

Classroom Reform with CMPLE: A Cogenerative Mediation Process for Learning Environments

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Abstract: We have designed a classroom goal setting process whereby students and instructors rank, discuss, and combine their learning preferences and then rate their classroom with respect to those preferences. All participants have the opportunity to be collectively engaged in building a preferred learning environment.

In this paper, we'll be discussing reform as it takes place within learning environments. Because "learning environments" has no set definition in the literature, we'll relate it to an activity setting, a construct that combines peoples' objective physical and verbal actions with "subjective features of the participants' experience, intention, and meaning" (Tharp, 1993, p. 269). Participants in classroom-nested activity settings (learning environments) negotiate with each other using their differing conceptions. This is our basic assumption made as we clarify our idea of reform.

Recasting Reform

John Dewey wrote extensively about instructors using combined cycles of reflection and action in order to improve the quality of their teaching and the personal satisfaction derived thereof (Zeichner, 1996). He named this as "reflective action", and defined it as, "active, persistent and careful consideration of any belief or supposed form of knowledge in light of the grounds that support it and the further consequences to which it leads" (Dewey, 1933, p. 9). This type of activity is meant to generate inquiries into the nature of content knowledge, systemic structures, and academic frameworks. As such, learning based on reflective action is a continual process, which involves people becoming aware of, and attempting to solve, specific problems in their learning environments. In our research, people, through reflective action, enact reform. Therefore, people who engage in reflective action are engaged in reforming.

We stress that last iteration in order to make a point. Research-based reforms (RBRs), designed by well-meaning and knowledgeable people, are plentiful in the academic community. Education researchers have studied rationales why instructors have (and have not) implemented RBRs (Henderson, 2005). For cases of those who have not done so, it is common to report barriers the instructors perceived, which prevented them from adopting said RBRs. Yet, viewed from within our framework, it's very possible the instructors do not view the RBRs as true reforms because the RBRs did not help them in their attempts to solve their specific problems. This is not to mention that in most cases, the RBRs existence was not a result of instructors' reflective action. We view the implementation of such non-reflective changes to the learning environment as just that – changes.

This doesn't mean instructors should not ever use RBRs. On the contrary, going through a reflective process of identifying specific classroom needs can help instructors identify RBRs whose designers have targeted the same issues upon which the instructor is interested in taking action. In other words, the "action" part of reflective action can take the form of the adoption of an RBR just as easily as it can take the form of instructors designing their own reform.

Justifying Student Participation in Reform

We believe it apropos to extend the idea of “reforming” to students as well. This discussion about reform in learning environments has focused upon the agency of instructors to engage in reform. Yet, because our unit of analysis is the learning environment, surely we must consider the agency of students. Instructors, although important, are merely one facet of learning environments.

There exist at least three reasons to include students in reform efforts. To begin with, they are active participants in learning environments (Tharp, 1993). In most cases, they are the only other participants, aside from instructors. Also, to state the obvious, there are overwhelmingly more students than instructors in the majority of classrooms. Based on that fact alone, we think it behooves instructors to collaborate with students for reform purposes.

Second, numerous studies have shown that students have higher rates of achievement in classrooms that are closer to their preferred learning environments (Fraser, 2002). We link the ideas of reforming and preferred learning environments because in our framework, to reform is to engage in a process of addressing issues and problems in one’s own environment. As such, the results of reflective action should be an environment more preferable than the original (problematic) one.

Third, to expect students to switch from learning in a common (or “traditional”) classroom environment directly into another does not respect the requisite time necessary for cycles of reflective action. That is to say, instructors’ classroom practices continually go through a process of change. From year to year, there is perhaps little discernable difference. However, over many years teachers learn to use new teaching strategies, grading policies, curricula, and classroom arrangements. Yet, depending on how different their classroom is from other instructors’, students may have difficulties adjusting to the new environment. Students play little explicit part in the construction of the classroom layout, yet they also pay the consequences of failure if they do not adjust to the new environment.

Regardless of why instructors set up their classrooms in their particular fashions, students nonetheless must unquestionably adjust and conform to that environment (Gabbard, 2003). The situation is characterized by a dualism consisting of (a) instructors as sole decision-makers, authority figures and judges of student success and (b) students as passive receivers of knowledge, removed from decision making processes that effect their education (Aronowitz, 1991).

We believe that instructors who are concerned with these issues should make conscious efforts to address them in their classrooms. We therefore have developed a method instructors can use for doing so.

Our Suggested Mediation Process – Cmple

Structure

Tobin (2008) writes about cogenerative dialogues (cogens), which emerged from the idea of students “having a voice” in their own education. He writes that,

Participants in dialogue should focus on a shared experience in which each accepted responsibility for his or her part in achieving the outcomes, including stepping forward to do what it takes to accomplish agreed to changes in roles. The goal is to reach agreement on changes to improve the learning environment (p. 51).

Tobin’s cogens seemed to us a reasonable framework from which to think about classroom reform.

We have developed a long-term classroom mediation to be a cogenerative goal-setting activity. As such, we have strived for a structure that allowed for, “listening attentively; trying to understand others’ contributions; showing respect for all participants; addressing previous contributions; ... striving for consensus; and sharing power among participants” (Tobin, 2008, p. 51).

Because we view cogens as a way to include the voices of all classroom participants, our constructed framework is called cogenerative mediation process for learning environments (CMPLE; pronounced “simple”). Using CMPLE, participants list, rank, discuss, and combine their learning preferences. After rating their shared learning environment (with respect to their combined preferences), they are to set specific goals in order to increase the ratings (or maintain ratings that are already preferred). We suggest using this mediation more than once (at least twice) throughout a course. Each of these steps will be explained in detail below, along with initial results from our ongoing pilot study.

Pilot Study

Here we present preliminary data from our ongoing pilot study of CMPLE. Our research question at this early stage is “Do participants consider CMPLE useful in their classroom?” In this paper, we are answering that question by focusing on the student participants.

This data was collected from a 2nd semester introductory university physics course during the spring 2010 semester. This course was taught by a professor who was open to classroom experimentation. The primary author served as a teaching assistant in this class at the time the research was conducted. However, the professor, not the researcher, conducted the CMPLE activity. The class consisted of 31 students, 10 of whom volunteered to be interviewed in three groups, after the in-class CMPLE activity. Transcripts (which have been slightly edited for clarity of speech) presented throughout the following sections are results from the third group of interviewees, comprising of three students: Pete, Lisa, and John.

Also presented here are specially designed graphics, representing the steps of CMPLE, which are displayed in the users’ guide to the pilot study (Samuels, 2011) in order to non-verbally communicate the intentions of the designers.

Listing and Ranking

This part of the process is centered on individual reflection and has been graphically represented as a group of circular arrows (see Figure 1). As it is presented in the pilot study, the

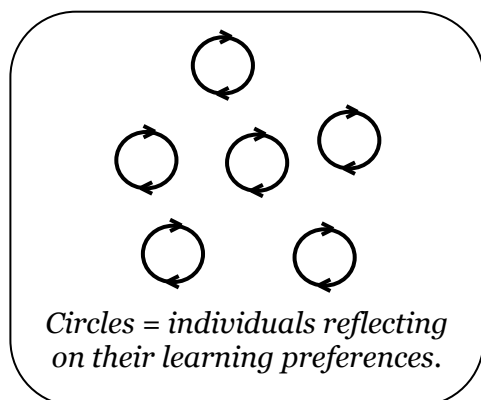


Figure 1. Graphic accompanying “listing and ranking” (Samuels, 2011).

first step asks participants to “please name all your personal preferences that are important for you to learn productively and successfully. Write as many as you like. All are correct” (Samuels, 2011, p 5). These preferences can include specific aspects of students’ interactions with each other, student-instructor interactions, the subject matter, the classroom itself, their personal feelings, etc. Participants have no limitations on what they can write there. We have classified this portion as an individual (self-generated) inventory.

The second part reads, “Now that you have your list, please rank your preferences in order of how important they are to you. You can group as many preferences as you want into each ranking level” (Samuels, 2011, p.6). As in the “listing” portion, there are no limitations as to different ways of grouping their rankings. Functionally, this is a ranking task for the items generated in the inventory. Readers should note that the above steps were assigned as homework, in order to give students time to think about their elements, and to save class time during the rest of the activity.

When asked what he thought of these first steps, Pete remarked that, “You establish a way you learn over your career, which are like habits. This [part of the activity] is ... like a reflection on how you *actually* learn, instead of how you *think* you learn.”

Lisa echoed Pete’s remarks when she said, “When I read [the instructions] I thought it was easy. But it took me a while to start thinking what was important and what was not. Some things that I really never noticed, I realized how important they were.”

Clearly, the students had thought about their preferences before, but had never taken the time to list and rank them. After having done so, they expressed that they valued the part of the activity that centers on individual reflection.

Discussing and Combining

This step and the next (rating and goal-setting) are to take place simultaneously. During class time, participants should engage in a group discussion, which serves two functions: (1) to understand each other’s preferences and meanings, and (2) to distill and combine these preferences into categories. These categories represent an idealized version of the participants’ preferred learning environment. In terms of linking this step to individual reflections, participants should be able to have collective reflections by the end of this step (see Figure 2).

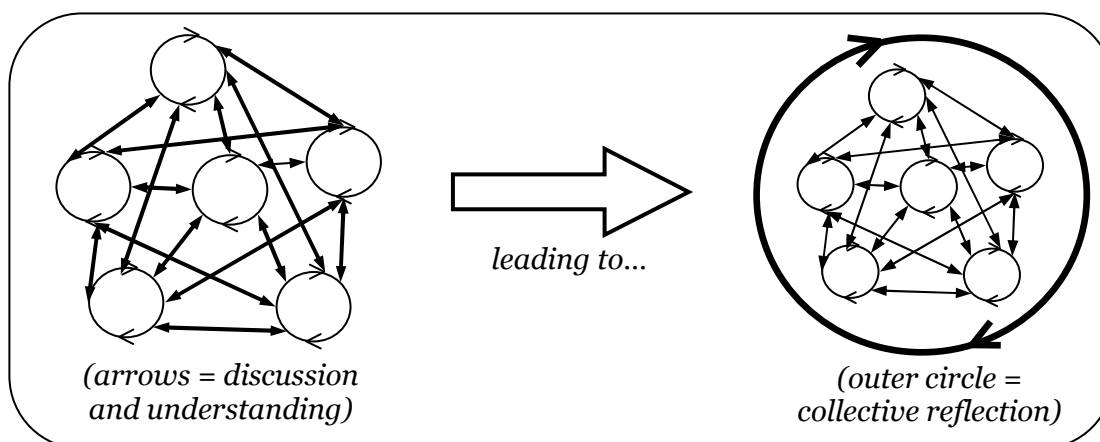


Figure 2. From individual reflection to collective reflection, via discussion (Samuels, 2011).

For expediency, we suggest participants be prompted to discuss only their most important elements from the “listing and ranking” step. Otherwise, there might be too many elements to keep track of, especially in larger classes. We also suggest someone keeps track of these agreed-upon categories in plain sight of the whole class, perhaps on a whiteboard at the front of the room. Furthermore, participants have found it useful to limit the amount of categories to five or six.

Clarification of meanings is very important. For instance, in the pilot study, several students listed “comfortable environment” as one of their preferences. However, some were referring to attitudinal aspects like “getting along well”, while others were referring to physical attributes of the classroom, such as room temperature and cleanliness. Without asking the students what they meant, constructing generalized categories might have been difficult.

Rating and Goal-Setting

Here, participants are to make collective judgments about their learning environment, by rating it with respect to their idealized categories from the previous step. A Likert scale of 1-5 should be placed next to each category, and participants vote on “how well” their specific learning environment reflected those ideals (in which 5 represents a very good match).

Lastly, a discussion is to take place in which the participants construct specific action plans concerning how their class can achieve higher ratings (or maintain ratings with which everyone is already satisfied). The stars and dashed circle are representative of this step (see Figure 3).

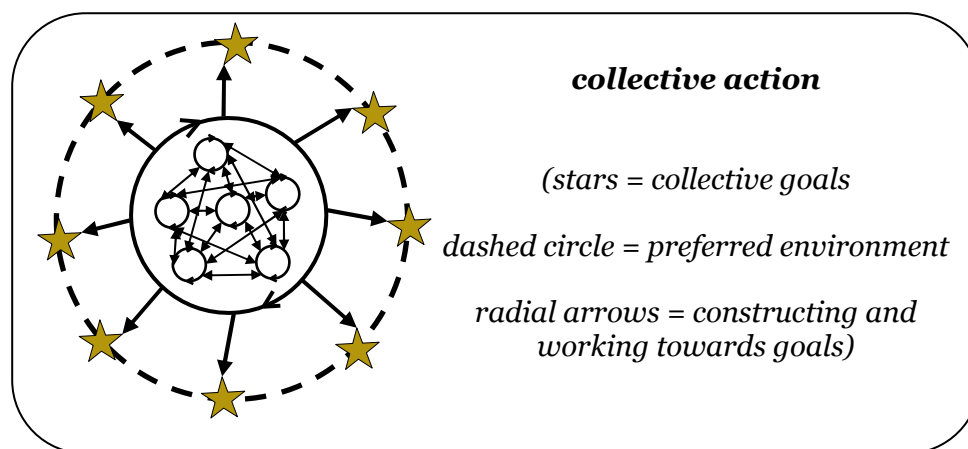


Figure 3. From collective reflection to collective action (Samuels, 2011).

In the class from which this data was taken, the professor ended the process with the “combining” step; it is important to note the combined preferences were only verbally discussed, instead of written. Therefore, collective rating and goal-setting did not occur. However, students indicated these steps would have been beneficial. The following transcript is provided as evidence.

John, an especially talkative interview partner, was asked if there was anything he would have changed about the activity. He answered,

There's some things that... could have been implemented. Stuff from other students' opinions... could have been followed and used for continuation. We could have ... tried some of the strategies and seen if that made a difference in the ... [students'] performance and interactions.

John's mentioning of students' "performance and interactions" is reminiscent of aforementioned research correlating students' preferred learning environments with higher achievement (Fraser, 2002).

He went on to say,

But basically, if the question is, "Is it fine the way we last did it?" I would say no, because I was expecting to use that information. A lot of stuff's already done in class. Why not try it, and see what would have worked? It might have made class a little more interesting.

John considered this step to be important, and he clearly expressed that after going through the previous steps, he wondered aloud why the professor did not take up the students' ideas. What is surprising here is that John was not aware that CMPLE was designed to include the step he thought it should have.

Following Through with Goals

The next step begins after the classroom activity ends. Instructors should make sure the goals and action plans are displayed in a commonly accessible area. We also suggest some periodic "checking in" with the progress towards the goals being reached. It is important that everyone is aware of the action plan, so that they can participate in transforming the classroom into their preferred learning environment. This might very well be the most difficult aspect of CMPLE, since it requires effort by all participants to realize a learning environment that was perhaps unexpected before the activity began. The radial arrows in (see Figure 3) represent participants working toward their collective goals.

Repeating CMPLE

After an agreed-upon time period, CMPLE should be repeated. When repeated, participants should be asked to answer the same initial questions, thereby initiating a new cycle of reflective action. In other words, because (perhaps only slightly) different elements will be listed and rated, different generalized categories will emerge, and of course different goals thereafter. This is in the spirit of continuing reflective action, and ensures CMPLE is a dynamic process that becomes a richer experience with each use.

Benefits of CMPLE

We will now highlight hypothesized benefits of using CMPLE, with respect to constructs related to its framework. Our intention is that participants who have completed the entire process benefit from having ownership of their knowledge, identity recognition, increased agency, and using action research to improve their classrooms.

Motivation and Ownership of Knowledge

Students are told in traditional school environments that they are responsible for their learning, yet they're meant to do so in terms of those who enforce rules. Furthermore, students are not meant to question why those rules exist (Gabbard, 2003). In our framework, students will have driven the process whereby the classroom norms are produced, instead of being subjected to them. Therefore, they are more likely to feel responsible for their learning and to claim ownership of their knowledge (Roth, 2009; Wertsch, 1998). Through successive uses, we hope students' goals of achieving their desired learning environment will gain emphasis. In other words, we hope participants will use CMPLE to increase their motivation in the classroom.

Identity Recognition

We envision an environment in which all participants feel able to openly converse using their individual and shared prior experiences, feelings, and values. To that end, during the activity, all participants will be asked to discuss reasons why they have listed their particular learning concerns. We consider these discussions to be narratives about peoples' dispositions. Narratives that people tell about themselves and their history can function as their identity, when those narratives are internally endorsed (Sfard, 2005; Wertsch, 1998). Therefore, use of this tool can function (at least in part) as an exercise in identity recognition. The notion of people having the ability to be recognized on their own terms is a primary concern to those interested in multicultural and equitable education (Nieto, 1999).

Empowerment and Increased Agency

Participants' conceptions of their goals will drive how they use the process. By using the process successive times, participants are encouraged to develop new goals as they proceed. The experience of exercising their agency and experiencing positive related outcomes can help students and instructors feel more empowered to take action in their communities (Orr, 2004). For instance, a series of studies has shown students to be more desirous to help find solutions to their local water pollution issues after their instructors shifted away from the aforementioned educational dualism (Roth, 2009).

Through such an activity, participants will be engaging in a form of "collective human praxis". Praxis builds on the notion of reflective action, and can be defined as, "a unity of inquiry and action" (Schubert, 1986, p. 314), and is associated with critical and postmodern paradigms for understanding.

Action Research Opportunities

Action research is one manifestation of praxis, used for the purpose of research. Through using an action research methodology, students and teachers can begin to construct a new curriculum for themselves. We therefore propose that classroom reforms born of this kind of cogenerative praxis are indeed a form of research-based reforms.

Benefits for Education Researchers

As far as data collection is concerned, use of this mediation presents new opportunities to analyze artifacts produced as a result of this process. In addition researchers can analyze cogenerative action research projects, should students and instructors choose to pursue that avenue. Furthermore, qualitative and quantitative aspects of CMPLE can be studied and reviewed.

Preliminary Conclusions

Because these participants experienced only part of CMPLE, we feel comfortable making only preliminary conclusions. That having been said, the data we have collected indicates that students did find useful the parts they did experience. From Pete and Lisa's statements about the "listing and ranking" section, we infer they found that section of the activity to be useful. For Pete, we base this on the apparent value he put on discovering how he "actually" learns. In Lisa's case, this conclusion was drawn from her emphasis on both the amount of time it took her to rank her preferences, and also her consequent realization of how important those preferences were to her.

John indicated he would have found other parts useful as well, had the professor included them. Specifically, his "rating and goal-setting" comments illustrate this when he said, "I was

expecting to *use* that information.” The key word in that example is “use”, from which we infer he thinks that step would be *useful*. In fact, John’s idea to “use that information” comes *without* his knowledge of the full CMPLE design. We take this noticeable absence of what John expected as a preliminary validation of the design, and further evidence that students think CMPLE is useful.

Future Research

Our purpose for conducting this ongoing research is to develop a framework useful to instructors and students for identifying and addressing issues in need of reform in their classrooms. Through working with volunteer teachers from local schools and university faculty, we hope to expand the pilot study in order to determine if, and in what ways this process was useful. It certainly remains to be seen whether and in what ways participants who take part in the complete activity will find it useful. We also wish to find practical ways to help instructors readily incorporate it into their existing pedagogical frameworks.

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