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Preparing Tutors for Assessment, Data-based Instruction, and Reflective Practice

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Abstract

This international survey-design study gathered data from 22 literacy clinic directors to garner their insights on how they prepare tutors to work with struggling readers. The respondents describe how they guide tutors to use assessment data to inform instructional decisions about lesson plan design, strategic approaches, texts, and resources. The results also elucidate how tutors reflect on their lessons based on feedback about their tutoring and the impacts on their students. There is an illustration of how literacy clinics support tutors to provide enhanced instruction while contributing to an understanding of the role of literacy clinics within teacher education.

Introduction

In this study, we examined literacy clinics from the perspective of instructional design and assessment data use. Literacy clinics are an important component of teacher preparation and have been in action at universities for more than a hundred years (Msengi & Laster, 2022). These clinic experiences give pre-service and in-service teachers opportunities to observe, evaluate, and tutor students in various aspects of reading (Laster et al., 2024; Pletcher et al., 2019; Rogers et al., 2023; Vokatis & Gibbins, 2023a; Vokatis & Gibbins, 2023b). Literacy clinics also serve the community by providing students and their families with timely diagnosis and small group or one-on-one instruction tailored to their specific needs (Dozier & Deeney, 2013). During the pandemic, literacy clinics were essential in supporting students' reading development, facilitating access to reading and writing material, and communicating with families. In multiple and creative formats, tutors made sure that children from urban and rural contexts continued learning despite school closings.

While there is considerable research that has examined various aspects of literacy clinics such as implementation, materials, and tutee outcomes, literacy professionals know less about how literacy clinics are structured to ensure that teachers are well-equipped to teach reading and writing once they leave the university (Morris, 2003; Pletcher et al., 2019). Specifically, there is a need to better understand how instruction and assessment are framed in the context of a literacy clinic, how clinic instructors provide feedback to pre-service and in-service teachers, and how future teachers use that feedback to make instructional decisions and become reflective practitioners. In this study, we explored these topics using quantitative and qualitative data from survey responses. We acknowledge that

literacy clinics vary consistently across geographical and cultural contexts, and some function with pre-service and/or in-service teachers as tutors, but argue that identifying common practices, themes, and approaches can be helpful to understand the role of literacy clinics in teacher education programs.

The research questions that guided this study were: What are the key components of literacy clinics' courses, tutoring sessions, and resources? How are tutors supported to create data-based tutoring lessons with supervisor feedback and reflections?

Literature Review

In this section, we synthesize previous research in which researchers addressed the two topics of interest. The first section focuses on the key components of literacy clinics' courses, tutoring sessions, and resources, and discusses findings regarding how literacy clinics prepare pre-service and in-service teachers for reading and writing tutoring. The second section focuses on instructional frameworks that guide clinical practices. In this section, we place special emphasis on the kinds of support that tutors receive to create data-based tutoring lessons with supervisor feedback and reflections. We end the literature review with a brief discussion of the main findings and research gaps.

Research on key components of literacy clinics

Herein, we summarize the key components of literacy clinics which include the courses to which they are anchored, the degrees/credentials that these courses lead to, the length of tutoring sessions, what kinds of texts and other resources clinic instructors use, assessment materials, and the impact on student literacy development from literacy clinic instruction, including what counts as evidence.

In the late 1980s, Shulman (1986) defined pedagogical content knowledge as the combination of content knowledge (what is taught) with the methods to teach it (how it is taught). Effective teaching requires a careful understanding of the content as well as several instructional methods to deliver such content. Teacher education relies on several ways in which pre-service and in-service teachers can acquire pedagogical content knowledge, including apprentice of observation, content knowledge acquisition, teacher education, and classroom experience (Darling-Hammond, 2020; Ronfeldt, 2021; Zeichner, 1988)**.** One of the key aspects of pedagogical content knowledge that elementary teachers need to be well equipped with is reading. Reading is a complex, multidimensional skill, and being a competent reader is essential to academic success. Therefore, all teachers must have strong pedagogical content knowledge in reading. To this end, practicum experiences in literacy clinics provide the opportunity to put this pedagogical content knowledge into practice (Pletcher et al., 2019).

In a recent article on literacy tutoring and mentoring in teacher education programs, Hoffman et al. (2019) identified structural and design features of literacy teaching experiences as well as pre-service teacher learning and growth opportunities within and beyond tutorial/mentoring experiences. They examined 62 studies that reported findings from university-based tutoring programs, mainly with pre-service teachers in the United States. Most programs included tutoring components where future teachers work one-on-one or in small groups with students who require support in reading. Although many tutoring programs focus on elementary level students, some programs serve adolescents and even adults. The duration of these tutoring experiences was a whole semester in most cases.

The findings of Hoffman et al.'s (2019) study described how reading methods courses that have tutoring experiences included a conceptual understanding of reading and its subprocesses as well as in-depth and practical knowledge about reading assessment. Only eight of the courses focused more deeply on using data and data-based planning for instruction. Assessment tools ranged from standardized measures to running records and other anecdotal methods. Many other studies have documented that clinical work begins with student assessment and that the data collected is used to design instruction, select reading material, and set goals for each reader (Johnson et al., 2024; Pletcher et al., 2019). Assessment type varies from site to site: for example, assessment data may provide standardized, quantitative measures such as reading level, Lexiles (Stenner, 2022), or readability measures, as well as qualitative information such as strengths and weaknesses in various reading subprocesses and affective reading domains (e.g., motivation to read, reading engagement, reading attitudes). Using this assessment data and conceptual knowledge attained in reading courses, pre-service teachers design their lessons following structured guidelines provided by supervisors (Maloch et al., 2003). Sometimes lesson plans are discussed with supervisors and instructors and feedback is provided before their implementation. Guidelines may help pre-service teachers interpret diagnostic assessment results more in terms of students' strengths and weaknesses in reading rather than mere standardized scores or reading levels. These comprehensive frameworks ensure that pre-service teachers tackle different reading components (Pletcher et al., 2019), while also providing organization to their lessons (Brannon & Fiene, 2013). How pre-service teachers determine student goals and align their lesson plans with these objectives has not been described extensively in the literature – this was an objective of the current study.

Overall, Hoffman et al. (2019) found that the majority of the studies reported important growth in conceptual, pedagogical, and relational understandings. Hoffman et al. (2019) mentioned that in most of the studies, one-to-one or small-group instruction facilitated pre-service teachers' enhanced conceptualization of how literacy works, which instructional strategies to use in

literacy instruction, and how to use assessment data for individualized instruction. Additionally, these experiences helped pre-service teachers develop relations with students and their families with a culturally responsive approach. In other words, pre-service teachers were able to transform conceptual knowledge about reading and writing to implement pedagogical strategies that responded to the contextual reality of the students they were working with. As a result, pre-service teachers working in small-group or individualized instruction contexts were more confident about their instructional strategies (Conley et al., 2005; Dawkins et al., 2009; Hoffman et al., 2016; Rohr & He, 2010), and developed more reflective attitudes about literacy teaching (Assaf & López, 2015; Pavlak & Cavender, 2019; Scott et al., 2018). Pre-service teachers in two of the studies also reported higher convictions and respect for the teaching profession as a consequence of being immersed in field experiences where they interacted with students and promoted literacy learning (Cobb, 2005; Paquette & Laverick, 2017). Another qualitative study indicated that pre-service teachers gained more confidence and pedagogical knowledge after taking literacy courses which included literacy clinic experiences (Hllanski et al., 2021).

Acquiring self-efficacy in teaching is as important as acquiring knowledge. It has been documented that as pre-service teachers gain knowledge, they become more self-efficacious (Leader-Janssen & Rankin-Erickson, 2013), and the structure of reading methods courses that include clinical experiences in reading assessment and instruction can facilitate the development of self-efficacy (Tschannen-Moran & Hoy, 2007). Thus, literacy clinics as contexts for field experiences can help pre-service teachers be better prepared to identify students' strengths and needs and use this information to plan instruction (Davis et al., 2017; Duffy & Atkinson, 2001; Paquette & Laverick, 2017). In particular, attending to self-efficacy for 21st-century literacies (e.g., viewing, listening, and communicating using visual, audible, and digital resources) and for diverse students requiring differentiation is worth acknowledging in teacher professional learning at all levels (Ciampa & Gallagher, 2021, 2019). Literacy clinics are well-positioned to address the interaction between pre-service and in-service teachers' literacy pedagogical and content knowledge and their beliefs about teaching literacy (Gallagher & Ciampa, 2020).

In sum, the preparation of teachers to tutor students who have difficulties in reading is multifaceted. It not only covers conceptual and procedural understandings about reading and how reading is taught, but it requires teachers to be aware of how social and cultural factors affect students' reading attitudes and development. In this sense, understanding how to approach and work with families and communities may benefit tutoring experiences. Impactful literacy clinic experiences are also characterized by providing tutors with varied instances in

which they can develop self-efficacy, agency, reflection, and flexibility (Brannon & Fiene, 2013).

Research on tutor support for data-based instruction and feedback

We examined the literature to identify guidelines for data-based tutoring lessons, data-based decision-making, descriptions of the amount and type of feedback tutors received, and how tutors reflected on their feedback and data use. Concerning guidelines for data-based tutoring, most guidelines refer to student observation (Ellis, 2017), assessment administration, and scoring. With a growing emphasis on data-driven instruction, having guides that help tutors plan lessons that target key areas is essential (Ortlieb & Pearce, 2013; Pletcher et al., 2022), but not as frequent as one would expect. Pletcher et al. (2022) reported that case study is a commonly used format to document both assessment results and tutoring plans. Similarly, tutors are often required to use a structured format for planning where they must explain each lesson in detail.

Several studies have looked into what constitutes high-quality reading teacher preparation (Darling-Hammond, 2020; NCATE, 2010; Regan et al., 2013) and feedback has been identified as a key element of practice-based approaches to teacher education (Hllanski et al., 2021). Programs, where field-based experiences are carefully structured and promote self-reflection, feedback, and assessment of instructional approaches, can help teachers be better prepared to help students who need instructional support in reading (Duffy & Atkinson, 2001; Leader-Janssen & Rankin-Erickson, 2013) and build stronger connections between content knowledge and pedagogical frameworks. However, less is known about how pre-service and in-service teachers use the feedback they receive during clinical work to make instructional decisions, and whether and how they use data collection to structure their practice. In general, it has been acknowledged that quality clinical experiences in teaching must include a feedback provision and learning how to use student data to plan instruction (Blanton & Pugah, 2017; Grossman, 2010, Rock et al., 2016). These components must be woven into field experiences that stand out for their quality rather than the number of hours they accounted for (Hllanski et al., 2021).

Feedback provision also varies in structure and content. Some reading methods courses are organized so that pre-service teachers videotape themselves working with a tutee and then are asked to reflect after watching the video and before discussing it with their instructor (Dunston, 2007). These self-evaluations often lead pre-service teachers to realize that they did not provide enough wait time while teaching or that they need to use more open-ended questions during text discussion. In online literacy clinics for in-service teachers, video reflection is also common (Shanahan & Tochelli, 2014; Deeney et al., 2023). Hedrick et al. (2000)

identified e-mail and face-to-face meetings as the most common instances of feedback delivery in pre-service teacher preparation courses. They identified four forms of online feedback: confirming, suggesting, directing, and teaching. They also found that online feedback was less effective in changing pre-service teachers' practices among those who were less prepared to tutor.

Self-reflection is another component of many literacy clinic experiences (Hllanski et al, 2021). In these instances, pre-service and in-service teachers are asked to spend time reflecting and writing or discussing what went on during their tutoring session with a student. They are often required to evaluate their instructional practices, the student's progress, and the new goals for the upcoming session. Allowing tutors to spend time thinking about these issues provides them with a nuanced understanding of content, context, practices, and students. They became more responsive, more supportive, and more resourceful (Hllanski et al., 2021).

Summary

Our review of the literature suggests that, in general, there is a better understanding of how tutoring experiences contribute to pre-service teachers' conceptual knowledge about reading, reading strategies, and assessments (Haverback & Parault, 2008; Hoffman et al., 2019). More is also known about the kinds of instructional and assessment materials employed. However, not much is known about instructional practices that take place in literacy clinics. While there is a somewhat common framework that undergirds most literacy clinical experiences (i.e., pre-service and in-service teachers provide reading diagnostic assessments, interpret results, plan instruction, teach, and reassess), a more in-depth examination of these processes can help identify promising practices that can be replicated across literacy clinics. Similarly, although feedback and self-reflection seem to be happening in most clinical settings, the manners in which these take place and their effectiveness have not been examined thoroughly.

As Pletcher et al. (2022) remind us, there is a need for extensive research about how literacy clinics are structured to ensure that teachers are well-equipped to teach reading and writing. In particular, there is a need to dial in to understand how instruction and assessment are framed in the context of a literacy clinic, how feedback is provided to pre-service teachers, and how future teachers use that feedback to make instructional decisions and become reflective practitioners. Accordingly, herein, we examined how common practices, themes, and approaches can illuminate the role of literacy clinics in teacher education programs. To reiterate, the research questions guided this study were: What are the key components of literacy clinics' courses, tutoring sessions, and resources? How are

tutors supported to create data-based tutoring lessons with supervisor feedback and reflections?

Methods

Through survey-design methods (Check & Schutt, 2012), this research examined the components of literacy clinics' courses, tutoring instruction, resources, and how tutors are supported in their practices in literacy clinics. These methods were chosen to efficiently capture the perspectives of literacy clinic directors (from North America and Chile) as the primary informants to provide background information about themselves as directors, descriptors of their literacy clinics, tutors and students, as well as the tutoring activities, instructional approaches, assessments, text resources, and the tutors' course requirements.

Participants

Twenty-four literacy clinic directors were identified as prospective participants from a listserv within the *Literacy Researchers' Association* and from college and university websites that provide contact information about their literacy clinics. Literacy clinic directors are the administrative leaders of their clinics/labs that train tutors to provide instructional support for struggling elementary and secondary students. Twenty literacy clinic directors responded to participate (response rate 83%) and through them, an additional two literacy clinic directors were recruited through snowball sampling (Goodman, 1961). The total sample was 22 participants.

Survey and Data Collection

The targeted participant sample was emailed an invitation to participate and a link to an online, researcher-devised survey (NB: survey available on request). Implied consent to participate was indicated by participants' responses to the question items; consequently, this study was deemed by the host university's IRB as not requiring approval. There was a total of 26 question items (15 closed- and 11 open-ended) sub-divided into five sections. Section one of the survey included five questions about the number, types, and demographics of the students attending the literacy clinic. Section two included three questions related to the tutors' associated course requirements and the role of supervisors in providing feedback. Section three included eight questions about tutoring session duration, modality, format, and number of weeks. Section four had six questions that asked about the tutoring instructional practices such as lesson plan frameworks, data-based decision-making, texts, instructional materials, and reflection. The final section of the survey had four questions related to the types and timing of assessments administered, and

perceived impacts of instruction on student literacy development. Participants were asked to complete the survey within a period of eight weeks between May to July of 2022.

To minimize measurement error (Check & Schutt, 2012), the researcher-devised survey was validated in two ways. First, the question items were created by two of the researchers who then disseminated the draft version of the items for all researchers (who are also literacy clinic directors) to validate. Revisions to the question items were agreed upon by all researchers. Second, the revised question items were field-tested with a pilot administration that garnered three responses from other literacy clinic directors. These individuals provided feedback on the working of the question items and the overall length of the survey (see Acknowledgement).

Data Analysis

Responses were downloaded from the online survey spreadsheet for preliminary culling and coding. To examine research question 1, the researchers considered responses to 15 closed-ended survey questions (1-7; 9-16) and five open-ended questions (17, 19, 20, 23, 24) that provided information about literacy clinic demographics, operation formats, sessions, courses, and resources. To examine research question 2, regarding how tutors are supported to create data-based tutoring lessons with supervisor feedback and reflections, the open-ended responses were analyzed for six survey questions (8, 18, 21, 22, 25, 26).

For the survey questions that had close-ended responses, sub-groups of two or three researchers managed responses in one of three ways: nominally coding all response choices; re-grouping responses into clusters and then nominally coding them; or, nominally coding only the first responses (when the question item noted "check all that apply"). Coding tables were devised for each of these questions to refer to during the coding procedure. For example, the following question was nominally coded for all response choices: *What is the average number of students enrolled per year?* [0-10=1; 10-25=2; 25-50=3; 50-100=4; above 100=5; blank=0]. In the second example, the following question had responses re-grouped into clusters and then nominally coded: *For how many weeks do clinicians tutor students for fall and spring?* [2-7 weeks=1; 8-12 weeks=2; 13-20 weeks=3; +21 weeks=4; other/blank=0]. Finally, the third example of a question that had responses nominally coded for only the first response was, *Where do your tutoring students come from?* [Local Schools Partners =1; Community Recruitment =2; Private Schools=3; Public Schools=4; Homeschool Students=5; Other=6; Blank=0]. In this latter coding circumstance, the researchers worked under the assumption that the first response that participants chose was the most salient. We acknowledge that

this may be a limitation in our data analysis procedure. Data analyses calculations included frequency counts and calculations of percentages and proportions.

For the open-ended survey questions, responses were analyzed by sub-groups of two to three researchers who independently coded the responses and then came together to cross-confirm the codes and summarize their interpretations. This process of verifying the coded data and interpretations was accomplished in three online meetings using digitally accessed documents that were active to all researchers for their input (Auerbach & Silverstein, 2003; Trede & Higgs, 2009). This required the researchers to discuss their independent categorizing and negotiate their interpretations. The interpretations were clustered into thematic findings that were further analyzed by the researchers re-reading the previous interpretations (Saldaña, 2009). These findings are presented next accompanied by descriptive statistics for the first research question and excerpts of data where appropriate for the second research question.

Methodological Limitations

There are limitations to this research methodology based on the self-reported nature of the survey-design methods and the reliability and validity as respondents may not reply truthfully or in a manner that they perceive to be expected of them (e.g., social desirability bias) (Demetriou et al., 2015). The researchers have taken question item responses at face value.

The survey instrument (researcher-designed) included questions that were intended to elicit open-ended responses; however, some respondents did not always respond to the question prompt in a succinct, direct fashion. This may have contributed to subjectivity with implications on researchers' interpretations (Demetriou et. al, 2015). For this study, these open-ended responses were interpreted by teams of researchers and then coded to mitigate the subjectivity.

Findings

Key Components of Literacy Clinics' Courses, Tutoring Sessions, and Resources

In the following section, we present findings in response to the first research question: What are the key components of literacy clinics' courses, tutoring sessions, and resources? We discuss students' demographics, tutors' degrees, length of tutoring sessions; texts used as resources; assessments; and impacts on students' literacy development from literacy clinic instruction and how this is determined.

Students, Tutors' Degrees, and Length of Sessions

The majority (72%) of literacy clinic director respondents said that they recruit students from local schools, including partnering schools, which indicates that these reading clinics are strongly connected with their communities. As expected, the main criteria for students to qualify for tutoring support at a literacy clinic are that students read below grade level (59%); further, 22% of respondents also mentioned that students attended the schools that were served by the literacy clinics.

In terms of student demographics, the majority of literacy clinics served students in the early elementary to middle school grades (27% of the clinics served students in grades PK-middle school and 22% students in grades PK-6). Only 9% of literacy clinics included students from grade 2 to high school. In most literacy clinics (36%), there were between 10 and 25 students enrolled per year, but 22% had more than 100 students each year. On the other hand, the majority of respondents (95%) said that teaching in the clinic was a course requirement for tutors, most of whom were getting a Bachelor of Arts degree (45%), although some other clinics were tied to other degrees such as Master's and/or certification.

To describe what a literacy clinic looks like, we examined data on tutoring formats, tutoring frequency, and tutoring groupings. During the Fall and Spring semesters, 77% of clinics tutored students once or twice a week, and 9% of the clinics did not run in the Fall or Spring. Only 4% of respondents said that they tutored 3-5 times a week. In the Summer, tutoring was more frequent for the majority of clinics, since nearly 82% said they tutored three to five times a week. However, 27% of participants said their clinics did not run in the Summer. When asked about the number of weeks that tutors worked with students in the Fall and Spring, more than half (55%) said they worked with them for 8-12 weeks. In the Summer, however, most tutors worked with their students for fewer weeks. For example, 27% did so for 5 to 6 weeks, 18% for 3 to 4 weeks, and 13% met for one to two weeks. In terms of duration, the majority (55%) held sessions that lasted between 30 and 60 minutes.

In Summer, 36% of respondents said their tutoring sessions lasted 60 minutes or more, 22% said they lasted 30 to 60 minutes, and only 4% claimed they were less than 30 minutes long (the remainder did not respond). In terms of student groupings, the large majority of respondents said their clinics had a one-to-one format and 18% had a combination of small group and one-to-one instruction format. Only 4% used only a small group structure.

Finally, given the changes in tutoring modality during the pandemic, we were interested in examining the formats that clinics offered after COVID-19. Most clinics (45%) operate on a face-to-face modality whereas 36% do it online. Only 4% have a blended format and 9% have an online synchronous modality.

Texts Used as Resources

A variety of instructional texts were used across the literacy clinics. We were able to identify seven categories of instructional texts used. Of the 68 types of textbooks used by all participants (almost all used more than one textbook), the most common type of textbook used was reading strategies books (29% of all books). The next common was an assessment book (25% of all books). Word study books were also popular with 11% of total books. Three participants used books specifically addressing dyslexia (4%), five used journal articles (7%), two used previous texts from other courses (3%), and 11% were identified as "other."

Assessments

The assessments recorded in the survey responses were varied and diverse; however, the majority of literacy clinics promoted assessment plans that reflected various common literacy skills such as phonological and phonemic awareness, phonics/word knowledge, comprehension, writing, fluency, motivation, and metacognitive skills. We also noted commercial assessments such as *DIBELS* (Good & Kaminski, 2002). Writing was represented but not as frequently as other literacy areas. Respondents mentioned several assessment tools, such as *QRI* (Leslie, 2006) (n=8), Running Records (n=7), Spelling Inventories (n=9), *Developmental Reading Assessment* (Beaver, 2006) (n=3), *Burke's Reading Inventory* (Goodman et al., 2005) (n=3), and the *San Diego Quick Assessment* (LaPray, 1978).

Impacts on Student Literacy Development

Literacy clinic directors' responses to a question related to the perceived impact of literacy clinic instruction on student literacy development identified two key findings. First, various areas of literacy learning, and development can be impacted by clinical instruction; and second, student growth is measured in various ways across literacy clinics.

There were some consistencies in responses related to the areas of positive impact of the clinical program. While many areas were named, the most significant responses identified four areas: motivation (32% of responses); comprehension (27% of responses); reading level (22% of responses), and self-efficacy/literate identity (19% of responses). This finding is important because it shows that clinics not only strive to influence literacy skills and strategies, but also affect dimensions of learning such as motivation, efficacy, and identity. This suggests that clinics approach the literacy experience from a holistic perspective.

Various methods were used across sites for measuring student progress or growth. Most literacy clinics (63%) indicated that a post-clinic reading inventory is used to gather results. In addition, 26% of respondents identified observations as a method of measuring progress. While we did not specifically ask what assessment practices were used, 37% of respondents indicated that multiple methods of measuring growth were used. Using multiple methods and, particularly, observations as part of the data-gathering process, is further indication that some literacy clinics take a holistic approach and consider issues of equity in assessment through an expanded notion of what counts as growth.

Tutors are Supported to Create Data-based Tutoring Lessons with Feedback and Reflections

In the following section, we present findings in response to the second research question: How are tutors supported to create data-based tutoring lessons with supervisor feedback and reflections? We discuss guidelines tutors are expected to follow for designing tutoring lessons; data-based decision-making and its impact on instructional design and framework; the amount and type of feedback tutors receive from their supervisor; and how the tutors reflect.

Guidelines Tutors Are Expected to Follow for Designing Tutoring Lessons

Several themes were identified regarding lesson design guidelines for tutors in literacy clinics. Almost all respondents consistently cited the requirement for tutors to build specific instructional plans based on assessments, and to follow a cycle of assessment, planning, teaching, and reflection regularly. At the same time, most clinics require the tutors to use some sort of template for their tutoring lesson plans. While many participants did not specify the exact template components, there was a consistent identification of the need to include observational and anecdotal notes to be used as data for future lesson planning. Throughout our analysis process, several queries were discussed that are important to consider. One is the use of the term "data-driven." In particular educational contexts, this has come to refer solely to quantitative data (in particular from standardized, programmatic assessments). Several respondents noted that tutoring lessons were data-driven. While the respondents' use and understanding of the term is not clear, based on the types of assessments the respondents used, we can infer that they meant any kind of assessments, including formative assessments, as "data."

In evaluating the responses related to the required components of tutoring lessons, we noted that several respondents may not have listed the components, but many did. As the question was open-ended, it was not representative to calculate the percentage of respondents that noted any particular component in the

instructional lesson plan template. However, patterns were identified to include the requirement of particular aspects of literacy such as fluency, word work/study, read-aloud, shared reading, connected texts, mini-lessons, and writing. Not noted as often but self-reported were responses emphasizing attention to cultural responsiveness, motivation, inquiry, and student interests.

Overall, respondents tended to answer this question with either a framework lens or with instructional components in mind. First, the responses often focused on describing the tutoring lesson design with aspects such as standards, reflections, observations, and learning objectives. As far as the focus on instructional components, respondents mentioned components such as mini-lessons, new texts, fluency, etc. Some respondents incorporated both lenses in their responses. Despite the different types of responses, we note the common emphasis on assessment, tutoring lessons, attending to multiple aspects of literacy, and adapting components to meet the needs of the student. There was only one respondent who indicated the use of a scripted instructional program, *PALS I* and *PALS II* (Invernizzi et al., 2004). All other literacy clinics noted the use of framework or instructional components with attention to requiring the use of data to inform instruction. In addition, while components may have been required, the tutors had the opportunity to adapt lessons based on student needs, development, and formative assessments.

Data-based Decision Making and its Impact on Instructional Design and Framework

Respondents used assessment data to drive instruction in three major ways: initial assessments to determine the instructional plans, ongoing formative assessments to guide daily instruction, and final assessments to measure growth.

Literacy clinic directors' responses to this question overwhelmingly indicated that some sort of initial round of assessment was used to determine the subsequent instruction during tutoring. The extent of assessment data gathered varied from several weeks' worth of gathering data to just a single session in which pre-assessments were completed with students. Most respondents indicated that initial assessments were completed at the beginning of the tutoring process in the current semester, but in one case, initial assessments were completed in a previous course. A second major theme that emerged was the use of session-to-session data to inform instruction. Slightly more than half of respondents made it clear that data were used from one session to the next to make instructional decisions and two additional respondents referred to "ongoing" data collection or data considerations "during teaching." Finally, only three respondents mentioned the use of pre- and post-assessments to measure progress. As this question asked about the use of data to inform instruction, more clinics may implement post-assessments, but because

these are at the end of tutoring and are not used to make instructional decisions, they were not mentioned.

The Amount and Type of Feedback Tutors Receive from Their Supervisor

When literacy clinic directors were asked about the amount and type of feedback given to tutors, their responses were sorted into three categories: the frequency of feedback to tutors, the type of feedback given, and the products that were under review. Findings indicated that there was some variation in how often supervisors provided feedback, but seven of the respondents indicated that feedback was given weekly, while six said that feedback was given in every session. The true frequency is not easy to determine because most respondents said tutoring occurred one to two times weekly and that feedback was given weekly, so it is not clear if feedback was given every time tutoring occurred. Three responses indicated ambiguous frequency while six indicated multiple frequency cycles of feedback.

The most prevalent type of feedback (nine respondents) was in the form of written responses. Four respondents reported the use of discussion as feedback while seven respondents indicated multiple types of feedback. The most frequently mentioned types were debriefing and discussion in the multiple types category.

The most frequent tutor-created product reviewed by literacy clinic directors was a lesson plan (17%). Also, 17% of literacy clinic directors indicated multiple products were reviewed. Instruction was the next most prevalent product, with 15% of respondents reporting this. Discussion board posts were mentioned only once. Other unique comments from individual literacy clinic directors were a focus on "modeling instructional moves" and "engaging in collaborative lesson planning."

How the Tutors Reflect

Literacy clinic directors responded to a question about tutors' reflections in three ways: how tutors reflect, the focus of their reflections, and the frequency in which tutors reflect. Findings indicated that there was some variation in terms of how tutors reflect across literacy clinics, but 48% of respondents indicated that written reflections were utilized. Discussions and/or online feedback were utilized by 24% of respondents. One-on-one discussions with instructors and/or peers and video reflections were both indicated by 19% of respondents.

Respondents identified several foci as the subject of tutors' reflections. Most significant were reflecting on the impact of instruction and student learning, what they learned about teaching and learning, and what went well or the strengths of the lesson. These three areas were each identified by 24% of respondents. Other areas that were the focus of reflections included: what was challenging/lesson

weaknesses (19%); an analysis of their teaching (14%); what tutors will do next (14%); what tutors would do differently (10%), and students' learning goals (10%).

Some respondents identified the frequency with which their tutors reflect. These responses indicated some variation, with a significant percentage (33%) reflecting after every lesson. Others indicated reflections occurring weekly (19%) or biweekly (10%). Additionally, some tutors also were required to reflect at the beginning and/or end of their program (5%). It is important to note that all respondents indicated that their tutors reflect in one or more ways which demonstrates the significance of reflection as part of the clinical experience.

Summary of the Findings

In response to the two research questions, two major clusters of findings emerged in our data analysis. The first cluster, Components of Literacy Clinics' Courses, Tutoring Sessions, and Resources, highlights such aspects as who literacy clinics serve, who teaches in them, and how long these sessions are, as well as what types of resources and assessments tutors use and what kind of impact tutoring in these clinics has on tutored students. Most of the tutors hold bachelor's degrees. The main criteria for students to qualify for tutoring in literacy clinics is reading below grade level and the majority of students served in these clinics are in elementary and middle school levels. For most respondents, their literacy clinics ran tutoring sessions once or twice a week. The most common type of textbooks were literacy strategy books. When it comes to assessments, the majority of literacy clinics used assessments promoting multifaceted components of literacy, such as observations, as well as reading inventories. In addition, the participants identified two areas of student growth, comprehension and motivation, as areas that are especially impacted by tutoring in the clinics.

Concerning the second cluster of findings, Tutors are Supported to Create Data-based Tutoring Lessons with Feedback and Reflections, we identified that tutors use certain tutoring and assessment guidelines, engage in data-based decision-making, receive feedback from their supervisors, and reflect on tutoring sessions. In most cases, tutors use a specific template for lesson plans, assessment, and reflection. It was also apparent that in most cases the focus in tutoring was on fluency, word work, read-aloud, shared reading, connected texts, mini-lessons, and writing. To conduct data-driven decision-making, the participants engaged in initial, ongoing, and final assessments to measure students' growth. In addition, literacy clinic directors gave mostly weekly feedback to tutors on their lesson planning. The most frequent type of reflection was tutors' reflection on the impact of their instruction on student learning.

Discussion

This research has elucidated the infrastructure of literacy clinics including a description of the students, tutors, tutoring sessions, assessments, resources, and courses that undergird their programming. The common student population includes early elementary to middle school students from local schools who are reading below grade level and attend tutoring once to twice per week with tutors completing a course requirement; these elements are consistent with the recent review of university-based tutoring programs by Hoffman et al. (2019). These tutors are learning about reading assessment, designing instruction, and selecting resources as also noted by Pletcher et al. (2019). Of particular note, are the multiple methods of measuring student growth like observation and inventories that support equity in assessment practices (Safir & Dugan, 2021) and ensure that reading assessment is accurate and equitable for all learners (Elish-Piper et al., 2022). Herein, we have also described the impacts of tutoring on students' literacy skill development including comprehension; this is similar to Ortlieb and McDowell (2016) who noted comprehension improvement in students in a virtual literacy clinic. Students' motivation and identity were also reported outcomes of literacy clinic tutoring: this is a promising and novel finding in light of the needs of learners post-pandemic (Deeney et al., 2023).

This study also sought to describe the less documented instructional practices used in literacy clinics. Unique to university-based literacy clinics is the ongoing support provided by supervisors that includes feedback and reflections on their practice. Tutors are scaffolded to design lessons based on data and research-based practices. They are guided by their supervisors through regular debriefing episodes on how to continue to respond to their students and reflect on this cyclical process. As Pletcher et al. (2022) described, many clinics use structured formats that facilitate planning and feedback delivery (Duffy & Atkinson, 2001; Leader-Janssen & Rankin-Erickson, 2013). This feedback and self-reflection are integral in literacy clinic settings, and herein, we have described how this occurs and the effectiveness of this teacher education component. The notion of "data-driven" assessment and instruction was frequently mentioned by our respondents, and we believe this is an area worth exploring in more detail since it does not seem to have been widely examined in the previous literature (Ellis, 2017).

The results of this research may have the potential to help better understand how literacy clinics can continue to support tutors, allowing them to provide enhanced instruction to their students. In this post-pandemic period, the literacy needs of elementary and secondary students are apparent and significant to educators (Aukerman & Aiello, 2023). As evidenced in this study, literacy clinics do have a role to play in filling the learning gap as tutoring appears to have an impact on literacy growth. Even though the previous literature highlighted the

immense role tutoring in clinical settings plays in terms of tutors' pedagogical growth and impact on children's literacy growth (Hoffman et al. 2019; Cobb, 2005; Paquette & Laverick, 2017; Hllanski et al., 2021), this study reveals another layer of the strength that such clinics have - the contributions of clinic supervisors. These contributions shed more light on what goes on in literacy clinics in terms of expectations regarding assessment, designing responsive instruction, and engaging in ongoing assessment and ongoing reflection. These contributions also reveal the nature of the feedback given to tutors. Given that literacy clinic supervisors or directors provide tutors with authentic learning opportunities to assess, design, teach, and reflect on their practice, all grounded in robust research on effective literacy teaching, literacy clinics offer multiple and highly intertwined levels of learning how to skillfully and effectively teach children. Moreover, feedback such as on lesson planning or modeling instructional moves occurs frequently in literacy clinics, which highlights the crucial role clinic supervisors hold. As a result, we can conclude that literacy clinics have a strong record of educating effective literacy specialists because of the important role of clinic supervisors who ensure the high quality of this supervision. In addition, the results of this study contribute to an understanding of how literacy clinics vary, thereby offering examples for other clinics to adopt, including online clinics whose directors also participated in this study.

We would like to note that the teaching practices described in this study are not only comprehensive but also based on research on what works for children who have reading and writing difficulties. This scientifically based research makes it clear that effective reading intervention is very nuanced and cannot be reduced to intensive phonics instruction alone. For instance, from robust research, we know that literacy development occurs in socially situated contexts and practices (Frankel et al., 2016). We also know that teachers need to know several decoding strategies and use them with children flexibly and one approach does not fit all (Allington, 2013). Although automatic word reading is very important, it is not sufficient to ensure successful comprehension of complex texts (Cabell & Hwang, 2020). With close attention to what the research says about how to effectively teach reading and writing, literacy clinics have been addressing scientifically based research on reading for many years.

Implications

This article will be helpful to those literacy education professors who intend to create clinical courses and establish a tutoring practicum either in-person or online. Herein we have described key components, resources, and typical tutoring sessions, and provided information about some relatively stable features of clinical courses and their role in teacher education. In a time of concern about theoretical and

practical outlooks of reading instruction (Laster et al., 2022), literacy clinics have demonstrated that impactful instruction and materials can help readers become more competent, regardless of paradigm shifts (Pletcher et al., 2023). In practical terms, using assessment data to drive instruction and providing tutors feedback is likely to have a positive effect on their self-efficacy. An awareness of the triarchic interaction among knowledge, experience, and self-efficacy is important for both in-service and pre-service teachers seeking to teach literacy in contemporary diverse classrooms. It has been found that literacy teachers with high self-efficacy and content knowledge can effectively teach all learners (Joshi & Wijekumar, 2019). We contend that the context for building knowledge of supporting struggling literacy learners begins in a scaffolded teaching and learning environment such as in literacy clinics.

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