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How is the Peer Leader Experience Enhanced Through a Community of Practice?

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Abstract

Because of my experiences facilitating a math workshop this semester, I chose this question to explore how the skills needed to encourage team learning could be developed by using the ideas of Community of Practice theory regarding the social nature of learning, as a foundation to create a productive workshop experience for the students and the Peer Leaders.

Literature Review

Communities of practice (Lave & Wenger, 1991) are groups of people who share a concern or passion for something they do and learn how to do it better as they interact regularly. The origin of the concept was based on studies of different apprenticeships (Yucatec Mayan midwives in Mexico, Vai and Gola tailors in Liberia, US Navy quartermasters and meat-cutters, and non-drinking alcoholics in Alcoholics Anonymous). Three crucial characteristics of communities of practice are: the domain- members identify themselves by a shared interest/concern and competence that distinguishes members from others; the community- members engage in joint activities and build relationships that enable them to learn from each other in a process called "legitimate peripheral participation"-novices learn from experienced members by participating in actual, real-life practices; the practice- members develop a shared repertoire of resources (experiences, stories, tools, ways of addressing recurring problems).

A community of practice was developed to create an academy at the local community college in recruiting, training, and retaining literacy education teachers to serve a diverse, low-income community in Hawaii based on Wenger's three modes of belonging: engagement, imagination, and alignment (Au, 2002).

Community of practice as a community of inquiry in mathematics teacher education encourages critical reflection and promotes critical alignment - teaching as learning in practice - in the process of participants becoming competent teachers(Garcia et al., 2006; Jaworski, 2006).

A comparative study of attitudes towards mathematics of secondary school students between the ages of 14 and 18 in England and the US suggests that the way mathematics is taught, how students construct a sense of themselves in relation to mathematics in the learning process, influences whether or not students identify with what it means to be successful in the field and want to participate in the field (Boaler et al., 2000). Beliefs about the nature of mathematics and learning varied according the extent of mathematical discussion in their classes. Students who were asked to discuss and explore with each other concepts and problem solving saw the nature of mathematics and learning as a creative, social, and meaningful process and had a favorable view of mathematics. Students who did not have this experience had the prevailing negative

view of mathematics as abstract, remote, and procedural resulting in a lack of identification with the community of practice in mathematics. These students saw math as something they had to do and did not see themselves having a career in the field.

Observations

Difficulties implementing techniques discussed in Peer Leader Training classes (MEDU 2901)in embedded MAT 1175 workshop during the semester were as follows: some workshop groups did not develop into effective learning teams even with repeated messages to encourage collaboration ("You need to work together."); some peer leaders turned to tutoring to help students who chose not to ask for help within their groups; there was little feedback among peer leaders during embedded workshops on how to fix problems.

Response to difficulties in preparation for workshops were as follows: sharing experiences and ideas through weekly online journal entries and during some of the peer leader training sessions; activities during PL training sessions that developed skills (role playing, mock workshops, etc.); assigned readings of and discussion about various learning/cognitive development theories (Vygotsky's Zone of Proximal Development and Scaffolding, Perry's Developmental Process, Argyris and Schon's Reflective Practice, Kolb and Felder's Learning Styles, etc.).

Changing Outcomes

The following actions were subsequently taken in the workshop: repeated encouragement to ask questions of and check work done by group members; the use of the pair problem-solving technique to guide students to answering their own questions; adjusting how students are grouped after peer leaders discussed an evaluation of student performance in the workshop; collecting feedback from students about the workshop. As a result of these actions, productive changes of workshop experiences were increased discussion of math problems among group members and improved module and test scores.

Discussion

The process of peer leaders becoming skilled workshop facilitators and students improving their math problem-solving skills in the context of being members of a community of practice matches the literature on communities of practice.

The PLTL program has all three characteristics of a community of practice (Lave & Wenger, 1991), and as such, allows people interested in the program the opportunity to interact regularly to learn, share ideas and practice their skills in training class and in the workshops and build a reservoir of knowledge and experience. The students, also, have that opportunity to build communities of practice, as was observed to happen with some of the groups in the workshop.

The modes of belonging and critical reflection (Au, 2002; Garcia et al., 2006; Jaworski, 2006) were expressed in the shared ideas and experiences and the adjustments made by peer leaders to improve the workshop experience.

Although the students' attitudes towards mathematics was not surveyed during the semester, some did state a lack of identification with math by saying it was not important to them early in the semester; their behavior reflected this attitude as a lack of focus on completing the workshop modules (Boaler et al., 2000).

Conclusion

The concept of communities of practice is a powerful way to learn and teach domains of knowledge. Engaging in activities that encourage exchange of ideas, among peer leaders and instructors and building a shared knowledge base while practicing being a peer leader is an effective way to enhance the peer leader experience. The PLTL program can produce communities of practice in all the academic disciplines. The PLTL program could be improved by the following ideas: encourage new peer leaders to seek guidance from experienced peer leaders during embedded workshops (Lave & Wenger's "legitimate peripheral participation"); emphasize debriefing among peer leaders in an embedded workshop immediately after a session to address any concerns or problems; instructors might promote the concept of communities of practice often in their classes to encourage their students to see themselves as members of a team committed to helping each other succeed in learning the subject.

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