Raw $r = .73$ and the Standardized $r = .36$.

c. Independent Measure 3: Task Difficulty and Mental Effort

Assessments

Task difficulty ranking, answering the question: "This task required no mental effort at all, or extremely great mental effort." This item shows a high correlation with the other items:

Raw $r = .77$

Standard $r = .75$.

Task difficulty ranking, answering the question: "This task was not difficult at all or extremely difficult." This item shows a high correlation with the other items:

Raw $r = .77$

Standard $r = .85$.

d. Independent Measure 4: Stimulated Recall Comments

The stimulated recall data was analyzed based on the participants' perceptions of the tasks in terms of the complexity of the tasks. Analyzing the stimulated recall data has yielded into themes and sub-themes. The main theme captured was the difficulty of the tasks and this theme had yielded to several sub-themes such as the participants' background knowledge and proficiency of the Arabic language, their mental efforts and thinking while doing the tasks, the modality of the tasks, and their own evaluations of the tasks and real-life settings. The sub-themes were mentioned as follows: participants' background knowledge and proficiency of the Arabic language were captured more than 70 times, their mental efforts and thinking while doing the tasks were captured over 70 times as well, the modality of the tasks was mentioned more than 15 times, and their own evaluations of the tasks and real-life settings were mentioned over 20 times,. Below is a summary as well as some excerpts from the students' comments regarding each unit of the syllabus.

Participants' Background Knowledge and Proficiency of the Arabic Language

Most of the participants commented on their performance on the tasks based on their own knowledge and proficiency levels in the Arabic language. In general, the participants stated that their background knowledge of Arabic dictated their perception of the tasks they have performed. If they were familiar with the vocabulary, they considered that task easy:

the [task] required I guess vocabularies that I'm mostly knew and even if I didn't necessarily know the vocab that you gave me, I knew enough that I couldn't make up my own.

However, if they are not familiar with the task vocabulary, they would consider it hard, as another participant said: “I haven’t done anything with directions, so I don't really know how to say left or right...” The participants varied in their responses on the tasks based on their own background knowledge of Arabic.

Although the participants were provided with a vocabulary list for each of the tasks, most of them mentioned that they faced some difficulty in knowing, remembering, or recalling the specific words that they needed when they were performing the tasks. One of the participants stated: “I was also maybe forgetting some vocab words...” However, other participants were satisfied where they were able to recall the vocabulary needed to complete the task. One of them mentioned: “I was thinking that Thank God I know how to say a plate and rice in Arabic because that's one of the words I don't forget like (Tabaq)...” Another participant commented on the usefulness of having a vocabulary list for the task to be more focused on the target task and gives them the chance to work on putting the sentences together: “It had like some vocab words that made it more helpful to stay on track and to not be lost with all the vocab...” Another participant was also satisfied that there was a vocabulary list that they can have as a reference and then he can work with the words to use them accurately in the task. “I guess overall I just wanted to like make sure that I picked my words and refine them a bit better...” Another participant said:

I think just from my my own personal experience like what I’ve learned so far so if I had already done some more things regarding like to doctor or like the body or sicknesses maybe it would have been easier or vice versa if I had already known more about calling a doctor and not as much about the apartment then we thought there would have been easier sure and if there...

Most of the participants mentioned in different occasions their concerns about the different grammar rules. Some of their comments were on conjugating the verbs, the use of prepositions, spelling of words. One participant expressed her own concerns on her adequate background knowledge in conjugating the verbs that she wanted to use in completing the language task: “I was trying to think how would I say this I was trying to think of how to say I have or if I was doing the conjugation right.” Another participant was concerned with the prepositions to choose: “thinking about like which prepositions are like correct...” Another participant commented on the grammar rules that they have not learned before:

depend on what the person had learned and how the previous tests have been formatted so like again I don’t know the imperative form and a couple other ones so I couldn’t really tell what form they were conjugated in.

Also, some of the participants talked about whether they were spelling the words or pronouncing them correctly while doing the tasks. “I was trying to double check my spelling the the words that I wrote down...”

In sum, the participants background linguistic knowledge of Arabic was very clear in their own comments on the difficulty of the tasks they have performed. There were some tasks where the participants either lacked the adequate grammar rules, the vocabulary, or the even the spelling while performing the tasks. It was noticeable that they rated the tasks as difficult based on their own proficiency of the Arabic language.

Mental Effort and Thinking

The participants also mentioned that during the tasks, they were thinking and trying to take decisions in either the content of the task such as what to choose to eat, or the vocabulary words they will use:

OK so here I was thinking OK to start off I I was debating if I should make a greeting or something first or maybe ask someone where they are or like you know just in general greet them, I chose to not do that and instead go straight into just explaining the directions I decided.

Some other participants commented on the moments they spent to process the requirements of the tasks and to assess their ability in doing it: “I was trying to understand the task maybe I was still trying to see what I had to do absolutely...”

Some of the participants stated that they started first by writing the task content in Arabic and then translated it into English:

the first thing I did was I wrote out the message I wanted to say in English and then I started translating it into Arabic so at this point I’m probably through the words I already know off the top of my head, and I didn’t need the word bank.

Also, a participant provided the same technique of translating from English into Arabic: “I was doing the structure in English first right and then I decided to translate it to Arabic that's really what I was doing...” Lastly, a participant said:

I kept my noticing how it was like translating in my head a lot like you know English to like I’d be I’d be back to the English just to see like gifts and see if the sentence you actually make sense like something like that so like constant like translation.

Here, the participants commented on their own techniques in going over the tasks by resorting first to their native language and then to translate into Arabic. In this sense, they felt more secure in dealing with the tasks.

Modality of Tasks

The participants commented on the various language skills that the tasks tackled. Some participants mentioned that the tasks that required from them to speak were harder than the writing tasks where they not only have the time but also the confidence, they need to do the writing task:

I guess when I'm speaking it's and there's less time to think about like words and stuff but when you're writing you have more time to think about what you're saying or what you're going to write... then later he said, I found ... task harder because it involves like writing I felt more comfortable writing and not having to say it out loud.

Another participant also commented on performing a speaking task versus performing a writing task:

me speaking is easier just like I don't have to know the spelling and stuff but then also then I have to like practice pronunciation and trying to like speak faster whereas in writing it doesn't really matter how long it take but you'll still see the same product at the end and so even if my spelling is bad I feel like you're more likely to understand.

Another participant said:

honestly the speaking versus the writing where I feel like I could do a lot more assignments in writing versus speaking and then so honestly I do appreciate like

assignments which include speaking because they help out with that aspect of it the writing part you can always just take your time and recall what grammar you do know and there's always some sentence you can make versus when speaking like...

Another participant stated:

if you'd like you can like look up words as well in dictionary or something like that and then you have time to think about how to structure your sentences while compared to like when you're talking and to someone who's like knows Arabic then you're kind of under pressure because you want to make it perfect and that that kind of pressure kind of gets to you and makes you mess up some of the grammar slips you might have known before so definitely the first one was a bit easier.

In this section, the participants commented on the modality of the tasks. In sum, speaking tasks are considered harder than writing ones where the students are under the pressure to mentally focus and then talk about the given topic.

Evaluations of the Tasks and Real-Life Settings

The participants provided positive feedback on the tasks they have performed. Their comments were based on the benefits of being exposed to the interactive side of the Arabic language. In general, they think that those kinds of language tasks will be helpful for them in surviving in similar settings while visiting an Arab country.

Some of the participants' comments were on the tasks themselves and how they can be used in real-life settings. One of the participants reported that the tasks were useful to her in the way that she can use the vocabulary she has learned in real-life situations:

I mean I think there were useful tasks to know because both of them are pretty important in terms of if you go to a restaurant you want to know how to order and you want to know how to write an e-mail.

Also, another participant commented on the usefulness of knowing the names of some grocery items and being familiar with the kinds of vocabulary might help in securing a kind of job in an Arab country:

for example like let's say I go to Egypt or something like that they have Amazon or or something I could or shopping at a grocery store I could do a job like that in Egypt knowing a little bit about Arabic.

Another participant stated that the tasks were interactive in the sense that he might find himself in a situation where he will be capable of using similar vocabulary in social occasions: "I think like a little more engaging because I am coming up with some of my own parts..." "it was just a really simple card to write, it was creative I could just write whatever I felt like I wanted to write."

Another participant stated that the tasks are not grammar-based or traditional language tasks:

I think they are very useful to apply in a real-world scenario rather than more of the textbook stuff we learned in class of like countries or basic grammar type things, I feel like that real-world application is definitely useful in day-to-day things.

Another participant said: "it made me practice something that's really applicable to real-life..."

Also, one participant felt that the tasks let him think as if he were in the real situation and he has to take action to do it: “I’m thinking about me like in a situation, it’s like kind of thinking about it in your life.” Another participant said:

I think they’re really helpful especially to me like I don’t know what this this is for if it's for any program this would be really helpful in learning the language right because if I’m learning the language and I need to it’s not just books right now not just grammar I'm also doing something creative something that I would do in real-life...

Also, another participant commented on the tasks as well as the stimulated recall experience itself:

it was like more enjoyable than just like working through the book and doing like written stuff I like that it like this especially ... made me speak and then reflect on my own speaking which was something I’ve never done.

It was so interesting that the participants provided their perceptions and opinions on the design of the tasks and how they are helpful because they are based on real-life tasks. They mentioned that those kinds of tasks will be helpful for them in the sense of getting them to practice something that native speakers of Arabic use in daily basis situations.

e. Independent Measure 5: Task Sustainability Judgments

Answering the question: “If you were to choose between two tasks, which one would be easier?”

– The pedagogic task or holding the bucket of water for half a minute. This item shows a little correlation:

Raw $r = .31$

Standardized $r = .48$

– The pedagogic task or holding the bucket of water for 1 minute. This item shows a little correlation:

Raw $r = .45$

Standardized $r = .58$

– The pedagogic task or holding the bucket of water for 2 minutes. This item shows a little correlation:

Raw $r = .27$

Standardized $r = .39$

– The pedagogic task or holding the bucket of water for 4 minutes. This item shows a little correlation:

Raw $r = .40$

Standardized $r = .14$

Answering the question: “If you were to choose between two tasks, which one would you choose to do?”

– The pedagogic task or holding the bucket of water for half a minute. This item shows a little correlation:

Raw $r = .33$

Standardized $r = .64$

– The pedagogic task or holding the bucket of water for 1 minute. This item shows a little correlation:

Raw $r = .30$

Standardized $r = .50$

- The pedagogic task or holding the bucket of water for 2 minutes. This item shows a little correlation:

Raw $r = .34$

Standardized $r = .43$

- The pedagogic task or holding the bucket of water for 4 minutes. This last question was not included in the analysis since it is consistent.

Answering the question: Do you think you can do the pedagogic task 3, 9, 27, 81, or 243 times?

- The 3 times: this item was not included in the analysis because it was consistent.
- The 9 times: this item is not correlated with the other items:

Raw $r = .022$

Standardized $r = .33$

- The 27 times: this item is a little correlated with the other items:

Raw $r = .34$

Standardized $r = .66$

- The 81 times: this item is a little correlated with the other items:

Raw $r = .32$

Standardized $r = .53$

- The 243 times: this item is not correlated with the other items:

Raw $r = -0.10$

Standardized $r = .17$

f. Independent Measure 6: Task Sustainability Judgments by Language

Subjective Task Difficulty, answering the questions:

1) If you had to do just one task, which task you do you think would be easier?

Doing the pedagogic task in Arabic 10 times or doing the pedagogic task in English 80 times. This item shows a very little correlation with the other items:

Raw $r = 0.14$

Standardized $r = .28$

2) If you had to do both tasks, which one would you do first?

Doing the pedagogic task in Arabic 10 times or doing the pedagogic task in English 80 times. This item shows a very little correlation with the other items:

Raw $r = 0.32$

Standardized $r = .35$

From the previous analysis, the correlation is driven down as the last few items are not very correlated with the rest of the items. Some of the last items (Arab and English “easier task to do” questions) are not very correlated with the others, as well a few other items (i.e., times_9, times_243). Taking those items out results in a very slightly higher $\alpha = 0.68$.

Raw Alpha: 0.6805926

Standard Alpha: 0.8222588

6.8.2 Combined Results of Task Complexity Measures

In this section the data from all the independent measures will be used to obtain the final sequence of the tasks. Given the multiple measures of the task complexity and since all the measures are measuring the same construct, which is the difficulty of tasks, it was important to see how some measures are highly correlated together while others are not.

By analyzing task difficulty rankings and retrospective time judgements. The joint correlation of those items is considered high.

$$\alpha = 0.71$$

$$\text{Standard alpha} = 0.80$$

Task sustainability judgments – repeating by students:

Easier task to do:

For these 4 questions, their joint correlation is lower than the full scale. This looks like it is due to the 4-minute item.

$$\alpha = 0.65$$

$$\text{Standard alpha} = 0.62$$

Choose task to do:

For these 4 questions, their joint correlation is again lower than the full alpha. Notably, the 4-minute item had no variability (was just constant for everyone so it could not be included in the statistic). The lower alpha is in part due to the 2-minute item.

$$\alpha = 0.60$$

$$\text{Standard alpha} = 0.65$$

Task sustainability judgments - effort by students:

Do the task 3, 9, 27, 81, or 243 times:

Sustainability judgments: (3, 9, 27, 81, or 243 times). For these 5 questions, their joint correlation is at a level often considered moderately high. Notably, ‘3 times’ item was constant, so it is not included in the statistic.

$$\alpha = .75$$

$$\text{Standard alpha} = 0.74$$

Task sustainability judgments by language – (by students)

For those two questions which deal with the participants' dominant language in deciding to perform either the easy or the order of performing the given tasks, these two items show negative correlation to the rest of the items. Their joint correlation is very low.

$$\alpha = .03$$

Standard alpha 0.62

Comments and Suggestions by Teachers and Domain Experts on Difficulty of Tasks

Teachers and domain experts were asked to provide their comments and suggestions on the difficulty of the tasks. Below is a summary as well as some excerpts from their comments regarding each unit of the syllabus.

Their comments were based on the complexity of the task itself. For example, a teacher commented on Unit 1 'Introducing and Talking about Yourself, Family, and Friends' of the curriculum that more topics the task requires, the more difficult it will be for the students:

The first 3 are marked as easy because they can be as simple as: "hello, this is X" while the last one requires more knowledge of vocabulary and structure. In order to introduce oneself for interviews, you need to speak about your interests, capabilities, experience, and so on, which is way of a higher level!

Also, most of their comments were based on the previous knowledge of the vocabulary of each of the tasks. If the students have been exposed or learned the vocabulary, then the tasks will be easy for them to perform and vice versa. For example, a teacher on Unit 2 'Making Purchases at the Grocery Store' stated: "The above should be very easy if students are taught the vocabulary, but unfortunately they can go through two years of Arabic

without exposure to market/cooking related vocab.” There were also some comments on the learners’ linguistic background mainly with being heritage and nonheritage. The nonheritage learners do not have the same linguistic competence as the heritage learners when it comes to the tasks that are in the dialects. Heritage learners at this point have the advantage of being exposed more to the regional dialects other than the nonheritage learners:

It’s very relative, I noticed it’s asked in dialect... If the learner is heritage, then spoken would be easier and writing is a matter of a skill. So, it would be easier. But for nonheritage, I think it's more difficult.

A teacher commented on Unit 3 ‘Ordering Food in Restaurants and Cafes,’ that when the conversation comes to a point where there will be more complex, such as back and forth explanations, the task will be ranked as difficult as in the task for resolving an issue with a check in a restaurant: “Last one involves some argument or more explanation which I think is a next level task that requires more vocabs.”

The comments on Unit 4 referred to ‘Writing Emails’ were around the same concept of the students’ knowledge on certain language topics which might be achieved by the learners eventually: “It might be somewhat possible to accomplish these tasks partially at the end of first year of elementary Arabic.” They also commented on the amount of information the task requires from the students to accomplish the task: “For third one, I feel it requires more info from student to be written to professor, thus requiring a lot. Higher level I guess!”

One of the teachers’ comments on Unit 5 ‘Writing Text Messages.’ Specifically, he suggested that I consider the ‘time planning’ from the students’ before they start to put

their answers when designing a task: “Designing tasks with constraints (like scheduling conflicts) requires very careful planning.”

Also, some teachers were not able to give clear cut answers on the difficulty of the tasks when it came to, for example, Unit 6 ‘Giving and Asking for Directions.’ A teacher stated: “Some are relative to students’ level and skills :) hard to decide.”

On Unit 7 ‘Making Appointments,’ some of the teachers commented on the modality of the tasks where reading tasks might not be as challenging as speaking tasks. One of the teachers said: “First is easy because they can read, rest requires speaking skills and mastering pronunciation.”

Most of the teachers commented on the complexity of the tasks when they require from the students not only the linguistic competence to be able to express themselves effectively and easily in the target language. A teacher commented on one of the tasks on Unit 8 ‘Describing and Sharing Information’ by saying: “to talk about something special and feelings about it requires a little more thus it’s a higher task but still very doable and there should always be something challenging after all. Unfortunately, students don’t learn related vocabulary until intermediate.”

The teachers also mentioned that there should be adequate vocabulary for the students at the beginning of every unit and then it will be easy for them to deal with the complexity increase of the tasks. For example, in Unit 9 ‘Shopping in Clothing Stores,’ one of the teachers suggested “after a dedicated unit to teach students the names of these things, then it should be easy.” As proposed in the curriculum units, the very first task of each unit present to the students the vocabulary of the unit topic and then the complexity increases gradually through the tasks.

The comments on Unit 10 ‘Attending Social Events,’ were helpful as it classified the task about Ramadan Rituals as a complex task: “Talk about rituals i feel is a next level... Like a language of its own.” Also, the task on sharing family news: “Exchanging news requires vocabs not sure first level have all. So it is somewhat difficult...” However, the other tasks of the unit can be rated as easy as those tasks do not require the same competence as the first two tasks: “Rest is easy, can be learned and memorized easily! These are tiny, tiny tasks that mostly consist of memorizing one or two expressions.”

Some of the teachers marked the tasks in Unit 11 ‘Booking Flight Tickets and Hotel Rooms’ as difficult. A teachers wrote:

Travel and those tasks are next level even for Native speakers in their own language. Some people are good and some are not good in it. So, I’d say somehow difficult. Exchanging currency may not require as much talking really.. It’s very easy i guess :)”

On Unit 12 ‘Sharing Our Opinions, Interests, and Perspectives,’ some of the teachers described the tasks as difficult since the learners will provide other complicated details. For example, a teacher stated:

First and third can be easy and the more they provide the more challenging it will become! Second and last regarding opinions and perspectives can be challenging especially if they want to give accurate details!

Also, some of the teachers mentioned that talking about events that take place in the past are more complex and needs more details. For Unit 13 ‘Telling Stories and Anecdotes from the Past’ one of the teachers wrote that this unit “requires a lot of vocabs to be able to describe the details of it...”

In Unit 14 ‘Understanding and Interacting with Different Forms of Media,’ one teacher commented on the Facebook and Instagram post tasks saying: “First two can be done with short simple sentences, thus marked as easy!” However, for the TikTok and YouTube videos, the teachers stated: “Third and fourth involves talking and do require a lot of knowledge and vocabs. The fourth is even more demanding and very challenging! I see those last two for intermediate level!” Also, another teacher pointed to the amount time that “media creation always needs extra time because it is labor intensive.”

For the last unit on ‘News and Weather,’ the teachers also commented on the previous knowledge that will be helpful for the learners to learn about the weather vocabulary: “First and second can be easier, but they still require vocabs... maybe should mark them easy if after a dedicated unit on weather.”

The teachers provided clear comments on the difficulty of the tasks. Their comments reflect their perceptions on the increase of task complexity through the tasks within each curriculum unit. All the mentioned quantitative and qualitative data were crucial in deciding on the final sequence of tasks in the curriculum.

6.8.3 Sequencing of Tasks from Simple to Complex:

To sequence the tasks from simple to complex in Table 36, a few different sequencing orders were explored.

6.8.3.1 Sequence of Tasks Based on All Measures

If the sequence were to be determined on all of the measures, the average score was calculated across all the values, given how they match up in the reliability. The sequenced order would look like this:

Table 36*Sequence of Tasks Based on all the Measures*

New Sequenced Order	Original Number of Task	Average
1	Make a list of clothes items for a trip	7.84025
2	Write a text to get back jacket	8.11675
3	Congratulate couple on their wedding	8.19650
4	Describe an apartment	8.23875
5	Make appointment over phone with a doctor's office	8.38225
6	Talk about an event that took place in the past	8.54400
7	Order a meal in an Arab restaurant	8.55575
8	Introduce yourself to new classmates	8.61950
9	Book a flight ticket online	8.63000
10	Express own interests and hobbies	8.65650
11	Send your friend a voice note with directions to you	8.74450
12	Write an email to professor for recommendation	8.84775
13	Talk about and describe your favorite seasons	8.91500
14	Create a Facebook post for your high school reunion	9.20925
15	Write down a list of grocery and produce items	9.36850

Tasks are ordered from lowest to highest based on all the measures following Cronbach's alpha. In the original order of the tasks prior to the empirical phase of the study to determine their sequence, the tasks were ordered based on the frequency and difficulty from the Needs Analysis data. Afterwards, the 15 tasks were selected based on the most frequent tasks chosen by the U.S. based Arabic native speakers. As shown in Table 35, this is the sequence of tasks based on all the measures of task complexity.

6.8.3.2 Sequence of Tasks Based on Time, Task Difficulty, and Mental Effort:

If the sequence of the tasks were to be determined on the first two measures, task difficulty ranking and retrospective time judgements, the sequence would be as follows in Table 37.

Table 37*Sequence of Tasks Based on Time, Task Difficulty, and Mental Effort*

New Sequenced Order	Original Number of Task	Average
1	Make a list of clothes items for a trip	1.861
2	Write a text to get back jacket	2.767
3	Congratulate couple on their wedding	2.786
4	Describe an apartment	3.355
5	Make appointment over phone with a doctor's office	3.729
6	Introduce yourself to new classmates	4.078
7	Talk about an event that took place in the past	4.376
8	Book a flight ticket online	4.420
9	Talk about and describe your favorite seasons	4.860
10	Send your friend a voice note with directions to you	4.878
11	Order a meal in an Arab restaurant	4.923
12	Express own interests and hobbies	5.126
13	Write an email to professor for recommendation	5.191
14	Create a Facebook post for your high school reunion	7.037
15	Write down a list of grocery and produce items	7.574

Tasks are ordered from lowest to highest based on task difficulty ranking and retrospective time judgements.

6.8.3.3 *Sequence of Tasks Based on Task Sustainability Judgments: Easier Task to Do:*

If the sequence of the tasks were to be determined based on task sustainability judgments as which task is easier for the participants to do, the sequence would be as follows as in Table 38.

Table 38*Sequence of Tasks Based on Task Sustainability Judgments: Easier Task to Do*

New Sequenced Order	Original Number of Task	Average
1	Write a text to get back jacket	0.000

2	Make appointment over phone with a doctor's office	0.125
3	Express own interests and hobbies	0.125
4	Order a meal in an Arab restaurant	0.250
5	Send your friend a voice note with directions to you	0.250
6	Describe an apartment	0.250
7	Talk about an event that took place in the past	0.250
8	Create a Facebook post for your high school reunion	0.250
9	Make a list of clothes items for a trip	0.375
10	Congratulate couple on their wedding	0.375
11	Introduce yourself to new classmates	0.500
12	Write down a list of grocery and produce items	0.500
13	Write an email to professor for recommendation	0.500
14	Book a flight ticket online	0.500
15	Talk about and describe your favorite seasons	0.750

Tasks are ordered from lowest to highest based on task sustainability judgments as which task is easier for the participants to do.

6.8.3.4 Sequence of Tasks Based on Task Sustainability Judgments: Choose Task to Do:

If the sequence of the tasks were to be determined based on task sustainability judgments as which task the participants will choose to do, the sequence would be as follows in Table 39.

Table 39

Sequence of Tasks Based on Task Sustainability Judgments: Choose Task to Do

New Sequenced Order	Original Number of Task	Average
1	Order a meal in an Arab restaurant	0.000
2	Describe an apartment	0.000
3	Make a list of clothes items for a trip	0.000
4	Create a Facebook post for your high school reunion	0.000
5	Write down a list of grocery and produce items	0.125
6	Make appointment over phone with a doctor's office	0.125
7	Congratulate couple on their wedding	0.125
8	Book a flight ticket online	0.125
9	Express own interests and hobbies	0.125

10	Introduce yourself to new classmates	0.250
11	Write a text to get back jacket	0.250
12	Talk about an event that took place in the past	0.250
13	Talk about and describe your favorite seasons	0.250
14	Write an email to professor for recommendation	0.375
15	Send your friend a voice note with directions to you	0.375

Tasks are ordered from lowest to highest based on task sustainability judgments as which task the participants will choose to do.

6.8.3.5 Sequence of Tasks Based on Task Sustainability Judgments: 3, 9, 27, 81, or 243

Times:

If the sequence of the tasks were to be determined based on task sustainability judgements measure as whether the participants can do the pedagogic task 3, 9, 27, 81, or 243 times, the sequenced order would be as follows in Table 40:

Table 40

Sequence of Tasks based on Task Sustainability Judgments: 3, 9, 27, 81, or 243 Times

New Sequenced Order	Original Number of Task	Average
1	Talk about and describe your favorite seasons	0.2
2	Introduce yourself to new classmates	0.4
3	Make appointment over phone with a doctor's office	0.4
4	Congratulate couple on their wedding	0.4
5	Book a flight ticket online	0.5
6	Create a Facebook post for your high school reunion	0.5
7	Send your friend a voice note with directions to you	0.6
8	Describe an apartment	0.6
9	Write an email to professor for recommendation	0.7
10	Write a text to get back jacket	0.7
11	Talk about an event that took place in the past	0.7
12	Write down a list of grocery and produce items	0.8
13	Make a list of clothes items for a trip	0.8
14	Express own interests and hobbies	0.8
15	Order a meal in an Arab restaurant	1.0

Tasks are ordered from lowest to highest based on task sustainability judgements measure as whether the participants can do the pedagogic task 3, 9, 27, 81, or 243 times.

6.8.3.6 *Sequence of Tasks Based on Teachers Responses*

Teacher's scoring was highly reliable across all items after excluding some of the items that are constant on all the ratings. See Table 41.

Raw alpha: 0.9720131

Standard alpha: 0.9667804

Table 41

Sequence of Tasks Based on Teachers' Responses

New Sequenced Order	Original Number of Task	Average
1	Congratulate couple on their wedding	1.209524
2	Introduce yourself to new classmates	1.271186
3	Talk about and describe your favorite seasons	1.466667
4	Express own interests and hobbies	1.560000
5	Write down a list of grocery and produce items	1.583333
6	Make a list of clothes items for a trip	1.633333
7	Order a meal in an Arab restaurant	1.683333
8	Describe an apartment	1.683333
9	Send your friend a voice note with directions to you	1.706667
10	Make appointment over phone with a doctor's office	1.716667
11	Write a text to get back jacket	1.783333
12	Talk about an event that took place in the past	1.800000
13	Book a flight ticket online	1.866667
14	Write an email to professor for recommendation	2.016667
15	Create a Facebook post for your high school reunion	2.066667

6.8.3.7 *Sequence of Tasks Based on Domain Experts' Responses*

Domain experts scoring was highly reliable as well, as can be seen below. See Table 42

Raw alpha: 0.9849403

Standard alpha: 0.9811078

Table 42

Sequence of Tasks Based on Domain Experts' Responses

New Sequenced Order	Original Number of Task	Average
1	Introduce yourself to new classmates	1.300000
2	Congratulate couple on their wedding	1.342857
3	Send your friend a voice note with directions to you	1.840000
4	Talk about and describe your favorite seasons	1.900000
5	Talk about an event that took place in the past	1.933333
6	Express own interests and hobbies	1.960000
7	Book a flight ticket online	2.050000
8	Make a list of clothes items for a trip	2.050000
9	Order a meal in an Arab restaurant	2.100000
10	Make appointment over phone with a doctor's office	2.100000
11	Describe an apartment	2.100000
12	Create a Facebook post for your high school reunion	2.200000
13	Write down a list of grocery and produce items	2.350000
14	Write a text to get back jacket	2.500000
15	Write an email to professor for recommendation	2.600000

Summary of raw alpha and standard alpha of all the measures are presented in Table 43.

Table 43

Raw Alpha and Standard Alpha of the Previous Measures

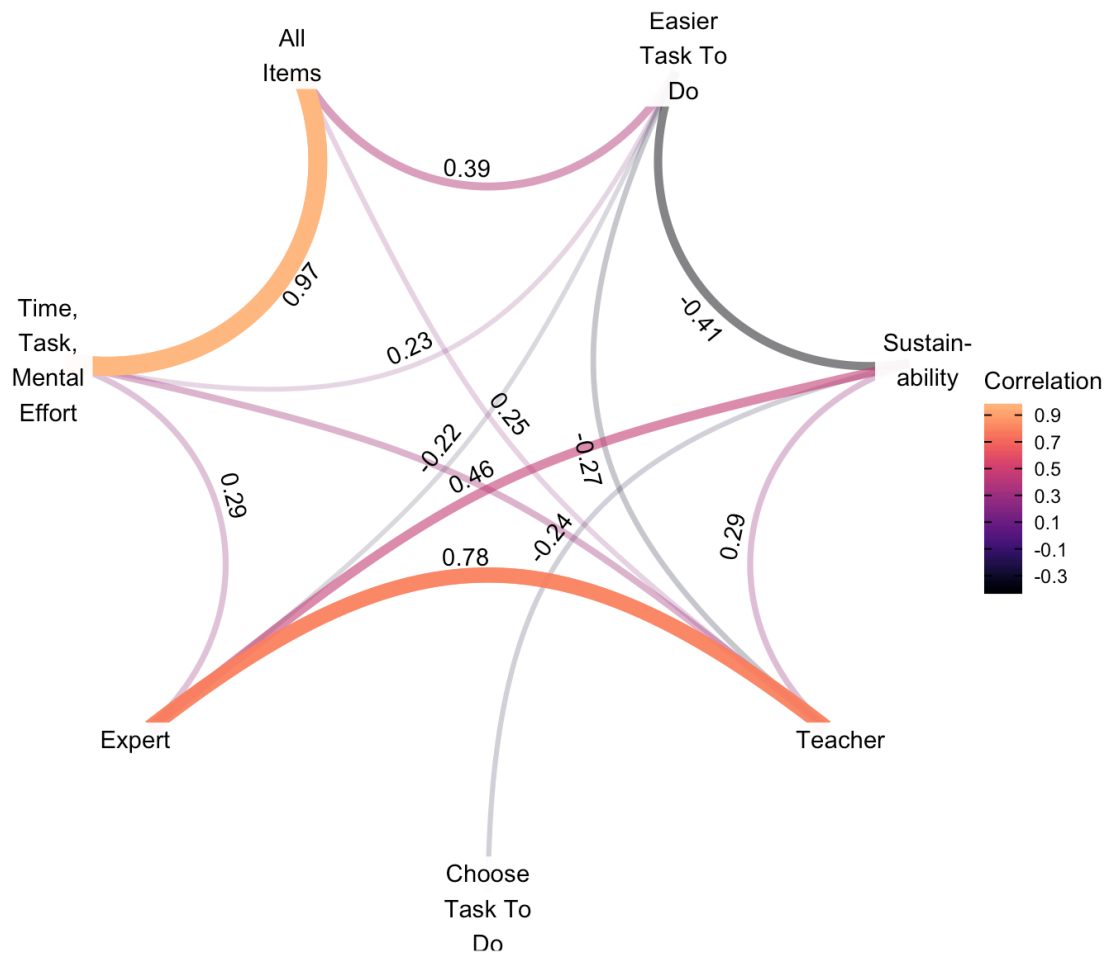
Raw Alpha	Std Alpha
0.673703	0.804844
0.6805926	0.8222588
0.710937	0.8076658
0.6596357	0.6238655
0.5965583	0.6557322
0.7570281	0.7488394
0.02605863	0.02627434
0.9720131	0.9667804
0.9849403	0.9811078

6.8.4 Comparisons of Student, Teacher, and Domain Expert Data

This section shows how the different sequences relate to each other. This graph shows the correlations between each of the groups of measures.

Figure 15

Comparison of All Independent Measures of Cognitive Complexity



Note. Thicker, lighter lines are stronger positive correlations. Only correlations above +/- 0.2 are shown.

Teachers and experts were highly correlated with each other with 0.78 in the rating of tasks. Time, task, and mental effort were highly correlated with all the items with 0.97. Time, task, and mental effort correlate with teachers with over 0.3. Time, task, and mental effort correlate with experts with an alpha level of 0.29. Experts correlated with sustainability judgements with 0.46. Sustainability correlates with teachers with 0.29. From sustainability, experts, and teachers correlate with each other. All items correlate with teachers with 0.25. All items correlate with “easier task to do” with 0.39. Time, task, and mental effort correlate with “easier task to do” with 0.23.

Those kinds of correlations are somehow big between constructs that are distinct given the different questions. Also, the high level of correlation shows that it is not mandatory for teachers who ever want to design a curriculum and sequence tasks in a theoretically informed way to consult many domain experts, obtaining the opinions of one or two experts will be adequate for the task sequencing.

To create the final sequence, (but excluding Time/Difficulty/Mental Effort) the standardized values (turning the value into a z-score to be at the same scale as each other) of each of the following items were taken as in Table 44. It was important to standardize the value used to order the tasks, so all the measures are on the same scale as each other to avoid that one of the measures, has more power over the rest, because it has a bigger scale than the others. In this case, any of the measures can be used together to obtain a sequence that is based on those measures.

Table 44*Sequence of Tasks Using Sustainability, Teachers, and Domain Experts*

Item	Sustainability	Teachers	Domain Experts	Final Rating
Attending social events	−0.99	−1.95	−1.91	−1.62
Introducing and talking about yourself, family, and friends	−0.99	−1.69	−2.03	−1.57
Checking the weather	−1.95	−0.86	−0.34	−1.05
Making appointments	−0.99	0.20	0.22	−0.19
Giving and asking for directions	−0.03	0.16	−0.51	−0.13
Describing and sharing information	−0.03	0.06	0.22	0.08
Sharing our opinions, interests, and perspectives	0.93	−0.46	−0.17	0.10
Booking flight tickets and hotel rooms	−0.51	0.83	0.08	0.13
Telling stories and anecdotes from the past	0.45	0.55	−0.25	0.25
Shopping in clothing stores	0.93	−0.15	0.08	0.28
Making purchases at the grocery store	0.93	−0.37	0.92	0.50
Understanding and interacting with different forms of media	−0.51	1.68	0.50	0.56
Ordering food in restaurants and cafes	1.89	0.06	0.22	0.72
Writing text messages	0.45	0.48	1.35	0.76
Writing emails	0.45	1.47	1.63	1.18

6.9 Final Sequence of Tasks

To create the final sequence, the standardized values (turning the value into a z-score to be at the same scale as each other) of each of the following items were taken:

- Time/Difficulty/Mental Effort
- Sustainability
- Teacher
- Expert

As the results showed, time, task, and mental effort were highly correlated with all the items. Teachers and experts agree with each other. Teachers, experts, and sustainability agree with each other. Triangulating all the measures together in Table 45 gives a reliable picture of the ordering versus just one measure.

Table 45*Sequence of Tasks Using Six Measures*

Item	Time, Difficulty, Mental Effort	Sustainability	Teachers	Domain Experts	Final Rating
Attending social events	−1.11	−0.99	−1.95	−1.91	−1.49
Introducing and talking about yourself, family, and friends	−0.25	−0.99	−1.69	−2.03	−1.24
Checking the weather	0.26	−1.95	−0.86	−0.34	−0.72
Making appointments	−0.48	−0.99	0.20	0.22	−0.26
Shopping in clothing stores	−1.72	0.93	−0.15	0.08	−0.22
Describing and sharing information	−0.73	−0.03	0.06	0.22	−0.12
Making appointments	0.27	−0.03	0.16	−0.51	−0.03
Booking flight tickets and hotel rooms	−0.03	−0.51	0.83	0.08	0.09
Telling stories and anecdotes from the past	−0.06	0.45	0.55	−0.25	0.17
Sharing our opinions, interests, and perspectives	0.44	0.93	−0.46	−0.17	0.18
Writing text messages	−1.12	0.45	0.48	1.35	0.29
Ordering food in restaurants and cafes	0.30	1.89	0.06	0.22	0.62
Understanding and interacting with different forms of media	1.70	−0.51	1.68	0.50	0.84
Making purchases at the grocery store	2.05	0.93	−0.37	0.92	0.88
Writing emails	0.48	0.45	1.47	1.63	1.01

CHAPTER 7. DISCUSSION

This chapter will discuss the findings and the results from the interviews and the questionnaires respectively. It will also discuss the findings and the results from the task complexity measures. The data will be discussed based on the needs of all the participants in the study as well as the researcher's notes during the interviews and the researcher's own understandings and perceptions of the data. This shall be discussed in light of the current landscape of TBLT literature.

RQ1: Real-world needs of U.S. students studying Arabic as a second language:

1. What are the real-world needs of beginning-level U.S. students studying Arabic as a second or foreign language in a university setting, as determined via a task-based Needs Analysis (NA) study utilizing multiple sources and methods?

As presented in the previous chapter, participants in both the interviews and the questionnaire stated several reasons and goals from learning the Arabic language such as communicating with family and relatives, communicating with friends, preparing themselves to work in Arab countries, travelling to different Arab countries, exploring the Arabic culture, communicating with native speakers of Arabic, connecting with the Islam religion, and getting to know the language for curiosity purposes such as learning a language with different alphabet, reading the history of the Arab world, learning about the Middle East, and fulfilling their language requirement for their academic degrees. As captured by the data, these results are in line with Husseinali (2006) where most of the participants need the Arabic language to either work in the Middle East or help them to be able to communicate with Arabs at their future work. Knowing Arabic for them, in general,

will expand their work opportunities. They also need it to travel to the Arab world and to be able to converse there. They are also interested to explore and learn about the Arabic culture. These findings were helpful in generating the tasks for the current proposed curriculum. Also, as stated by Diab (1997) U.S. students are interested in learning Arabic with a focus on diplomacy, business, religion, occupation, and culture. Also, in Zabarah (2015), the participants expressed their desire to learn Arabic for work, study, family, heritage, religious, and travel purposes.

Almost all participants mentioned that there should be more emphasis on basic conversations and interactions where they can practice speaking and having discussions in familiar topics. Very few participants focused on the linguistic aspects of the language, by mentioning the need for more emphasis on pronunciation, more focus on conjugations of verbs in dialects, more focus on foundational grammar, and real applications of grammatical rules in speaking activities. Although the call for more grammar emphasis might be relevant to the difficulty of the Arabic language, it also reflects that fact the teaching of Arabic is done mostly through the grammar-translation method. Also, it might reflect on the materials and the type of instruction the students are exposed to or receive. That being said, TBLT has proved its effectiveness in teaching many languages and it should find its path in the Arabic language curriculum design and in teachers' training.

In general, all participants stressed their need to have conversational opportunities for them to practice the language through speaking rather than writing and reading. They expressed their needs to learn the authentic language that native speakers use in their daily life activities to be able to communicate with them and enjoy the beauty and easiness of talking as native speakers do. Most participants (91 of the 134 participants, 68%) expressed

their desire to be exposed to daily life situations to learn the communicative aspect of the Arabic language to survive in any Arabic setting. As advocated by Omar and Mukhtar (2017) to expose students to real-life language so they can practice what they will use in real-life settings. Moreover, as Mohamed (2016) suggested for Arabic foreign language teaching to be achieved by exposing them to tasks to help them in building and improving their communicative proficiency.

Creating language tasks and scenarios will help learners to practice the language in their classrooms. As one of the participants stated: “We need to help N-NASTs learn to speak in the classroom discourse, especially for those who are unable to travel abroad for immersion experiences or have not been in a classroom taught in the medium of Arabic to learn it.” This is in line with Haron (2013), students are eager to have more chances for them inside classrooms to practice and improve their speaking skills.

The Palestinian teacher mentioned that, from her own experience, the current Arabic as foreign language textbooks lack the concept of ‘themes’ in presenting the language to the learners. She thinks that the books should be designed following a thematic order so the learners will learn the different topics that they need to know in the new target language.

...for instance if you look at a French book a French textbook, an English textbook they are thematized which means the units the first one introduce yourself for instance and it comes with all that themes that you can teach the students these tasks, the second one for instance go shopping they will not learn how to go and do these tasks right, a third one could be something about I don’t know hospitals and all that the key vocabs and you know keywords or stuff what do you do when you

want you know how to talk to somebody to a doctor, whatever a fourth one would be I don't know shopping or making orders in a restaurant or whatever ... ordering food shopping and going to the mall I'm not talking to somebody over the phone credit cards, let's say a bank, registering for school courses.

In sum, the gathered data showed that a foreign language curriculum should be more devoted to serve the learners direct and immediate needs to help them in acquiring the native speakers' language either through the standard variety or the colloquial varieties.

RQ2: Differences in Needs between Arabic Foreign Language Learners and Arabic Heritage Language Learners:

2. Are there differences in the needs of beginning-level students who are Arabic foreign language learners and of Arabic heritage language learners?

In general, the data did not detect many differences in the needs of Arabic foreign language learners and that of the Arabic heritage language learners. However, heritage learners are keener to learn Standard Arabic, whereas non-heritage learners are interested to learn the different Arabic dialects. Most of the participants stressed the importance of knowing both varieties: the standard and the regional dialects. By analyzing the needs of the non-heritage and the heritage participants, it is clear that both groups have strengths in certain language areas, while they have weaknesses in others.

Heritage Learners' Needs:

The current study revealed that most of the heritage learners are already familiar with their own dialects although they lack the adequate vocabulary to help them to communicate fluently and effectively with their family members and relatives. This might reflect the nature and the environment that they use the language in such as talking only

with their family members and relatives where they are not exposed enough to their own dialects in several language situations that will help them to build up their vocabulary. As stated by Montrul (2010), most of the heritage learners are not as competent in their home language as in their community language. As one of the participants mentioned that at the beginning of a conversation with her own relatives, she feels that she is capable of conversing with them in Arabic; however, after some time in the conversation, she does not have the full language competence to maintain the conversation in Arabic. She said, “I understand what you’re saying in Arabic but then I can’t communicate with them.” Also, some of the heritage participants can see the importance of learning the dialects when it comes to nonnative speakers of Arabic. They think that it is important and useful for the Arabic language learners to not only learn the standard variety but also the regional dialects. In general, heritage speakers are more concerned with being capable of speaking and conversing in the language fluently as their relatives do in the home countries.

As mentioned earlier, heritage speakers of Arabic seem to be more familiar with their own dialects than the MSA. As a result, they might be keener to learn the standard language since they are already familiar with their own dialects and can communicate somehow effectively with their family members and relatives. As one of the participants said:

but for me I because I know the dialect I like I feel I would benefit more from fuSha (Standard Arabic) because I know that like in perfect like in official documents and stuff that have to do with the government that’s what’s being used most so that’s why I find that like they’re both useful but that fuSHa would be the most useful if

you wanna take the advanced level of Arabii because there are words that you can only know in fuSHa, that like it's like the higher like level of Arabii.

This participant expressed her desire to learn MSA more than her own dialect that she already knows. Although HLLs might still need to improve their skills in their own dialects, their biggest challenge will be to learn and improve their linguistic skills in MSA. As stated by Zabarah (2015), “even though Arabic HLLs in the US come from different dialect backgrounds, they all struggle to learn Standard Arabic, not their own dialects, where they have some proficiency” (Zabrah, 2015, p. 100). This point is in line with the current data where heritage speakers need to be exposed to Arabic writing and reading opportunities to improve their skills. Montrul (2010) stated that heritage speakers of any language struggle with some language skills such as writing, vocabulary, and advanced language structures. This will expand their own opportunities later in their lives when using the language as they will be able to use both varieties in different contexts.

In most of the cases, learning the writing skill or how to write in Arabic, for heritage speakers, is not as important as the reading skill. Redouane's (2017) results showed that non-heritage learners indicated that the writing system was rated the hardest skill for them to learn Arabic, followed by pronunciation, grammar, and finally vocabulary. However, one of the challenges that heritage learners of Arabic face especially when they are Muslims, is reading the Qur'an. Learning the standard variety by heritage learners will help them not only to read the Qur'an but also to understand it. They need the reading skill more when it comes particularly to reading the Qur'an. The close relationship between the Arabic language and Islam religion makes it a must for Muslim heritage learners to learn

the standard form of the language. Even for the non-heritage Muslim speakers of Arabic, they are keen to learn the language so they can read the Qur'an in a better way.

Nevertheless, when it comes to the different language skills, the students want to focus on and improve the different language skills. As in the study by Zabarah (2015), the participants expressed their interest to improve their speaking, followed by vocabulary, then reading and writing skills. As captured from the current study, the speaking skill is very important to heritage speakers to learn and to maintain to communicate with the family members at home or with their relatives overseas.

Non-heritage Learners' Needs:

When it comes to non-heritage learners, the data showed that non-heritage speakers are interested in being able to use the language in the same way they use their own native languages. They are interested in being able to 'survive' in situations where they can communicate with native speakers and survive any linguistic or cultural experience when visiting an Arab country or in the same way that native speakers use it. This is in line with Husseinali (2006), where he stated that non-heritage speakers are as keen as heritage speakers to communicate with people and to travel to Arab countries. So, learning more about the exact and appropriate expressions that native speakers use in Arabic will help those nonnative speakers to use the language as native speakers do. As one of the participants said:

I think the emphasis on the biggest way to learn a language is interaction, so I feel like the emphasis on interaction within the class and I mean it's hard to do outside of the classroom when there aren't many Arab speakers nearby, but I think interaction is the biggest thing so the activities where you can practice speaking to

each other and even speaking with someone who knows the language is important too like when we would have the Arab speakers in our class stand up and speak in Arabic and we could kind of hear the phrases that we've been learning and then here it comes from them was so different I felt like sometimes so it's nice to be able to interact with different people and hear people speaking on a level that you're learning.

As part of learning the communicative language, the data showed an interesting point when it comes to the usage of the language. Non-heritage learners are keen, for example, to learn the very specific Arabic polite expressions when talking to elders and foreigners. One of the participants mentioned that they should be able to use the appropriate language in authentic social situations such as attending birthday parties, wedding parties, and funerals. This reflects the importance of learning the exact language used by native speakers in different occasions and situations where it might not be included in traditional teaching settings with the focus on grammar. It will be helpful for the learners to learn how to react in those situations using the Arabic language.

RQ3: Students and Teachers' Needs in Learning and Teaching of Standard Arabic (SA) alongside Colloquial Arabic (QA):

3. What are students' and teachers' needs when it comes to the learning and teaching of Standard Arabic (SA) alongside Colloquial Arabic (QA)?

It was very interesting to explore the different perceptions regarding learning both Standard Arabic as well as Colloquial Arabic. Students, teachers, and domain experts from the interviews and the questionnaires stated different opinions on learning Standard Arabic and Colloquial Arabic. In general, all of them agreed on trying to have the balance between

the two varieties, so Arabic language learners can have a successful experience in any setting of using the language.

Some teachers think that it will be more effective and helpful for the learners to be exposed to both MSA and the dialects. They mentioned that learning only MSA will not help the foreign language learners to communicate with native speakers as MSA is not used in daily life interactions. As explored by (Abdalla & Al-Batal, 2011; Weinert, 2012; Al-Mohsen, 2016), learning Arabic should be done through exposing the students not only to the standard variety but also to the several linguistic varieties of Arabic. Or it can be achieved as mentioned by Al-Mamari (2011), learning Modern Standard Arabic can work as the starting point for learning the other and different regional dialects later. As one of the teachers said: “I would teach the orals skills (speaking and listening) mainly using Arabic dialects, and the writing skills (reading and writing) using MSA.” Another teacher said:

I have always advocated that students should, in general, concentrate on spoken Arabic as intensively as possible for an entire year, after which they may start learning the Arabic of formal writing, using their spoken variety as the language of instruction.

Also, they think that learning the dialect will give the learners the sense of surviving in the Arabic speaking society or community. This type of exposure can be accomplished through task-based teaching approach. In this case, students will not only be instructed the standard form of Arabic, but also the different dialects that native speakers use in their daily life interactions.

The balance of learning both the standard and the dialects can be achieved if the students are aware ahead of time of the dialect they are interested to learn or the country they are willing to visit. In this sense they can be more focused on the exact dialect they are interested to learn. As the Jordanian teacher suggested that any language curriculum should give the students the opportunity to interact and use the language. She also thinks that there should always be opportunities for the learners through the curriculum to learn the actual language used in the Arab countries.

The curriculum should be engaging and interesting, but then it should also target real-life skills and topics that students should find appealing to them so in case they want you know which you already said in case they want to travel abroad, they need to know how to communicate correctly so you know these basic communication skills in terms of interacting you know properly introducing themselves, interacting with other people you know of course, introducing and you know greeting and introducing themselves and you know even you know as they are in the airport do they manage to get out from the airport too you know to their destination, can they interact with the taxi driver you know again which require greeting, introducing themselves, maybe asking for simple information and then what happens when they reach to their destination, are they able to ask properly for simple information ... they use you know WH questions correctly can they ask for directions and in addition to that also it has you know a good curriculum also should you know have culture at the center so all of this should be packaged within cultural norms and practices that are present you know in that target culture that of course the designer of the curriculum has in mind you know I know that you know the Arab world has

a lot of variation and it doesn't hurt if you know the curriculum focuses for example on Egyptian culture per se yeah I mean with of course you know nice way also to highlight that maybe this is specific to the Egyptian culture just to highlight that in general.

Also, the Palestinian teacher added that teaching Arabic as a foreign language where there are not actual and real occasions for the learners to use the language outside classrooms, there should be the parallel opportunities in the classrooms for them to use the language. In so doing, the learners will be using the actual language that is used by native speakers as well as expanding their vocabulary.

...where is the language used we're talking about indulging the students one of the main thing is to really put students in an environment which we don't have in the States so if we are teaching them Arabic in the United States and we don't have that environment where they speak and use the language outside it means that they're only using the language in my classroom so if they're using it in my classroom they have to at least instead of sitting there and trying to understand a grammatical rule or trying to you know I wanted them to actually be active members in the class and try to use the language even if they have no grammar even if they mess up things even if they're gonna learn it you know yeah I don't care how much messy it is as long as they are using the language, they are building some vocab, they are learning some vocabulary.

In all cases, the teaching and learning of the Arabic language should be tackled with an understanding of the diglossia status of this language. As the data showed and suggested,

there should be a balance between the two varieties in order for the students to survive fully in the different situations of using the language.

RQ4: Target Tasks, Target Task Types, and Pedagogical Tasks:

4. What target tasks, target task types, and pedagogical tasks can be derived from a Needs Analysis (NA) for the teaching of beginning-level Arabic as a second language at the university level, taking into account needs for acquiring Standard Arabic (SA) as well as Colloquial Arabic (QA)?

From the analysis of both the interviews and the questionnaires, there was a consensus agreement from the participants on learning both the standard as well as the different dialects of the Arabic language. Any Arabic language curriculum should be designed considering the different and various linguistic and nonlinguistic needs of learners. Given the dilemma with the multiple dialects of the Arabic language, the current curriculum should be balancing between the two varieties. As suggested by the participants in the study, the designed tasks were divided into two categories: 1) writing and reading tasks in Standard Arabic and, 2) speaking and listening tasks in Colloquial Arabic with the focus on the Egyptian and the Levantine dialects as they were the most demanded dialects by the participants. In other words, the tasks are designed following the real applications by native speakers of both the Standard and the Colloquial. For example, writing an email to a professor will be in the Standard whereas writing a text message to a friend will be in the Colloquial.

As mentioned earlier, the current curriculum focuses on both the Egyptian and the Levantine dialects for the speaking and listening tasks; however, teachers are encouraged

to choose either of the two dialects, or any other dialect in teaching the proposed pedagogic tasks based on their students' needs and the dialects they are interested to learn.

The curriculum created and presented on here consists of 15 units. Each unit has from three to six tasks and an exit task. Long (2015) defined 'exit task' as the task that "is used to assess students' ability to perform the target task, for it consists either of a genuine example of that target task or a virtual proxy" (Long, 2015, p. 226). Below is Table 46 with all the target type tasks, the target tasks, and the pedagogic tasks in the curriculum. As was explained in the results chapter, the thematic units were organized according to the frequency and difficulty of topics extracted from the Needs Analysis data. The most frequent topic mentioned by the Needs Analysis participants was 'being able to introduce yourself to others and the least frequent topic was 'to check the weather' as presented below. Afterwards, the tasks were presented based on increasing the task complexity conditions. The design of the tasks to a reasonable extent follows Nunan Model (2004) in schema building, controlled practice, authentic listening practice, focus on linguistic elements, provide freer practice, and then perform the task. Robinson's (2003 and 2007a) Triadic Componential Framework for Task Complexity, and Robinson's (2010) SSARC Model for Task Complexity Sequencing. Also, In Appendix H, there is a sample of the pedagogic tasks in the curriculum. (The rest of the tasks are reserved in the case of publishing them in the future). Each task is following the Nunan Model (see page 17) as it is suitable for the teaching of Arabic.

Table 46

Full List of Curriculum Tasks

	Target type tasks (Superordinate category, TTT)	Target tasks (All of the subordinate tasks within the same TTT; these share the same characteristic)	Pedagogic tasks (What we actually do in the classroom)
1	Introducing and talking about yourself, family, and friends	A. Introduce yourself to new classmates B. Introduce your family to other families C. Introduce your friends to other friends D. Introduce yourself in an internship interview	- Introduce yourself to your classmate (mention your name, age, major, and where you are from, and why you study Arabic). - Introduce your families to your friends (your parents and your siblings – their names, schools they attend, jobs they work, etc.). - Introduce your three classmates to your other friend from your sports' practice and vice versa. (Mention names, majors, names of universities, interests about the types of movies, and you might exchange phone numbers so you can plan for another trip in the future). - Record yourself making a small presentation for an internship interview to share information about yourself, your hobbies or interests, and your future plans.
2	Making purchases at the grocery stores	A. Write down a list of grocery and produce items B. Write down quantities of grocery and produce items C. Read grocery stores' flyers and compare the prices	- Write down a list of the items you need to buy from a grocery store. - Write down a list of the grocery items with the quantities you need to buy from a grocery store. - Look at the two grocery flyers and compare the prices in both flyers for the items you need to buy. Write down

		D. Write a list of ingredients for an Arabic dish	the items that you need with their prices and indicate from which store you will buy them from and the reasons for choosing a store over the other. - Write down the ingredients of a dish you will cook with the exact quantities you need.
3	Ordering food in restaurants and cafes	A. Know names of Arabic food items in a restaurant B. Order a meal in an Egyptian restaurant C. Order food over the phone in a Syrian restaurant D. Solve an issue with a check	- Check an online menu of restaurant. Write down some of the meals you want to eat from a restaurant menu. - Record yourself and your partner making a video in which each one of you order the meals for yourselves in an Egyptian restaurant.. (Make sure that each one of you chooses something different). - Your task is to record yourself making an audio in which you read the menu of a Syrian restaurant and make a list with the meals for yourself and three of your friends. Make your orders over the phone. - Your task is to record yourself making a video in which you explain to the waiter in a restaurant of charging you an extra item and ask him/her to solve the check issue.
4	Writing emails	A. Write an email to your Arab classmate to ask for the Arabic class assignment B. Write an email to your professor to recommend to you an Arabic short story C. Write an email to your professor to ask for a letter of recommendation	- Write an email to your Arabic language classmate to ask about the lesson you missed, the assignment, and the due date. (Greet your classmate, thank him/her, sign the email). - Write an email to your Arabic professor to recommend to you a short Arabic story to read. (Greet your professor, mention the type of stories you like to read, thank him/her for their help, and sign the email). - Write an email to your Arabic professor to ask to you a letter of recommendation to apply for an internship in

		D. Write an email to your professor to apologize for missing the last class because you had a family emergency	the summer. (Greet your professor, provide the name of the program, the deadline, the website to submit the letter, thank your professor, and sign the email). - Write an email to your Arabic professor to apologize for missing the class due to a family emergency, state the reason for missing the class, mention that you have asked your classmates about the assignment, and that you are attaching the assignment in this email. (Greet your professor, write the email content, thank your professor, and sign the email).
5	Writing text messages	A. Text your friend to tell him/her that you forgot your jacket at his/her house B. Text your friend to know what he/she will do in the winter break C. Text your classmates to plan for a study time for your exams D. Text your friends to plan a day to go to the mall together	- Write a text message to your friend to decide on how you will get your jacket back that you left at your friend's house. - Write a text message to your friend to share your plans for the winter break. (Mention the place that you will travel to, the duration of the stay, and the attractions you will visit). - Work with your partners where each one of you will write down on What's app group chat their availability to decide on the time, day, and place to meet to study for your midterm. - Work with your partners to write texts to each other to plan on the time and day to go to the mall together. Make sure when your friends mention some suggestions to apologize and say that you have some other commitments on that day and plan for another day.
6	Giving and asking for directions	A. Talk about locations of cities in Egypt	- Look at Egypt map and write a paragraph to describe the locations of Alexandria, Sharm Elsheikh, Luxor, and Giza from Cairo.

		B. Ask a police officer in a street for directions to your hotel C. Ask your friend for directions to a store in the mall D. Instruct an Uber driver to destination E. Leave directions to your friend in a voice-note	- Look at the map with your partner and record an audio conversation where you are the tourist, and your partner is the police officer to give you directions to get to your hotel. - Record an audio with your classmate to ask for directions to a store in a three-story mall to meet each other. - Use Uber application and start to order a ride by providing your location and your destination. Instruct an Uber driver where specifically to drop you off. - You are meeting your friends in a café in a shopping plaza. Record an audio in which you send your friend a voice-note with directions on how to get to your place.
7	Making appointments	A. Make an online appointment with a doctor B. Make an appointment with a doctor's office over the phone C. Leave a voice message on the doctor's answering system D. Cancel a doctor's appointment	- Fill in an online form with the required information to book a doctor appointment for a regular checkup. (Specialization of the doctor, region, insurance, and name of doctor). - Record yourself and your partner making an audio in which you both are taking roles in scheduling a doctor's appointment, you as being the patient, and your partner as being the office receptionist. - Record yourself making an audio in which you leave a message in the doctor's office answering machine: leave your name, your phone number, and a brief message for the reason of your call. - Record yourself and your partner making an audio in which you both take roles in cancelling a doctor's appointment, you as being the patient, and your partner

			as being the employee. (Mention the reason for cancelling the appointment).
8	Describing and sharing information	A. Describe a person B. Describe a room C. Describe an apartment D. Describe your childhood room	- Write a text message with a detailed description of your friend to share with your relative who will meet your friend in the airport. (Mention hair color, height, clothes, etc.). - Write a detailed description of your room with the quantities of the items you have in the room to share in your university's Arab Club What's app chat group to look for a roommate. - Write a detailed description of the apartment you live in to share with your friend who is looking for a similar apartment. (Number of rooms, kitchen, restroom, etc.). - Record yourself and your partners making a video in which each one of you states something very special you all liked about your childhood bedrooms and state the reason for that.
9	Shopping in clothing stores	A. Make a list of clothes items B. Buy clothes at stores C. Order clothes online or on Facebook D. Return an item in a store	- Write down a list of the clothes items you will take with you in your trip, so you do not forget anything. - Record yourself and your partner in which both of you take turns in a clothes store where one of you is the customer and the other one is the seller. Make sure to say that you do not have an item in the store, and you will wait until the seller finds you the right size. - Write a text message to the seller on a Facebook clothes page to ask about the size, the shipping cost and how long it will take to receive your order for your dress or suit.

			- Record yourself and your partner making an audio in which both of you take turns where one of you is the customer and the other one is the seller to return a shirt or a dress. Make sure to say the cause for returning the item and to ask for another one.
10	Attending social events	A. Understanding rituals of Iftar in Ramadan B. Exchanging news of family members in a family reunion C. Attending a wedding party D. Presenting condolences E. Wishing people to feel better F. Attending a birthday party G. Congratulate your cousin on high school graduation	- Record yourself and your partner making a video in which you exchange questions and answers on the rituals and the traditions they make in an Iftar in the Holy month of Ramadan. - Record yourself and your partners making a video in which you all take turns in exchanging news about each other in a family reunion. (Use appropriate phrases with elders in the family). (Topics that might be included in the conversations: joining and graduating from university, getting married and expecting babies, accepting new job offers, etc.). - Write a card to a marrying couple using the appropriate Arabic phrases to congratulate them on their wedding. - Write a note of condolences in a text message on the passing away of your friend's relative using appropriate Arabic phrases for this occasion. - Write a text message to your sick classmate wishing him/her to feel better using appropriate Arabic phrases for this occasion. - Work with your partner to think of a birthday gift for your friend, state the reasoning for choosing this gift over another gift. Then, write a card to present it along with the gift.

			- Write a card to congratulate your cousin on the college graduation using the appropriate Arabic phrases for graduation ceremonies.
11	Booking flight tickets and hotel rooms	A. Book a flight ticket online B. Book a room in a hotel over the phone C. Exchange of currency D. Plan an itinerary for one day	- Browse a travel website to buy a ticket and provide the required information to book your ticket. (Departure city, destination city, dates, and number of travelers). - Record yourself and your partner making an audio in which you both take turns over the phone where one of you is the customer and the other one is the hotel receptionist to book a room in Beirut, Lebanon. (Mention number of guests, nights, rooms, beds, etc.). - Record yourself and your partner making an audio in which one of you is the customer and the other one is the bank employee to exchange currency. (Mention the amount of money you want to exchange, and they name of currency). - Write an itinerary of a day your foreign friend will spend with you. (Provide the times and the places you will visit).
12	Sharing our opinions, interests, and perspectives	A. Express your likes and dislikes B. Express your opinions in a topic C. Express your own interests and hobbies D. Express your personal feelings E. Share your own perspectives	- Record yourself and your partner making a video in which you take turns in talking about the favorite drinks and what people drink during the day in your communities. - Take turns with your partner to talk about the different beverages you like to drink and express your rationale in the different types of beverages and whether they are healthy, unhealthy, etc.) - Write a short paragraph on your own interests and hobbies that you like to do in your free time.

			- Write down a text message to your parents to tell them that you have been selected for the internship you applied for. Make sure to describe your feelings through the whole process until you got accepted. Also, describe your feelings if you would not have been selected. - Write from three to five points on the best ways to learn a foreign language.
13	Telling stories and anecdotes from the past	A. Talk about your high school graduation day B. Tell your friend about your holiday C. Talk about an anecdote that took place in the past	- Record yourself and your partner making an audio to tell your relative about your school graduation day over the phone. - Record yourself and your partner making a video in which you both take turns to talk about how you spent the holiday and the different activities you usually do during holidays. - Work with your two partners in which each one of you share an anecdote or an unpleasant experience that happened in the past.
14	Understanding and interacting with different forms of media	A. Make a Facebook post for your high school reunion B. Make an Instagram post of a beach/park clean-up event C. Make a TikTok Video on a city you visited D. Make a YouTube video to review a product you have purchased	- Write a high school reunion post by providing the place, date, cost, number of attendees, food catering, and other details of the event and post it on Facebook. - Write a beach/park clean-up day voluntarily event flyer by providing the location, date, and other details about the event and post it on Instagram. - Your task is to record yourself making a TikTok video in which you talk about a city you have visited. (Mention the most interesting places, names of hotels and restaurants, historical and cultural events, means of transportation, etc.)

			- Record yourself making a video in which you review a product you purchased (Mention the name of the product, place of purchase, pros and cons of the product, and your recommendations).
15	Checking the weather	E. Names of seasons and adjectives of weather F. Share the weather update with a friend via text message G. Talk about your favorite seasons H. Talk about the weather in your city	- Listen to the audio and understand the news about the weather. - Listen to the audio about today's weather and summarize the content in few sentences to share it in a text with your friend. - Take turns with your partner to talk about your favorite seasons (Make sure to mention the reasons where you like this season over the other seasons). - Take turns with your partner where each of you talk about the weather in your cities through the whole year.

RQ5: Measures of Task Complexity:

5. How do the following independent measures of cognitive complexity inform the sequencing of tasks, as well as the methodological lesson planning around tasks, in a beginning-level university Arabic curriculum?
 - a. Task difficulty rankings (by students, teachers, and domain experts)
 - b. Retrospective time-on-task judgments (by students)
 - c. Task difficulty and mental effort assessments (by students)
 - d. Stimulated recall comments (thematic analysis; by students)
 - e. Task sustainability judgements (by students)
 - f. Task sustainability judgements by language (by students)

As mentioned in the results chapter, one task from each unit was taken and then used for Part II of this dissertation study, was assessed with the six independent measures of cognitive task complexity, where 15 tasks total were part of the study to answer RQ 5. It was not easy to recruit 64 students to perform the 64 designed tasks. Therefore, given the total number of tasks and the limited access to Arabic foreign language students, only fifteen tasks were tested in the empirical study using modified planned missingness design. Only 14 participants responded and agreed to participate in the empirical study. Since the study used several measures for the task complexity, the data analysis focused on how much all these measures correlated together.

a. Task Difficulty Rankings

The current study measured the task difficulty following (Serafini & Torres, 2015 and Torres & Serafini, 2016). Fourteen students (who performed the tasks), 15 teachers, and 5 domain experts had to rate the difficulty of the tasks. For the students, each student

had to perform two tasks and rate each task. For the teachers and the domain experts, they had to rate the difficulty of the 64 tasks, and then they had to rank the curriculum 15 units in the order in which they think the first unit is the easiest while the last unit is the most difficult.

In general, the rating of the tasks by the teachers and domain experts as well as their comments on the tasks reflected their perception on the tasks and the increase of task complexity along all the tasks. They have rated the tasks as easy, difficult, very difficult, and not applicable. After reviewing their rating and comparing it with the proposed increase of complexity in every task, there is an increase of complexity along the tasks. In sum, their ratings are obtained to have the final sequence of the curriculum units and the tasks within the curriculum units based on the difficulty level of the topics as well as the tasks themselves.

b. Retrospective Time-on Task Judgments

The results of the retrospective time judgments are line with (Baralt, 2013). Baralt hypothesized that the complex the task is, the more the guessed time by the participants to complete the task. In the current study, the time-on-task measure has a significant impact on the learners' perception of task difficulty.

c. Task Difficulty and Mental Effort Assessments

The current study measured the task difficulty and mental effort (Malicka, 2020). As in the first measure, each student had to perform two tasks and rate each task of the fifteen tasks. They had to comment on the difficulty of the tasks as well as the mental effort that was posed on them while performing the tasks.

d. Stimulated Recall Comments

Analyzing the stimulated recall comments as in Gass & Mackey, 2000; Kim et al., 2015) showed that the participants were able to distinguish between the simple tasks and the complex tasks as proposed. Although most tasks performed by the participants are simple, following Robinson's task complexity criteria, in the sense that they were provided with vocabulary lists, the time they needed, single task to perform, and so forth, there were other tasks that required them to give causal reasons. For example, writing a list of clothes was simple as they had to list individual items whereas making an appointment with a doctor's office was more complex, as they were supposed to give a reason for the appointment.

Most importantly, the stimulated recall data are in line with the authenticity and the real-life content of the tasks which is the goal of the current study (Baralt & Morcillo-Gómez 2017; Brandl, 2008; Long, 2005, 2015; Mahmoud, 2014; Malicka, Gilabert, & Norris, 2017; Omar & Mukhtar, 2017; Skehan, 1998). The participants reflected on how the tasks were designed based on real-life scenarios that they might encounter when they get to use the Arabic language in any given or related situation.

e. Task Sustainability Judgements

As mentioned in the results chapter, the task sustainability judgments for choosing the easier task or choosing one task to do (pedagogic task or holding the bucket of water for half a minute, 1 minute, 2 minutes, and 4 minutes) did not show significant results on their own. As in the original study by Rosenbaum & Bui (2019) the sustainability variable was not much validated as 'time' was still the dominant variable in the participants

judgments. In other words, the participants based their subjective difficulty on the time they would spend in performing the task.

On the other hand, the task sustainability judgments for the number of pedagogic tasks the participants can do (3, 9, 27, 81, or 243 times) all together showed significant results with relation to the rest of the items to measure the task complexity. As participants think that the increase in the number of tasks lead to considering the tasks as difficult. Again, in the original study, the sustainability model did not show significant difference due to the order of designing their experiment. However, in the present study it was validated where the participants reported that the task is easy until they reach a point where they consider the task as difficult based on the number of times, they were asked to perform the task.

f. Task Sustainability Judgements by Language

The subjective task difficulty for choosing the easier and the first task to do (pedagogic task in Arabic 10 times or doing the pedagogic task in English 80 times), the data showed very little correlation. The original study by Higby et.al (under revision) was conducted with bilinguals of English and Chinese. In their study, the participants with higher proficiency in English chose to do both easier tasks and the first tasks in English as well. However, in the current study, 12 of the 14 participants who performed the tasks are not of an Arab origin. There were only two heritage students who reported their own heritage dialects (Egyptian and Tunisian). Both participants reported low proficiency level (less than 4) as in Higby et al. However, they reported that their English proficiency level is higher than their Arabic proficiency level. Interestingly, the Egyptian heritage participant reported that it is easier to do the task in Arabic 10 times and the first task to

do is in Arabic 10 times. However, the Tunisian heritage participant reported that it is easier to do the task in English 80 times and the first task to do is in Arabic 10 times. This result is not in line with Higby et.al. Those two participants might have thought that they would prefer to do and get rid of the fewer number of tasks (10 times) when compared with the other big number (80 times).

7.1 Final Task Sequence

After reviewing all the data and the ratings of the tasks based on their complexity, it was decided that the best sequencing order would be generated by the most highly correlated variables, namely, time, difficulty, mental effort, sustainability judgments, and teachers and domain experts. Below, Table 47, is the final sequence of the curriculum.

Table 47*Final Sequence of All Curriculum Units and Tasks*

	Target type tasks (Superordinate category, TTT)	Target tasks (All of the subordinate tasks within the same TTT; these share the same characteristic)	Pedagogic tasks (What we actually do in the classroom)
1	Attending social events	A. Attending a wedding party B. Wishing people to feel better C. Attending a birthday party D. Congratulate your cousin on high school graduation E. Presenting condolences F. Understanding rituals of Iftar in Ramadan	1 - Write a card to a marrying couple using the appropriate Arabic phrases to congratulate them on their wedding. 2 - Write a text message to your sick classmate wishing him/her to feel better using appropriate Arabic phrases for this occasion. 3 - Work with your partner to think of a birthday gift for your friend, state the reasoning for choosing this gift over another gift. Then, write a card to present it along with the gift. 4 - Write a card to congratulate your cousin on the college graduation using the appropriate Arabic phrases for graduation ceremonies. 5 - Write a note of condolences in a text message on the passing away of your friend's relative using appropriate Arabic phrases for this occasion. 6 - Record yourself and your partner making a video in which you exchange questions and answers on the rituals and the traditions they make in an Iftar in the Holy month of Ramadan.

		G. Exchanging news of family members in a family reunion	7 - Record yourself and your partners making a video in which you all take turns in exchanging news about each other in a family reunion. (Use appropriate phrases with elders in the family). (Topics that might be included in the conversations: joining and graduating from university, getting married and expecting babies, accepting new job offers, etc.).
2	Introducing and talking about yourself, family, and friends	A. Introduce yourself to new classmates B. Introduce your family to other families C. Introduce your friends to other friends D. Introduce yourself in an internship interview	1 - Introduce yourself to your classmate (mention your name, age, major, and where you are from, and why you study Arabic). 2 - Introduce your families to your friend's family (your parents and your siblings – their names, schools they attend, jobs they work, etc.). 3 - Introduce your three classmates to your other friends from your sports' practice and vice versa. (Mention names, majors, names of universities, interests about the types of movies, and you might exchange phone numbers so you can plan for another trip in the future). 4 - Record yourself making a small presentation for an internship interview to share information about yourself, your hobbies or interests, and your future plans.
3	Checking the weather	A. Talk about the weather in your city	1 - Take turns with your partner where each of you talk about the weather in your cities through the whole year.

		B. Share the weather update with a friend via text message C. Talk about your favorite seasons D. Names of seasons and adjectives of weather	2 - Listen to the audio about today's weather and summarize the content in few sentences to share it in a text with your friend. 3 - Take turns with your partner to talk about your favorite seasons (Make sure to mention the reasons where you like this season over the other seasons). 4 - Listen to the audio and understand the news about the weather.
4	Making appointments	A. Make an online appointment with a doctor B. Make an appointment with a doctor's office over the phone C. Cancel a doctor's appointment D. Leave a voice message on the doctor's answering system	1 - Fill in an online form with the required information to book a doctor appointment for a regular checkup. (Specialization of the doctor, region, insurance, and name of doctor). 2 - Record yourself and your partner making an audio in which you both are taking roles in scheduling a doctor's appointment, you as being the patient, and your partner as being the office receptionist. 3 - Record yourself and your partner making an audio in which you both take roles in cancelling a doctor's appointment, you as being the patient, and your partner as being the employee. (Mention the reason for cancelling the appointment). 4 - Record yourself making an audio in which you leave a message in the doctor's office answering machine: leave your name, your phone number, and a brief message for the reason of your call.

5	Shopping in clothing stores	A. Make a list of clothes items B. Order clothes online or on Facebook C. Buy clothes at stores D. Return an item in a store	1 - Write down a list of the clothes items you will take with you in your trip, so you do not forget anything. 2 - Write a text message to the seller on a Facebook clothes page to ask about the size, the shipping cost and how long it will take to receive your order for your dress or suit. 3 - Record yourself and your partner in which both of you take turns in a clothes store where one of you is the customer and the other one is the seller. Make sure to say that you do not have an item in the store, and you will wait until the seller finds you the right size. 4 - Record yourself and your partner making an audio in which both of you take turns where one of you is the customer and the other one is the seller to return a shirt or a dress. Make sure to say the cause for returning the item and to ask for another one.
6	Describing and sharing information	A. Describe a person B. Describe a room C. Describe your childhood room	1 - Write a text message with a detailed description of your friend to share with your relative who will meet your friend in the airport. (Mention hair color, height, clothes, etc.). 2 - Write a detailed description of your room with the quantities of the items you have in the room to share in your university's Arab Club What's app chat group to look for a roommate. 3 - Record yourself and your partners making a video in which each one of you states something

		D. Describe an apartment	very special you all liked about your childhood bedrooms and state the reason for that. 4 - Write a detailed description of the apartment you live in to share with your friend who is looking for a similar apartment. (Number of rooms, kitchen, restroom, etc.).
7	Giving and asking for directions	A. Talk about locations of cities in Egypt B. Instruct an Uber driver to destination C. Ask your friend for directions to a store in the mall D. Ask a police officer in a street for directions to your hotel E. Leave directions to your friend in a voice-note	1 - Look at Egypt map and write a paragraph to describe the locations of Alexandria, Sharm Elsheikh, Luxor, and Giza from Cairo. 2 - Use Uber application and start to order a ride by providing your location and your destination. Instruct an Uber driver where specifically to drop you off. 3 - Record an audio with your classmate to ask for directions to a store in a three-story mall to meet each other. 4 - Look at the map with your partner and record an audio conversation where you are the tourist, and your partner is the police officer to give you directions to get to your hotel. 5 - You are meeting your friends in a café in a shopping plaza. Record an audio in which you send your friend a voice-note with directions on how to get to your place.
8	Booking flight tickets and hotel rooms	A. Plan an itinerary for one day B. Exchange of currency	1 - Write an itinerary of a day your foreign friend will spend with you. (Provide the times and the places you will visit). 2 - Record yourself and your partner making an audio in which one of you is the customer and the

		C. Book a flight ticket online D. Book a room in a hotel over the phone	other one is the bank employee to exchange currency. (Mention the amount of money you want to exchange, and they name of currency). 3 - Browse a travel website to buy a ticket and provide the required information to book your ticket. (Departure city, destination city, dates, and number of travelers). 4 - Record yourself and your partner making an audio in which you both take turns over the phone where one of you is the customer and the other one is the hotel receptionist to book a room in Beirut, Lebanon. (Mention number of guests, nights, rooms, beds, etc.).
9	Telling stories and anecdotes from the past	A. Tell your friend about your holiday B. Talk about an anecdote that took place in the past C. Talk about your high school graduation day	1 - Record yourself and your partner making a video in which you both take turns to talk about how you spent the holiday and the different activities you usually do during holidays. 2 - Work with your two partners in which each one of you share an anecdote or an unpleasant experience that happened in the past. 3 - Record yourself and your partner making an audio to tell your relative about your school graduation day over the phone.
10	Sharing our opinions, interests, and perspectives	A. Express your likes and dislikes B. Express your opinions in a topic	1 - Record yourself and your partner making a video in which you take turns in talking about the favorite drinks and what people drink during the day in your communities. 2 - Take turns with your partner to talk about the different beverages you like to drink and express

		C. Express your own interests and hobbies D. Share your own perspectives E. Express your personal feelings	your rationale in the different types of beverages and whether they are healthy, unhealthy, etc.) 3 - Write a short paragraph on your own interests and hobbies that you like to do in your free time. 4 - Write from three to five points on the best ways to learn a foreign language. 5 - Write down a text message to your parents to tell them that you have been selected for the internship you applied for. Make sure to describe your feelings through the whole process until you got accepted. Also, describe your feelings if you would not have been selected.
11	Writing text messages	A. Text your friend to know what he/she will do in the winter break B. Text your friends to plan a day to go to the mall together C. Text your classmates to plan for a study time for your exams D. Text your friend to tell you forgot your jacket at his/her house	1 - Write a text message to your friend to share your plans for the winter break. (Mention the place that you will travel to, the duration of the stay, and the attractions you will visit). 2- Work with your partners to write texts to each other to plan on the time and day to go to the mall together. Make sure when your friends mention some suggestions to apologize and say that you have some other commitments on that day and plan for another day. 3 - Work with your partners where each one of you will write down on What's app group chat their availability to decide on the time, day, and place to meet to study for your midterm. 4 - Write a text message to your friend to decide on how you will get your jacket back that you left at your friend's house.

12	Ordering food in restaurants and cafes	A. Know names of Arabic food items in a restaurant B. Order a meal in an Egyptian restaurant C. Order food over the phone in a Syrian restaurant D. Solve an issue with a check	1 - Check an online menu of restaurant. Write down some of the meals you want to eat from a restaurant menu. 2 - Record yourself and your partner making a video in which each one of you order the meals for yourselves in an Egyptian restaurant. (Make sure that each one of you chooses something different). 3 - Your task is to record yourself making an audio in which you read the menu of a Syrian restaurant and make a list with the meals for yourself and three of your friends. Make your orders over the phone. 4 - Your task is to record yourself making a video in which you explain to the waiter in a restaurant of charging you an extra item and ask him/her to solve the check issue.
13	Understanding and interacting with different forms of media	A. Make a Facebook post for your high school reunion B. Make an Instagram post of a beach/park clean-up event C. Make a TikTok Video on a city you visited	1 - Write a high school reunion post by providing the place, date, cost, number of attendees, food catering, and other details of the event and post it on Facebook. 2 - Write a beach/park clean-up day voluntarily event flyer by providing the location, date, and other details about the event and post it on Instagram. 3 - Your task is to record yourself making a TikTok video in which you talk about a city you have visited. (Mention the most interesting places,

		D. Make a YouTube video to review a product you have purchased	names of hotels and restaurants, historical and cultural events, means of transportation, etc.) 4 - Record yourself making a video in which you review a product you purchased (Mention the name of the product, place of purchase, pros and cons of the product, and your recommendations).
14	Making purchases at the grocery stores	A. Write down a list of grocery and produce items B. Write down quantities of grocery and produce items C. Write a list of ingredients for an Arabic dish D. Read grocery stores' flyers and compare the prices	1 - Write down a list of the items you need to buy from a grocery store. 2 - Write down a list of the grocery items with the quantities you need to buy from a grocery store. 3 - Write down the ingredients of a dish you will cook with the exact quantities you need. 4 - Look at the two grocery flyers and compare the prices in both flyers for the items you need to buy. Write down the items that you need with their prices and indicate from which store you will buy them from and the reasons for choosing a store over the other.
15	Writing emails	A. Write an email to your classmate to ask for Arabic assignment B. Write an email to your professor to recommend an Arabic short story C. Write an email to your professor to ask for a letter of recommendation	1 - Write an email to your Arabic language classmate to ask about the lesson you missed, the assignment, and the due date. (Greet your classmate, thank him/her, sign the email). 2 - Write an email to your Arabic professor to recommend to you a short Arabic story to read. (Greet your professor, mention the type of stories you like to read, thank him/her for their help, and sign the email). 3 - Write an email to your Arabic professor to ask to you a letter of recommendation to apply for an

		D. Write an email to your professor to apologize for missing the last class because you had a family emergency	internship in the summer. (Greet your professor, provide the name of the program, the deadline, the website to submit the letter, thank your professor, and sign the email). 4 - Write an email to your Arabic professor to apologize for missing the class due to a family emergency, state the reason for missing the class, mention that you have asked your classmates about the assignment, and that you are attaching the assignment in this email. (Greet your professor, write the email content, thank your professor, and sign the email).

As mentioned earlier, Cronbach's alpha was used to analyze all the six different measures of task complexity. Finally, all curriculum units and all the tasks have been sequenced based on the six measures of the task cognitive complexity.

CHAPTER 8.CONCLUSION

8.1 Reviewing Findings and Results

The current mixed methods study aimed to utilize Task-Based Language Teaching (TBLT) for the teaching of Arabic as a foreign language in the U.S. universities. The goal was to create a fully Task-Based Language Teaching for Arabic beginner level at the university level. Special attention was directed to create the curriculum to encompass both: Standard Arabic (SA) and Colloquial Arabic (QA) to better serve the learners of Arabic to be able to survive in different linguistic contexts.

The study was conducted through two phases: Needs Analysis with triangulation of methods and sources (Long, 2005, 2015), and task-based language curriculum design, followed by an empirical study to inform the sequencing of the tasks based on their cognitive complexity levels. The Needs Analysis utilized interviews and questionnaires as the methods in obtaining the data. It was conducted with students and teachers of Arabic as a foreign language and domain experts who use the Arabic language at their work capacity as the sources. The empirical study utilized Zoom meetings and questionnaires as the methods in obtaining the data to support the sequence of the tasks in the curriculum based on their difficulty and complexity. It was also conducted with students and teachers of Arabic as a foreign language and domain experts who use the Arabic language as the sources.

The data yielded several target tasks to cover the different needs captured from the data. The tasks were designed utilizing the different modalities to enhance the learners' language skills. It was also important to design the tasks to cope with the native speakers'

own way in using their language. In other words, speaking and listening tasks were mostly designed in the colloquial whereas reading and writing tasks were mostly designed in the standard. However, sometimes there was a mix depending on the formality or the informality situation where the language is used in.

The study used six independent measures of task complexity: task difficulty rankings, retrospective time-on-task judgments, task difficulty and mental effort assessments, stimulated recall comments, task sustainability judgements, and task sustainability judgements by language. Of all the measures, the task sustainability was the strongest measure with the highest correlation.

The final sequence of the tasks was based on all the measures of task complexity. The sequence in the syllabus was based on the teachers and domain experts' rankings of the curriculum units and the students' perception of the tasks' complexity and difficulty. The sequence of the tasks within each unit was based on the teachers and domain experts' perceptions of the tasks' complexity and difficulty.

8.2 Future Research

Other future research might tackle different populations and Arabic linguistic variety speakers. This might lead to obtaining different and complex needs. This also might have a positive effect in searching and designing Arabic for Specific Purposes curricula that will be helpful for students minoring or majoring in the Arabic language. It will also be interesting to see different dialects to be represented in the teaching of Arabic as a foreign language and not Egyptian and Levantine. Notably, Arabic dialects are not mutually intelligible mainly in countries far away from each other such as Morocco and

Saudi Arabia. The North African and the Gulf dialects are spoken by a big population and might lead to different data.

Based on the data from the Needs Analysis, future research is encouraged to address vocabulary frequency since easy vocabulary is often related to frequency. Also, future research might be conducted to explore affective responses to tasks as some of the tasks required the participants to express their feelings and emotions.

Also, as extracted from the Needs Analysis, the needs for studying Arabic for work or the neoliberal approach to Arabic is different based on whether the learners are heritage learners or a nonheritage learners, the notion of “real-world” probably changes. Therefore, future research might be conducted to address this issue as well.

Also, as mentioned by some of the participants on the difficulty of speaking tasks over writing tasks, future research might be conducted as on speaking Arabic advances speaking anxiety.

8.3 Positionality

The researcher was born in Egypt and earned a Bachelor in English as a first language and Spanish as a second language from Egypt. She also earned a Master’s in Teaching English as a Second Language, a Master’s in Linguistics, and an Educational Specialist Degree in Teaching and Learning. She has experience in teaching Arabic as a Foreign Language for over ten years in the U.S. where she was in direct contact with hundreds of students from different backgrounds and interests. Being herself a second and a foreign language learner in addition to her experience in teaching Arabic as a Foreign Language was crucial to let her be keen to present authentic language tasks in designing the curriculum.

8.4 Limitations

This dissertation study does not go without limitations. In the Needs Analysis phase, the study was limited to university or college level students only. There might be different entities that can be explored to help in getting more data such as language institutions in either universities or under the military supervision. Those other entities might have their own needs in language learning that should be addressed as well.

Also, due to the limited access to participants, the students who participated in the whole study were of different backgrounds and different linguistic levels, particularly, the participants who have performed the pedagogic tasks with the researcher for the task complexity measure. They were from different backgrounds, different years of Arabic learning (standard and dialects), different universities, different methods of instruction, and of course with different Arabic proficiency level. Some of them were of a very low proficiency, some were intermediate, and some were advanced. Also, there were not enough domain expert participants to provide their feedback on their linguistic needs for the Arabic language.

Conducting the tasks via Zoom limited the researcher as well as the participants to interact effectively. For example, it was not easy to share with the participants any websites as they might harm their computers. Also, it was not an easy task for them to navigate through the task materials such as list of vocabulary, grammar points, and the task prompt via the Power Point Presentation via Zoom.

Also, due to the lack of adequate number of participants to perform the 64 tasks to rank their difficulty, each of the 14 participants had to perform two tasks: Participant 1: performed Task 1 and then rated the task, performed Task 2, and then rated the task.

Participant 2: performed Task 2 and then rated the task, performed Task 3, and then rated the task, and so on. To get accurate data, the same participants should perform the same exact tasks. In this case, the comparison will be held based on the performance of all the participants in the same tasks.

In addition, the current curriculum tackled only two dialects (Egyptian and Levantine) as based on the Needs Analysis. However, other Arabic dialects merit representation in Arabic curriculums as well. For example, the Gulf dialects of countries such as Saudi Arabia, United Arab Emirates, or Qatar should be available for learners due to the economic status of those countries where many people from all over the world might find it a good chance for them to work and live there.

In Phase II study, the procedures were done through Zoom meetings. The researcher asked the participants to hypothetically imagine themselves performing the task for sustainability judgment which is carrying the bucket of water and not performing the actual task of carrying the bucket. This might lead to different results and findings from the study if the students have actually experienced the physical task. Therefore, procedures might lead to different results when the participants have to actually perform both the pedagogic task and the physical tasks and then give their judgements on both tasks.

Finally, in Phase II study, all the domain experts participated in the task difficulty questionnaire were males and there were not any females as domain expert participants. In the future, there should be a better balance of gender.

8.5 Pedagogical Implications

This study is the very first to conduct a rigorous Needs Analysis for the teaching of Arabic as a foreign language in U.S. higher education, and that is task-based. A total of 64

pedagogic tasks were generated from this study. The dissertation is also the first to sequence all pedagogic tasks according to independent cognitive complexity measures, utilizing task sustainability as the most robust measure with which to determine task complexity. The current research thus has important implications for the teaching of Arabic as a foreign language. As indicated from the literature Needs Analysis, Task-Based Language Teaching, and cognitive task complexity have a long history on the teaching of second or foreign languages. Curriculum designer and teachers should always follow those approaches in designing language curriculum. Arabic is a much-needed language in the U.S. and is the fifth-fastest growing language in the nation. This study therefore contributes to resources for the teaching of Arabic, with the hopes to foster greater communicative competence and real-world tasks in this target language.

Also, as advocated by various scholars in the current study, language learners will learn the target language better if they are taught the authentic language native speakers use in their daily life situations and with real *tasks*. Therefore, it will be so helpful for the learners to get them exposed to those types of scenarios in their classrooms. In so doing, learners will achieve their goals from learning. This study aims to contribute to this critical need for tasks for Arabic language learning.

8.6 Implications for Theory

The current research also has its implications for theory. It contributes to the literature that tasks are the best means by which adult second language acquisition can take place. The study also supports the line of scholarship on the best way to sequence tasks in a curriculum as based on their cognitive task complexity. In showing that six independent measures of cognitive complexity were highly correlated (Task difficulty ranking, Time-

on-task judgments, Task difficulty and mental assessment, Stimulated recall, Sustainability judgements, and Task sustainability by language), this research adds to theory by confirming with independent measures the cognitive demands of a task. This study also introduces a new measure in the TBLT literature—task sustainability – as a means by which we can assess a task’s complexity level, thereby informing curricular science. This reiterates the need to sequence pedagogical tasks as based on their complexity and not on linguistic components, as Arabic language curricula tends to do.

8.7 Implications for the Field

This study contributes to the field of second language research. It is the first study to explore the needs of Arabic as a foreign language learners in the U.S. universities with the intention to design a Task-Based Language Teaching curriculum following their needs. It is also the first study to examine the task sustainability subjective judgments as a new measure of Cognitive Task Complexity. In putting forth an entirely task-based Arabic language curricula as based on educational theory and task-based principles, my hope is to contribute to the field for Arabic language study and encourage and motivate more learners to acquire Arabic and be able to use it in their lives meaningfully.

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APPENDICES

Appendix A

Needs Analysis Questionnaire for Students

1. What is your gender?
Male Female Non-binary Prefer to self-describe Prefer not to say
2. What is your ethnicity?
African American Asian Caucasian Hispanic Other
3. What is your age?
4. What is your native language?
5. What is/are the language/s that you speak at home?
6. What is your major?
7. Is foreign language proficiency a degree requirement for your major?
Yes No
8. For how long have you studied Arabic?
9. What do you want to be able to do with the Arabic language? What are your goals from learning Arabic? Choose all that apply.
 - Communicate with family members, relatives, and friends
 - Travel to Arab countries
 - Religious matters
 - Culture
 - Work
 - Education
 - Other. Please specify:
10. Please rate the degree to which you agree with each statement.
Strongly agree agree neutral disagree strongly disagree
 - The teaching of my current/previous Arabic language course is/was teacher centered.
 - The teaching of my current/previous Arabic language course is/was student-centered.

11. Please rate the degree to which you agree with each statement.

Strongly agree agree neutral disagree strongly disagree

- I will learn better if the Arabic course focuses more on grammar.
- I will learn better if the Arabic course focuses more on listening.
- I will learn better if the Arabic course focuses more on pronunciation.
- I will learn better if the Arabic course focuses more on reading.
- I will learn better if the Arabic course focuses more on speaking.
- I will learn better if the Arabic course focuses more on vocabulary.
- I will learn better if the Arabic course focuses more on writing.
- I will learn better if the Arabic course focuses more on real-world activities and daily life scenarios or tasks.

12. Do you want the opportunity to practice Arabic outside class? (e.g., are there things you want to do or experiences and interactions you would like to have but feel you need to speak some Arabic or better Arabic?) Please specify:

13. Would you consider studying abroad?

Yes No

14. What Arabic speaking countries do you know or would like to visit? Would you like to do a study abroad there and why?

15. As you might know, the Arabic language has a standard variety and various colloquial varieties. Do you know which variety/dialect you want to learn?

Yes No

16. Please rank the below varieties from 1 to 5, where 1 is the preferred dialect, you want to learn and 5 is the least dialect you want to learn. (Click on the dialect and drag it to the order of your choice).

- Egyptian
- Gulf (Bahrain, KSA, Kuwait, Oman, Qatar, and UAE)
- Iraqi
- Levantine (Jordan, Lebanon, Syria, and Palestine)
- North African (Libya, Tunisia, Algeria, and Morocco)

17. Please write down five tasks that you need or want to be able to do in Arabic. (For example, ordering food in a restaurant, asking for directions, telling a story, writing an email, etc.)

18. Have you ever used any electronic devices or apps for learning Arabic?

Yes No

19. If you answered yes to the previous question, which devices or apps have you used?
20. Do you have any recommendations to improve Arabic language courses in the United States? Please write your comments.

Appendix B

Needs Analysis Questionnaire for Teachers

1. What is your gender?
Male Female Non-binary Prefer to self-describe Prefer not to say
2. What is your ethnicity?
African American Asian Caucasian Hispanic Other
3. What is your age?
4. What is your native language?
5. For how long have you taught Arabic?
6. What are the reasons for which your students want to use the Arabic language? What are their goals from learning Arabic? Choose all that apply.
 - Communicate with family members, relatives, and friends
 - Travel to Arab countries
 - Religious matters
 - Culture
 - Work
 - Education
 - Other. Please specify:
7. Please rate the degree to which you agree with each statement.
Strongly agree agree neutral disagree strongly disagree
 - The teaching of my current/previous Arabic language course is/was teacher centered.
 - The teaching of my current/previous Arabic language course is/was student-centered.
8. Please rate the degree to which you agree with each statement.
Strongly agree agree neutral disagree strongly disagree
 - Students will learn better if the Arabic course focuses more on grammar.
 - Students will learn better if the Arabic course focuses more on listening.
 - Students will learn better if the Arabic course focuses more on pronunciation.
 - Students will learn better if the Arabic course focuses more on reading.
 - Students will learn better if the Arabic course focuses more on speaking.
 - Students will learn better if the Arabic course focuses more on vocabulary.

- Students will learn better if the Arabic course focuses more on writing.
 - Students will learn better if the Arabic course focuses more on real-world activities and daily life scenarios or tasks.
9. As you might know, the Arabic language has a standard variety and various colloquial varieties. Do you know which variety/dialect your students want to learn?
 Yes No
10. Please rank the below varieties from 1 to 5, where 1 is the preferred dialect, you want to learn and 5 is the least dialect you want to learn. (Click on the dialect and drag it to the order of your choice).
- Egyptian
 - Gulf (Bahrain, KSA, Kuwait, Oman, Qatar, and UAE)
 - Iraqi
 - Levantine (Jordan, Lebanon, Syria, and Palestine)
 - North African (Libya, Tunisia, Algeria, and Morocco)
11. Have you ever used any electronic devices or apps for the teaching of Arabic?
 Yes No
12. If you answered yes to the previous question, what are those devices or apps?
13. Please write down five tasks that you think your students need or want to be able to do in Arabic. (For example, ordering food in a restaurant, asking for directions, telling a story, writing an email, etc.)
14. Do you have any recommendations to improve Arabic language courses in the United States? Please write your comments.
15. Please rate the degree to which you agree with the following statement.
 Strongly agree agree neutral disagree strongly disagree
- I feel supported with Arabic language teaching pedagogy materials and training in my field.

Appendix C

Needs Analysis Questionnaire for Domain Experts

1. What is your gender?
Male Female Non-binary Prefer to self-describe Prefer not to say
2. What is your ethnicity?
African American Asian Caucasian Hispanic Other
3. What is your age?
4. What is your native language?
5. For how long have you studied Arabic?
6. What are the reasons for which learners in the U.S. want to use Arabic? What do you believe are U.S. students' goals from learning Arabic? Choose all that apply.
 - Communicate with family members, relatives, and friends
 - Travel to Arab countries
 - Religious matters
 - Culture
 - Work
 - Education
 - Other. Please specify:
7. Please rate the degree to which you agree with each statement.
Strongly agree agree neutral disagree strongly disagree
 - The teaching of Arabic language courses should be student-centered.
 - The teaching of Arabic language courses should focus more on grammar.
 - The teaching of Arabic language courses should focus more on listening.
 - The teaching of Arabic language courses should focus more on pronunciation.
 - The teaching of Arabic language courses should focus more on reading.
 - The teaching of Arabic language courses should focus more on speaking.
 - The teaching of Arabic language courses should focus more on vocabulary.
 - The teaching of Arabic language courses should focus more on writing.
 - The teaching of Arabic language courses should focus more on real-world activities and daily life scenarios or tasks.
8. Given the situation of the Arabic language with a standard variety and various colloquial varieties, which variety or dialect you use the most in your work?

9. Please rank the below varieties from 1 to 5, where 1 is the preferred dialect, you want to learn and 5 is the least dialect you want to learn. (Click on the dialect and drag it to the order of your choice).
- Egyptian
 - Gulf (Bahrain, KSA, Kuwait, Oman, Qatar, and UAE)
 - Iraqi
 - Levantine (Jordan, Lebanon, Syria, and Palestine)
 - North African (Libya, Tunisia, Algeria, and Morocco)
10. Have you ever used any electronic devices or apps to support you in using Arabic?
Yes No
11. If you answered yes to the previous question, what are those devices or apps?
12. Please write down five tasks, based on your own experience in using Arabic, that you think U.S. students of the Arabic language need to be able to do in Arabic. (For example, ordering food in a restaurant, asking for directions, telling a story, writing an email, etc.)
13. Do you have any recommendations to improve Arabic language courses in the United States? How could Arabic language learning be more effective? Please write your comments.

Appendix D

Needs Analysis Interview Protocol for Students

Thank you for agreeing to meet with me. For my dissertation I am creating a whole new, communicative Arabic-language curriculum that is based off of students' real-world needs. For this, I am seeking insight from experts like to you learn about what real-world applications for the Arabic language our students might need one day. Many of our students aspire to go into diplomacy or international relations/exchanges.

Starting Questions

1. What is your gender?
2. What is your ethnicity?
3. What is your age?
4. What is your native language?
5. What is the language that you speak at home?
6. What is your major?
7. Is foreign language proficiency a degree requirement for your major?
8. How long have you studied Arabic?

Interview Questions

1. Can you please tell me why you are interested in learning Arabic and your goals from learning it? (e.g., communicating with family members, relatives, friends, travel, religious matters, etc.)
2. What are some real-world tasks that you need/needed to be able to do in the Arabic language? (e.g., order a meal, discuss a political event, make a purchase, etc.)
3. How do you see the teaching of Arabic given the Modern Standard Arabic and the regional dialects? What do you recommend to better serve the students given the diglossia case of Arabic?
4. Some Arabic programs offer courses in colloquial Arabic, what is your opinion on that and how do you think an effective and comprehensible curriculum can manage teaching MSA and colloquial Arabic?
5. Do you use any technology tools to help you in the learning process? (e.g., online translators, smartphones applications, etc.). What are those tools?
6. What do you do on your own to improve your linguistic abilities?
7. If you can evaluate this strategy, what do you think is useful/helpful for you in your learning process? (e.g., the sequence of introducing the lesson, starting with generally introducing the topic then describing rules, vocabulary, etc.)
8. If you will be working on a specific lesson or task in your class, what do you think is more useful to you? (meaning, grammar, learning new words)

9. If you could make a recommendation for pedagogic tasks or instruction for the curriculum, what would it be?
10. Any other tips or advice for me on the curriculum design for Arabic beginner learners? What would you like other students to know from your own learning experience?

Appendix E

Needs Analysis Interview Protocol for Teachers

Thank you for agreeing to meet with me. For my dissertation I am creating a whole new, communicative Arabic-language curriculum that is based off of students' real-world needs. For this, I am seeking insight from experts like to you learn about what real-world applications for the Arabic language our students might need one day. Many of our students aspire to go into diplomacy or international relations/exchanges.

Starting Questions

1. What is your gender?
2. What is your ethnicity?
3. What is your age?
4. What is your native language?
5. How long have you taught Arabic?

Interview Questions

1. Can you please tell me about your time or experience with the Middle East? (For example, what country(ies) did you live in or visit?)
2. Please tell me about your Arabic language learning experience. How and where did you learn Arabic? Did you feel prepared?
3. What are some real-world tasks that you think your students need/needed to be able to do in the Arabic language? (e.g., order a meal, discuss a political event, make a purchase, etc.)
4. What could make Arabic language teaching better in the US?
5. How can we encourage more American young people to study Arabic? What would you like students to know from your own experience?
6. How do you see the teaching of Arabic given the Modern Standard Arabic and the regional dialects? What do you recommend to better serve the students given the diglossia case of Arabic?
7. Some Arabic programs offer courses in colloquial Arabic, what is your opinion on that and how do you think an effective and comprehensive curriculum can manage teaching MSA and colloquial Arabic?
8. Do you use any technology tools to help you in the teaching process? (e.g., online translators, smartphone applications, etc.). What are those tools and how do you implement them in your teaching?
9. If you can evaluate this strategy, what do you think is useful/helpful for you in your teaching process? (e.g., the sequence of introducing the lesson, starting with generally introducing the topic then describing rules, vocabulary, etc.)
10. In your teaching, do you use task-based language teaching? What do you think of Task-Based Language Teaching?

11. Do you think that the teaching materials you are currently using (textbooks, etc.) needed any modifications?
12. If you could make a recommendation for pedagogic tasks or instruction for the curriculum, what would it be?
13. Any other tips or advice for me on the curriculum design for Arabic beginner learners?

Appendix F

Needs Analysis Interview Protocol for Domain Experts

Thank you for agreeing to meet with me. For my dissertation I am creating a whole new, communicative Arabic-language beginner curriculum that is based on students' real-world needs. For this, I am seeking insights from experts like you to learn about what real-world applications for the Arabic language our students might need one day. Many of our students aspire to go into diplomacy or international relations/exchanges.

Starting Questions

1. What is your gender?
2. What is your ethnicity?
3. What is your age?
4. What is your native language?

Interview Questions

1. Can you please tell me about your time or experience with the Middle East? (For example, what country(ies) did you live in or visit?)
2. Please tell me about your Arabic language learning experience. How and where did you learn Arabic? Did you feel prepared?
3. How can we encourage more American young people to study Arabic? What would you like students to know from your own experience? What could make Arabic language teaching better in the US?
4. Some Arabic programs offer courses in Colloquial Arabic, what is your opinion on that and how do you think an effective and comprehensive curriculum can manage teaching MSA and Colloquial Arabic? What variety do you use?
5. What are some real-world tasks that you think students need/needed to be able to do in the Arabic language? (e.g., order a meal, asking for directions, make a purchase, etc.)
6. If you could make a recommendation for pedagogic tasks or instruction for the curriculum, what would it be?
7. Do you think technology tools will be helpful for the students in learning the Arabic language? (e.g., online translators, smartphones applications, etc.). What are those tools and how can they be utilized in the teaching/learning process?
8. Any other tips or advice for me on the curriculum design for Arabic beginner learners?

Appendix G

Students' survey after completing each task.

1. Time Judgment Task

In the space below, please write down how many minutes you think it took you to complete the task that you just did. (Comparing the actual time, they took to complete the task and the time they thought it took to complete the task).

2. Task Difficulty Ranking

Using the scale below, please indicate how difficult the following tasks are to successfully carry out:

1 = easy 2 = difficult 3 = very difficult 4 = not applicable

3. Affective Variables Questionnaire

Please tick the appropriate box on the scales below.

- a. This task required ...
... no mental effort at all extremely
great mental effort
1 2 3 4 5 6 7 8 9
- b. This task was ...
... not difficult at all extremely
difficult
1 2 3 4 5 6 7 8 9

4. Stimulated Recall

Instructions (to Be Read to the Participant at the Beginning of the Session):

What we're going to do now is watch a video of the task you just completed. I am interested in knowing what you were thinking at that time during the task. We can see what you were doing in the video, but we don't know what you were thinking. So every time I stop the video, I'd like you to tell me what you were thinking at that time when you were doing the task. If there is any time that you would like to stop and comment on something, just let me know, okay? Do you have any questions? Ready to begin?

For Video 1 and 2 (task 1 and 2) -- ask at least 5 questions (stop video 5 times).

1. What were you thinking here? (Repeat this one)
2. What do you remember thinking at this point during the task?
3. What did you think about your participation in the task at this point?
4. Is there anything else you would like to comment on about this moment?

At the End of the Session:

1. What did you think of the two tasks?
2. Did you think there were differences in difficulty between the tasks you performed?
3. Why did you think they differed in difficulty?
4. Is there anything else you would like to add about the two tasks?

5. Task Sustainability Measures – (Easier)

- a. If you were to **choose between two tasks**, which one would be **easier**?

Language task

Or

stand up and hold a bucket of water for half a minute.

- b. If you were to **choose between two tasks**, which one would be **easier**?

Language task

Or

stand up and hold a bucket of water for 1 minute.

- c. If you were to **choose between two tasks**, which one would be **easier**?

Language task

Or

stand up and hold a bucket of water for 2 minutes.

- d. If you were to **choose between two tasks**, which one would be **easier**?

Language task

Or

stand up and hold a bucket of water for 4 minutes.

6. Task Sustainability Measures – (Choice)

- a. If you were to **choose between two tasks**, which one would you **chose to do**?

Language task

Or

stand up and hold a bucket of water for half a minute.

- b. If you were to **choose between two tasks**, which one would you **chose to do**?

Language task

Or

stand up and hold a bucket of water for 1 minute.

c. If you were to **choose between two tasks**, which one would you **chose to do**?

Language task

Or

stand up and hold a bucket of water for 2 minutes.

d. If you were to **choose between two tasks**, which one would you **chose to do**?

Language task

Or

stand up and hold a bucket of water for 4 minutes.

7. Task Sustainability Measures – (Judgments)

Please click on the answer below YES or NO.

Do you think you can do the “language task” ...

3 times	Yes	No
9 times	Yes	No
27 times	Yes	No
81 times	Yes	No
243 times	Yes	No

8. Task Sustainability Measures

a. If you had to do just **one** task, which task you do you think would be **easier**?

Language task in Arabic 10 times.

Or

Language task in English 80 times.

b. If you had to do just **both** tasks, which one you would do **first**?

Language task in Arabic 10 times.

Or

Language task in English 80 times.

Appendix H

Sample Task

Unit XII: Ordering Food in Restaurants

Learning Objectives:

By the end of Unit XII, students will be able to:

1. Order food in restaurants in Egyptian and Levantine dialects
2. Use suitable grammar forms and vocabulary to do the following tasks:
 - a. Know names of Arabic food items in a restaurant
 - b. Order a meal in an Arab restaurant
 - c. Order food over the phone
 - d. Solve an issue with a check

Task b: Order a meal in an Arab restaurant.

Task Scenario

Record yourself and your partner in which you both are going to an Arab restaurant to eat dinner. Make a dialogue with your partner to order the meals. Make the dialogue twice, one time you are the customer, and your partner is the waiter, then switch roles. Make sure that each one of you will choose something different. Make sure also to answer questions in affirmatives and negations. (Egyptian and/or Levantine dialects).

Grammar Focus:

- Present tense verbs – (eat, drink, have, like, try)
- Negation of present tense – (no)
- Yes/No Questions – (Do, Does)
- “Of” and “’s” structure – (Idafa)
- Requesting expressions – (please, could you please)

Vocabulary to Revisit:

- meal
- names of dishes/meals

Vocabulary to Use:

- a cup of water
- a kilo of kabab
- a plate of rice

- a bowl of salad
- desserts

Step 1: (Plan). Read the below menu and think of the meals you will order at the restaurant

(Individual)



Step 2: (Practice). Make a small dialogue with your partner to order the meals, take turns in being the customer and the waiter. Make sure to follow the below instructions when placing the order. (Pairs)

- Greet the customer
- Ask for what to drink
- Start to order the food

الوحدة ١٢ : طلب الطعام في المطاعم

الأهداف التعليمية:

بنهاية الوحدة الثانية عشرة، سيكون الطلاب قادرين على:

١. طلب الطعام في المطاعم العربية باللهجتين المصرية والشامية.
٢. استخدام القواعد والمفردات للقيام بالمهمات التالية.
 - أ. معرفة أسماء الأطعمة العربية في المطاعم
 - ب. طلب وجبة في مطعم عربي
 - ج. طلب الطعام عبر الهاتف
 - د. حل مشكلة في الفاتورة عند الدفع

مهمة ب: طلب وجبة في مطعم عربي

سيناريو المهمة

قم بتسجيل فيديو لنفسك ولزميلك حيث ستذهبان معا إلى مطعم عربي لتناول العشاء. قم بإجراء حوار مع زميلك لطلب الوجبات. قم بإجراء الحوار مرتين، مرة تكون أنت العميل، وزميلك هو النادل، ثم تبادلا الأدوار. تأكدا من أن كل واحد منكما سيختار شيئاً مختلفاً. تأكدا أيضا من الإجابة على الأسئلة بالإيجاب والنفى. (اللهجتين المصرية و/أو الشامية).

القواعد:

- الزمن المضارع – (يأكل – يشرب – يحب – يجرب)
- نفي الزمن المضارع (لا)
- الأسئلة والأجوبة (نعم/لا)
- الإضافة
- عبارات الطلب - (من فضلك، هل يمكنك من فضلك؟)

مراجعة المفردات السابقة:

- وجبة
- أسماء الأطباق/الوجبات

المفردات:

- كوب ماء
- كيلو كباب
- طبق أزر
- طبق سلطة
- الحلويات

أولاً: اقرأ قائمة الطعام التالية واختر الأطعمة التي تريد أن تطلبها في المطعم. (اعمل بمفردك)

الدّهان 250
الأكل .. بتاع زمان
19554

* تقدم جميع المشروبات مع ١٢ سندوتش والخبز

السلطات
طاجين - ياكيا غلوس - زبادي - ثومبسة - بقدونس
خيار او فطاطم مختلفة
6 جنيه

أطباق جانبية
سجق 19 جنيه
صبيان 19 جنيه
وردة عجب 15 جنيه
ملونجية 15 جنيه
الحنو
أرز بالكلمة 19 جنيه
كاريه خرافه 15 جنيه
أم علي 19 جنيه

المشروبات
كوكاكولا - قاتنا - سبرايت 6 جنيه
لوهوون بالهفام 8 جنيه
مياه صافرة 5 جنيه

ميكسد الدهان (كباب / كفتة / شيشك)
٢٠٠ جرام 53 جنيه
١/٢ كيلو 81 جنيه
١ كيلو 162 جنيه

كفتة / طرب الدهان
٢٠٠ جرام 45 جنيه
١/٢ كيلو 70 جنيه
١ كيلو 140 جنيه

كباب وكفتة مشكد (ضاني - بتلو)
٢٠٠ جرام 56 جنيه
١/٢ كيلو 86 جنيه
١ كيلو 172 جنيه

كباب صافي (ضاني - بتلو)
٢٠٠ جرام 69 جنيه
١/٢ كيلو 110 جنيه
١ كيلو 219 جنيه

فتة الدهان
٢٠٠ جرام 64 جنيه
١/٢ كيلو 99 جنيه
١ كيلو 199 جنيه

فتة شورما
٢٠٠ جرام 75 جنيه
١/٢ كيلو 55 جنيه
١ كيلو 32 جنيه

ريشك ضاني - بتلو
٢٠٠ جرام 67 جنيه
١/٢ كيلو 105 جنيه
١ كيلو 210 جنيه

فتة بالاصولة
٢٠٠ جرام 70 جنيه
١/٢ كيلو 110 جنيه
١ كيلو 220 جنيه

فتة بالاصولة
٢٠٠ جرام 70 جنيه
١/٢ كيلو 110 جنيه
١ كيلو 220 جنيه

ثانياً: قم بإجراء حوار صغير مع زميلك لطلب الوجبات، وتبادلاً الأدوار بحيث تكون في مرة الزيتون ومرة أخرى والنادل. (اعمل مع زميلك).

- قم بتحية الزيتون
- اسأل عن ماذا يريد أن يأكل أو يشرب
- ابدأ في طلب الطعام

Appendix I



ADULT ONLINE CONSENT TO PARTICIPATE IN A RESEARCH STUDY

Task-Based Language Teaching and Arabic as a Foreign Language: A Needs Analysis for Curriculum Design

SUMMARY INFORMATION

Things you should know about this study:

- **Purpose:** The purpose of the study is to investigate the college level/adults learners' needs in learning Arabic as a Foreign Language. Students', teachers', and language program coordinators' perceptions are being investigated.
- **Procedures:** If you choose to participate, you will be asked to write down answers on a questionnaire.
- **Duration:** This will take about 10 minutes of your time.
- **Risks:** The main risk or discomfort from this research is feeling uncomfortable thinking of questions on languages' learning while answering the questionnaire's questions.
- **Benefits:** The main benefit to you from this research is that we will have a better understanding of: 1) what are the linguistic and the non-linguistic needs of learners' of Arabic as a foreign language. 2) the learners' goals from learning Arabic as a foreign language and the learners' expectations of the language programs to consider while developing a foreign language curriculum for the teaching of Arabic.
- **Alternatives:** There are no known alternatives to participating in this study.
- **Participation:** Taking part in this research project is voluntary.

Please carefully read the entire document before agreeing to participate.

PURPOSE OF THE STUDY

The purpose of this study is to investigate the college level students and adult learners' needs in learning Arabic as a Foreign Language to consider in developing a beginner-level Arabic curriculum. Students', teachers', language program coordinators', and domain experts' perceptions are being investigated.

NUMBER OF STUDY PARTICIPANTS

If you decide to be in this study, you will be one of 500 people in this research study.

DURATION OF THE STUDY

Your participation will require about 5-10 minutes to fill out a questionnaire.

PROCEDURES

If you agree to be in the study, we will ask you to do the following things:

1. Write down answers on a questionnaire.

RISKS AND/OR DISCOMFORTS

The study has the following possible risks to you: to share your previous unpleasant experience from learning a foreign language in the past. This could make you uncomfortable.

BENEFITS

The study has the following possible benefits to you:

- a better understanding of the linguistic and the non-linguistic needs of learners of Arabic as a foreign language.
- a better understanding of learners' goals from learning Arabic as a foreign language and the learners' expectations of the language programs to consider while developing a foreign language curriculum for the teaching of Arabic.

ALTERNATIVES

There are no alternatives to participating in this study.

CONFIDENTIALITY

The records of this study will be kept private and will be protected to the fullest extent provided by law. In any sort of report we might publish, we will not include any information that will make it possible to identify you. Research records will be stored securely and only the researcher team will have access to the records. However, your records may be inspected by authorized University or other agents who will also keep the information confidential.

All data will be de-identified and stored on the personal laptop owned by the Author and the Investigator, Noha Elsakka with passwords only known by the owner, Noha Elsakka.

USE OF YOUR INFORMATION

Your responses to the study survey will be totally anonymous. The study will not collect any information that will show or reveal any of your personal identification information.

COMPENSATION & COSTS

There are no costs to you for participating in this study.

RIGHT TO DECLINE OR WITHDRAW

Your participation in this study is voluntary. You are free to participate in the study, skip any questions you do not want to answer, or withdraw your consent at any time during the study. You will not lose any benefits if you decide not to participate or if you quit the study early. The investigator reserves the right to remove you without your consent at such time that he/she feels it is in the best interest.

RESEARCHER CONTACT INFORMATION

If you have any questions about the purpose, procedures, or any other issues relating to this research study you may contact Dr. Melissa Baralt at Florida International University, DM 499, 305-348-2854, mbaralt@fiu.edu and Noha Elsakka at Florida International University, nelsa005@fiu.edu.

IRB CONTACT INFORMATION

If you would like to talk with someone about your rights of being a subject in this research study or about ethical issues with this research study, you may contact the FIU Office of Research Integrity by phone at 305-348-2494 or by email at ori@fiu.edu.

PARTICIPANT AGREEMENT

I have read the information in this consent form and agree to participate in this study. I have had a chance to ask any questions I have about this study, and they have been answered for me. By clicking on the “consent to participate” button below I am providing my informed consent.

(Insert Consent to Participate Button Here on the Website)

Appendix J



ADULT ONLINE CONSENT TO PARTICIPATE IN A RESEARCH STUDY

Task-Based Language Teaching and Arabic as a Foreign Language: A Needs Analysis for Curriculum Design

SUMMARY INFORMATION

Things you should know about this study:

- **Purpose:** The purpose of the study is to investigate the college level students and adult learners' needs in learning Arabic as a Foreign Language. Students', teachers', and language program coordinators' perceptions are being investigated.
- **Procedures:** If you choose to participate, you will be asked to orally answer questions during an interview.
- **Duration:** This will take about 40 minutes of your time.
- **Risks:** The main risk or discomfort from this research is feeling uncomfortable talking about questions on languages' learning while being audio and video recorded.
- **Benefits:** The main benefit to you from this research is that we will have a better understanding of: 1) what are the linguistic and the non-linguistic needs of learners' of Arabic as a foreign language. 2) the learners' goals from learning Arabic as a foreign language and the learners' expectations of the language programs to consider while developing a foreign language curriculum for the teaching of Arabic.
- **Alternatives:** There are no known alternatives to participating in this study.
- **Participation:** Taking part in this research project is voluntary.

Please carefully read the entire document before agreeing to participate.

PURPOSE OF THE STUDY

The purpose of this study is to investigate the college level students and adult learners' needs in learning Arabic as a Foreign Language to consider in developing a beginner-level Arabic curriculum. Students', teachers', language program coordinators', and domain experts' perceptions are being investigated.

NUMBER OF STUDY PARTICIPANTS

If you decide to be in this study, you will be one of 500 people in this research study.

DURATION OF THE STUDY

Your participation will require to participate in a 40-minute long interview via Zoom. The interview will also be audio and video recorded to help the researcher in transcribing and analyzing the interview content later for the purpose of the study.

PROCEDURES

If you agree to be in the study, we will ask you to do the following things:

1. Orally answer questions during a Zoom meeting interview.

RISKS AND/OR DISCOMFORTS

The study has the following possible risks to you: First, sharing previous experience from learning a foreign language in the past that might be unpleasant to you. This could make you uncomfortable. Second, we will audio and video record the interview with the recording option on Zoom. This may make you feel uncomfortable as well. Please be reminded that your identity will always remain private under the law.

BENEFITS

The study has the following possible benefits to you:

- a better understanding of the linguistic and the non-linguistic needs of learners of Arabic as a foreign language.
- a better understanding of learners' goals from learning Arabic as a foreign language and the learners' expectations of the language programs to consider while developing a foreign language curriculum for the teaching of Arabic.

ALTERNATIVES

There are no alternatives to participating in this study.

CONFIDENTIALITY

The interview will be audio and video recorded on Zoom so the researcher can transcribe the data and use it later for the study. The records of this study will be kept private and will be protected to the fullest extent provided by law. In any sort of report we might publish, we will not include any information that will make it possible to identify you. Also, if you will mention your real name during the interview, the Investigator, Noha Elsakka will delete all the names and give a pseudonym to maintain and keep the confidentiality. Research records will be stored securely, and only the researcher team will have access to the records. However, your records may be inspected by authorized University or other agents who will also keep the information confidential.

All data will be de-identified and stored on the personal laptop owned by the Author and the Investigator, Noha Elsakka with passwords only known by the owner, Noha Elsakka.

USE OF YOUR INFORMATION

The study will not collect any information that will show or reveal any of your personal identification information. Your information collected as part of the research will not be used or distributed for future research studies even if identifiers are removed.

COMPENSATION & COSTS

There are no costs to you for participating in this study.

RIGHT TO DECLINE OR WITHDRAW

Your participation in this study is voluntary. You are free to participate in the study, skip any questions you do not want to answer, or withdraw your consent at any time during the study. You will not lose any benefits if you decide not to participate or if you quit the study early. The Investigator reserves the right to remove you without your consent at such time that he/she feels it is in the best interest.

RESEARCHER CONTACT INFORMATION

If you have any questions about the purpose, procedures, or any other issues relating to this research study you may contact Dr. Melissa Baralt at Florida International University, DM 499, 305-348-2854, mbaralt@fiu.edu and Noha Elsakka at Florida International University, nelsa005@fiu.edu.

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If you would like to talk with someone about your rights of being a subject in this research study or about ethical issues with this research study, you may contact the FIU Office of Research Integrity by phone at 305-348-2494 or by email at ori@fiu.edu.

PARTICIPANT AGREEMENT

I have read the information in this consent form and agree to participate in this study. I have had a chance to ask any questions I have about this study, and they have been answered for me. By clicking on the “consent to participate” button below I am providing my informed consent.

(Insert Consent to Participate Button Here on the Website)

Appendix K



ADULT ONLINE CONSENT TO PARTICIPATE IN A RESEARCH STUDY

Task-Based Language Teaching and Arabic as a Foreign Language: A Needs Analysis for Curriculum Design

SUMMARY INFORMATION

Things you should know about this study:

- **Purpose:** The purpose of the study is to investigate the college level students and adult learners' needs in learning Arabic as a Foreign Language. Students', teachers', and language program coordinators' perceptions are being investigated.
- **Procedures:** If you choose to participate, you will be asked to orally answer questions during an interview.
- **Duration:** This will take about 40 minutes of your time.
- **Risks:** The main risk or discomfort from this research is feeling uncomfortable talking about questions on languages' learning while being audio and video recorded. However, you have the right to refuse to be "video recorded" and in this case, the interview will be "audio recorded" only.
- **Benefits:** The main benefit to you from this research is that we will have a better understanding of: 1) what are the linguistic and the non-linguistic needs of learners' of Arabic as a foreign language. 2) the learners' goals from learning Arabic as a foreign language and the learners' expectations of the language programs to consider while developing a foreign language curriculum for the teaching of Arabic.
- **Alternatives:** Students may choose to do an extra assignment instead to receive extra credit.
- **Participation:** Taking part in this research project is voluntary.

Please carefully read the entire document before agreeing to participate.

PURPOSE OF THE STUDY

The purpose of this study is to investigate the college level students and adult learners' needs in learning Arabic as a Foreign Language to consider in developing a beginner-level Arabic curriculum. Students', teachers', language program coordinators', and domain experts' perceptions are being investigated.

NUMBER OF STUDY PARTICIPANTS

If you decide to be in this study, you will be one of 500 people in this research study.

DURATION OF THE STUDY

Your participation will require to participate in a 40-minute-long interview via Zoom. The interview will also be audio and video recorded to help the researcher in transcribing and analyzing the interview content later for the purpose of the study. However, you have the right to refuse to be “video recorded” and in this case, the interview will be “audio recorded” only.

PROCEDURES

If you agree to be in the study, we will ask you to do the following things:

1. Orally answer questions during a Zoom meeting interview.

RISKS AND/OR DISCOMFORTS

The study has the following possible risks to you: First, sharing previous experience from learning a foreign language in the past that might be unpleasant to you. This could make you uncomfortable. Second, we will audio and video record the interview with the recording option on Zoom. This may make you feel uncomfortable as well. However, you have the right to refuse to be “video recorded” and in this case, the interview will be “audio recorded” only. Please be reminded that your identity will always remain private under the law.

BENEFITS

The study has the following possible benefits to you:

- a better understanding of the linguistic and the non-linguistic needs of learners of Arabic as a foreign language.
- a better understanding of learners’ goals from learning Arabic as a foreign language and the learners’ expectations of the language programs to consider while developing a foreign language curriculum for the teaching of Arabic.

ALTERNATIVES

Students who do not wish to participate but would like to have the opportunity to receive extra credit may do so by completing an alternative extra assignment to practice language production. This will be decided upon by the instructor.

CONFIDENTIALITY

The interview will be audio and video recorded on Zoom so the researcher can transcribe the data and use it later for the study. However, you have the right to refuse to be “video recorded” and in this case, the interview will be “audio recorded” only. The records of this study will be kept private and will be protected to the fullest extent provided by law. In any sort of report we might publish, we will not include any information that will make it possible to identify you. Also, if you will mention your real name during the interview, the Investigator, Noha Elsakka will delete all the names and give a pseudonym to maintain and keep the confidentiality. Research records will be stored securely, and only the researcher

team will have access to the records. However, your records may be inspected by authorized University or other agents who will also keep the information confidential. All data will be de-identified and stored on the personal laptop owned by the Author and the Investigator, Noha Elsakka with passwords only known by the owner, Noha Elsakka.

USE OF YOUR INFORMATION

The study will not collect any information that will show or reveal any of your personal identification information. Your information collected as part of the research will not be used or distributed for future research studies even if identifiers are removed.

COMPENSATION & COSTS

Student participants will have the opportunity to receive an extra credit to be applied to their classwork in Arabic class if they choose to participate in the interview. This will be decided upon by the instructor.

Students who do not wish to participate but would like to have the opportunity to receive extra credit may do so by completing an alternative extra assignment to practice language production. This will be decided upon by the instructor.

RIGHT TO DECLINE OR WITHDRAW

Your participation in this study is voluntary. You are free to participate in the study, skip any questions you do not want to answer, or withdraw your consent at any time during the study. You will not lose any benefits if you decide not to participate or if you quit the study early. The Investigator reserves the right to remove you without your consent at such time that he/she feels it is in the best interest.

RESEARCHER CONTACT INFORMATION

If you have any questions about the purpose, procedures, or any other issues relating to this research study you may contact Dr. Melissa Baralt at Florida International University, DM 499, 305-348-2854, mbaralt@fiu.edu and Noha Elsakka at Florida International University, nelsa005@fiu.edu.

IRB CONTACT INFORMATION

If you would like to talk with someone about your rights of being a subject in this research study or about ethical issues with this research study, you may contact the FIU Office of Research Integrity by phone at 305-348-2494 or by email at ori@fiu.edu.

PARTICIPANT AGREEMENT

I have read the information in this consent form and agree to participate in this study. I have had a chance to ask any questions I have about this study, and they have been answered for me. By clicking on the “consent to participate” button below I am providing my informed consent.

(Insert Consent to Participate Button Here on the Website)

Appendix L



ADULT ONLINE CONSENT TO PARTICIPATE IN A RESEARCH STUDY

Task-Based Language Teaching and Arabic as a Foreign Language: A Needs Analysis for Curriculum Design

SUMMARY INFORMATION

Things you should know about this study:

- **Purpose:** The purpose of the study is to investigate the college level students and adult learners' needs in learning Arabic as a Foreign Language. Students', teachers', and language program coordinators' perceptions are being investigated.
- **Procedures:** If you choose to participate, you will be asked to orally answer questions during an interview.
- **Duration:** This will take about 40 minutes of your time.
- **Risks:** The main risk or discomfort from this research is feeling uncomfortable talking about questions on languages' learning while being audio and video recorded. However, you have the right to refuse to be "video recorded" and in this case, the interview will be "audio recorded" only.
- **Benefits:** The main benefit to you from this research is that we will have a better understanding of: 1) what are the linguistic and the non-linguistic needs of learners' of Arabic as a foreign language. 2) the learners' goals from learning Arabic as a foreign language and the learners' expectations of the language programs to consider while developing a foreign language curriculum for the teaching of Arabic.
- **Alternatives:** There are no known alternatives to participating in this study.
- **Participation:** Taking part in this research project is voluntary.

Please carefully read the entire document before agreeing to participate.

PURPOSE OF THE STUDY

The purpose of this study is to investigate the college level students and adult learners' needs in learning Arabic as a Foreign Language to consider in developing a beginner-level Arabic curriculum. Students', teachers', language program coordinators', and domain experts' perceptions are being investigated.

NUMBER OF STUDY PARTICIPANTS

If you decide to be in this study, you will be one of 500 people in this research study.

DURATION OF THE STUDY

Your participation will require to participate in a 40-minute-long interview via Zoom. The interview will also be audio and video recorded to help the researcher in transcribing and analyzing the interview content later for the purpose of the study. However, you have the right to refuse to be “video recorded” and in this case, the interview will be “audio recorded” only.

PROCEDURES

If you agree to be in the study, we will ask you to do the following things:

1. Orally answer questions during a Zoom meeting interview.

RISKS AND/OR DISCOMFORTS

The study has the following possible risks to you: First, sharing previous experience from learning a foreign language in the past that might be unpleasant to you. This could make you uncomfortable. Second, we will audio and video record the interview with the recording option on Zoom. This may make you feel uncomfortable as well. However, you have the right to refuse to be “video recorded” and in this case, the interview will be “audio recorded” only. Please be reminded that your identity will always remain private under the law.

BENEFITS

The study has the following possible benefits to you:

- a better understanding of the linguistic and the non-linguistic needs of learners of Arabic as a foreign language.
- a better understanding of learners’ goals from learning Arabic as a foreign language and the learners’ expectations of the language programs to consider while developing a foreign language curriculum for the teaching of Arabic.

ALTERNATIVES

There are no alternatives to participating in this study.

CONFIDENTIALITY

The interview will be audio and video recorded on Zoom so the researcher can transcribe the data and use it later for the study. However, you have the right to refuse to be “video recorded” and in this case, the interview will be “audio recorded” only. The records of this study will be kept private and will be protected to the fullest extent provided by law. In any sort of report we might publish, we will not include any information that will make it possible to identify you. Also, if you will mention your real name during the interview, the Investigator, Noha Elsakka will delete all the names and give a pseudonym to maintain and keep the confidentiality. Research records will be stored securely, and only the researcher team will have access to the records. However, your records may be inspected by authorized University or other agents who will also keep the information confidential.

All data will be de-identified and stored on the personal laptop owned by the Author and the Investigator, Noha Elsakka with passwords only known by the owner, Noha Elsakka.

USE OF YOUR INFORMATION

The study will not collect any information that will show or reveal any of your personal identification information. Your information collected as part of the research will not be used or distributed for future research studies even if identifiers are removed.

COMPENSATION & COSTS

Instructor participants who participate in the interview will have the opportunity to receive a \$20 Amazon E-Gift Card for their time.

Student participants who participate in the interview will have the opportunity to receive a \$20 Amazon E-Gift Card for their time.

RIGHT TO DECLINE OR WITHDRAW

Your participation in this study is voluntary. You are free to participate in the study, skip any questions you do not want to answer, or withdraw your consent at any time during the study. You will not lose any benefits if you decide not to participate or if you quit the study early. The Investigator reserves the right to remove you without your consent at such time that he/she feels it is in the best interest.

RESEARCHER CONTACT INFORMATION

If you have any questions about the purpose, procedures, or any other issues relating to this research study you may contact Dr. Melissa Baralt at Florida International University, DM 499, 305-348-2854, mbaralt@fiu.edu and Noha Elsakka at Florida International University, nelsa005@fiu.edu.

IRB CONTACT INFORMATION

If you would like to talk with someone about your rights of being a subject in this research study or about ethical issues with this research study, you may contact the FIU Office of Research Integrity by phone at 305-348-2494 or by email at ori@fiu.edu.

PARTICIPANT AGREEMENT

I have read the information in this consent form and agree to participate in this study. I have had a chance to ask any questions I have about this study, and they have been answered for me. By clicking on the “consent to participate” button below I am providing my informed consent.

(Insert Consent to Participate Button Here on the Website)

Appendix M



ADULT ONLINE CONSENT TO PARTICIPATE IN A RESEARCH STUDY

Task-Based Language Teaching and Arabic as a Foreign Language: A Needs Analysis and Curriculum

SUMMARY INFORMATION

Things you should know about this study:

- **Purpose:** The purpose of the study is to investigate the college level/adult learners' needs in learning Arabic as a Foreign Language. Students', teachers', and language program coordinators' perceptions are being investigated.
- **Procedures:** If you choose to participate, you will be asked to do three short tasks, all via Zoom. First, you will do a language learning task in Arabic. Second, you will answer some questions about the task and what you thought of it. Third, you will answer questions in an online questionnaire.
- **Duration:** This will take about 30-60 minutes of your time.
- **Risks:** The main risk or discomfort from this research is feeling uncomfortable having the meeting recorded. Some participants might also feel uncomfortable answering questions about language learning.
- **Benefits:** The main benefit to you from this research is that we will have a better understanding of: 1) the linguistic and the non-linguistic needs of learners' of Arabic as a foreign language; 2) learners' goals from learning Arabic as a foreign language and the learners' expectations of the language programs to consider while developing a foreign language curriculum for the teaching of Arabic.
- **Alternatives:** There are no known alternatives to participating in this study.
- **Participation:** Taking part in this research project is voluntary.

Please carefully read the entire document before agreeing to participate.

PURPOSE OF THE STUDY

The purpose of this study is to investigate the college level students and adult learners' needs in learning Arabic as a Foreign Language to consider in developing a beginner-level Arabic curriculum. Students', teachers', language program coordinators', and domain experts' perceptions are being investigated.

NUMBER OF STUDY PARTICIPANTS

If you decide to be in this study, you will be one of 500 people in this research study.

DURATION OF THE STUDY

Your participation will require about 30-60 minutes of your time.

PROCEDURES

If you agree to be in the study, we will ask you to do the following things:

1. Meet with the researcher on Zoom.
2. Do a language learning task in Arabic.
3. Answer some questions about the task and what you thought of it.
4. Answer questions in an online questionnaire.

RISKS AND/OR DISCOMFORTS

The study has the following possible risks to you: feeling uncomfortable having the meeting recorded and answering questions about language learning.

BENEFITS

The study has the following possible benefits to you:

- a better understanding of the linguistic and the non-linguistic needs of learners of Arabic as a foreign language.
- a better understanding of learners' goals from learning Arabic as a foreign language and the learners' expectations of the language programs to consider while developing a foreign language curriculum for the teaching of Arabic.

ALTERNATIVES

There are no alternatives to participating in this study.

CONFIDENTIALITY

The records of this study will be kept private and will be protected to the fullest extent provided by law. In any sort of report we might publish, we will not include any information that will make it possible to identify you. Research records will be stored securely and only the researcher team will have access to the records. However, your records may be inspected by authorized University or other agents who will also keep the information confidential.

All data will be de-identified and stored on password-protected computers at FIU.

USE OF YOUR INFORMATION

Your responses to the study survey will be totally anonymous. The study will not collect any information that will show or reveal any of your personal identification information.

COMPENSATION & COSTS

Participants will have the opportunity to receive \$20 Amazon e-Gift Card for their time.

RIGHT TO DECLINE OR WITHDRAW

Your participation in this study is voluntary. You are free to participate in the study or withdraw your consent at any time during the study. You will not lose any benefits if you decide not to participate or if you quit the study early. The investigator reserves the right to remove you without your consent at such time that he/she feels it is in the best interest.

RESEARCHER CONTACT INFORMATION

If you have any questions about the purpose, procedures, or any other issues relating to this research study you may contact Dr. Melissa Baralt at Florida International University, DM 499, 305-348-2854, mbaralt@fiu.edu and Noha Elsakka at Florida International University, nelsa005@fiu.edu.

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PARTICIPANT AGREEMENT

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Appendix N



ADULT ONLINE CONSENT TO PARTICIPATE IN A RESEARCH STUDY

Task-Based Language Teaching and Arabic as a Foreign Language: A Needs Analysis and Curriculum

SUMMARY INFORMATION

Things you should know about this study:

- **Purpose:** The purpose of the study is to investigate the college level/adult learners' needs in learning Arabic as a Foreign Language. Students', teachers', and language program coordinators' perceptions are being investigated.
- **Procedures:** If you choose to participate, you will be asked to fill out an online questionnaire on Arabic as a foreign language learning tasks.
- **Duration:** This will take about 15-20 minutes of your time.
- **Risks:** The main risk or discomfort from this research is feeling uncomfortable answering questions about language learning tasks.
- **Benefits:** The main benefit to you from this research is that we will have a better understanding of: 1) the linguistic and the non-linguistic needs of learners' of Arabic as a foreign language; 2) learners' goals from learning Arabic as a foreign language and the learners' expectations of the language programs to consider while developing a foreign language curriculum for the teaching of Arabic.
- **Alternatives:** There are no known alternatives to participating in this study.
- **Participation:** Taking part in this research project is voluntary.

Please carefully read the entire document before agreeing to participate.

PURPOSE OF THE STUDY

The purpose of this study is to investigate the college level students and adult learners' needs in learning Arabic as a Foreign Language to consider in developing a beginner-level Arabic curriculum. Students', teachers', language program coordinators', and domain experts' perceptions are being investigated.

NUMBER OF STUDY PARTICIPANTS

If you decide to be in this study, you will be one of 500 people in this research study.

DURATION OF THE STUDY

Your participation will require about 15-20 minutes to fill out an online questionnaire.

PROCEDURES

If you agree to be in the study, we will ask you to do the following things:

1. Fill out an online questionnaire on Arabic as a foreign language learning tasks.

RISKS AND/OR DISCOMFORTS

The study has the following possible risks to you: answering questions about language learning tasks.

BENEFITS

The study has the following possible benefits to you:

- a better understanding of the linguistic and the non-linguistic needs of learners of Arabic as a foreign language.
- a better understanding of learners' goals from learning Arabic as a foreign language and the learners' expectations of the language programs to consider while developing a foreign language curriculum for the teaching of Arabic.

ALTERNATIVES

There are no alternatives to participating in this study.

CONFIDENTIALITY

The records of this study will be kept private and will be protected to the fullest extent provided by law. In any sort of report we might publish, we will not include any information that will make it possible to identify you. Research records will be stored securely and only the researcher team will have access to the records. However, your records may be inspected by authorized University or other agents who will also keep the information confidential.

All data will be de-identified and stored on password-protected computers at FIU.

USE OF YOUR INFORMATION

Your responses to the study survey will be totally anonymous. The study will not collect any information that will show or reveal any of your personal identification information.

COMPENSATION & COSTS

Participants will have the opportunity to receive \$20 Amazon e-Gift Card for their time.

RIGHT TO DECLINE OR WITHDRAW

Your participation in this study is voluntary. You are free to participate in the study or withdraw your consent at any time during the study. You will not lose any benefits if you decide not to participate or if you quit the study early. The investigator reserves the right to remove you without your consent at such time that he/she feels it is in the best interest.

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(Insert Consent to Participate Button Here on the Website)

VITA

NOHA SOLIMAN ELSAKKA

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1997-2001

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PUBLICATIONS

Baralt, M., Doscher, S., Boukerrou, L., Bogosian, B., Elmeligi, W., Hdouch, Y., Istifan, J., Nemouch, A., Khachatryan, T., Elsakka, N., Arana, F., Perez, G., Cobos-Solis, J., Mouchane, S., Vassigh, S. (2023). Virtual Tabadul: Creating language-learning community through virtual reality. *Journal of International Students*.