Strategies for Developing a Community of Practice:

Nine Years of Lessons Learned in a Hybrid Technology Education Master's Program

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Abstract

Between 2000 and 2009, 243 students in 11 cohort groups participated in the Internet-Based Masters in Educational Technology (iMet) Program. iMet is a hybrid masters program in education with an emphasis in educational technology. Students in the program work collaboratively in a problem-based approach to the integration of technology into instruction. The program completion rates are higher than other online programs and even higher than traditional face-to-face masters programs. In addition, program graduates go on to become successful educational technology leaders. A key to the program's success is the use of a community of practice model for its participants. An analysis of 78 student course reflections and 92 post-program surveys revealed that the community building strategies used in the program were instrumental in enhancing students' experiences and boosting program completion rates. This article describes the key strategies used to develop and maintain a successful hybrid community of practice.

Keywords: Community of Practice, Cohort, Technology, Online, Hybrid, Retention

One way in which graduate education programs have adapted to a growing constituency of non-traditional students (full-time employees, parents with children, people seeking second careers) has been through the development of cohort programs. But cohort programs have received mixed reviews. Researchers in some instances point out the benefits of cohorts such as the retention of at risk students and non-traditional students (Fallahi & Gulley, 2008). Other researchers point to issues such as the development of a mob mentality in cohort groups (Hubbell, 2010). Radencich et al. (1998) found that cohort cultures range from being highly positive to being "almost pathological" in nature (p. 112). This literature indicates a range of possible outcomes result from participation in a cohort program.

The iMet Program was designed to follow a community of practice (COP) model.

COPs have been defined in a variety of ways, but in the most general sense COP refers to a group of people (the community) involved in practice (the social construction of knowledge). COPs include common features such as:

- Participants work in groups to solve authentic problems;
- Participants have shared learning goals;
- Knowledge is emergent and experts in the group are facilitators;
- Group members operate at varying levels of mastery;
- There is a commitment on the part of group members to participation in the community (Johnson, 2001; Lave & Wenger, 1991; Wenger, 1998).

Between the years 2000 and 2009, 243 students in 11 COP groups attended the iMet Masters Program. iMet is a hybrid face-to-face/online masters in education program with an em-

phasis in educational technology. The program is rigorous and accelerated. Of the 243 students who entered the IMet Program between 2000 and 2009, 226, or 93% of the students completed all coursework without an interruption and 207 students, or 85%, completed the program and received their masters within a 3-year period. This compares favorably to other online programs that can yield completion rates as low as 30% (Alexander, 2002) and even with traditional, face-to-face masters programs, which yield completion rates as low as 60% even after 6 years (National Center for Educational Statistics, 2007).

The community developed during the program extends beyond the program through an informal alumni group. iMet alumni are connected through an alumni listserv, invited to orientation activities for new cohort groups, and used as instructors in the program. This informal alumni association provides graduates, many of who are in isolative positions, with a place to turn for professional support and advice.

Individuals who complete the iMet Program have a high success rate at attaining and being successful in technology-related leadership positions in schools, districts, state organizations, and in the private sector. Seventy-five percent of program alumni who entered the iMet Program with the goal of seeking new employment were successful at finding new positions.

The analysis of the data collected in this study reveals that strategies employed to develop a sense of community in iMet are critical to student success during and after their time in the program. This article shares the structure of the iMet program, describes the COP-related strategies used in the iMet Program and, through the voices of students, how COP strategies enhance the program experience of its participants.

The iMet Program Structure

iMet students meet 25% face-to-face and 75% online. While being flexible and accommodating, iMet is a rigorous 18 - 24 month program. Students who have the capacity to complete the program in 18 months have that option. An additional semester is built into the program for students who need more time to complete their degrees. Beyond the 24-month time frame, students may return and work out individual plans with program faculty to complete their degree requirements. Entrance into the iMet Program does not require a teacher certification. The program also does not require extensive technological expertise for entrance. While iMet students are predominately K-12 educators, the community also includes K-12 administrators, community college instructors, and a variety of other public and private sector professionals. Each cohort of students takes all courses required for the iMet masters degree together. The program takes place in four consecutive terms, which includes one summer term. The establishment and maintenance of a strong cohort community is central to the iMet Program.

Students in the program work primarily in team situations and class grades are assigned per group, not per student, in group assignment situations. During the online portion of the program, students rotate between weeks of synchronous and asynchronous activity. Asynchronous sessions involve independent work, reading reflections and discussion forums. Synchronous activities include whole group direct instruction and small group work such as project planning and development, explorations of emerging technologies and virtual office hour meetings with faculty. Students in the program take three courses each term: one 4-week course at the start of each term followed by two 12-week courses simultaneously for the duration of the term. Students meet for Friday evening/Saturday day sessions at the end of each term to re-connect in person, to share culminating projects, and to receive information regarding their next course offerings.

The curriculum of the program does not involve teaching specific applications, but rather teaching students how to identify current trends in technology and design for the integration of emerging technologies into instruction. iMet Program courses were designed with titles such as "Technology and Modern Practices" to allow the curriculum to shift rapidly as new technologies emerge. Program coursework challenges students to work in their groups to:

- Learn new applications or processes;
- Determine if, when, and how the applications would be useful in the support of classroom instruction;
- Design curricula that integrate emerging technologies;
- Design staff development scenarios.

The problem-based instructional approach used in the iMet Program provides students with a process with which they are able to critically analyze and manage technological innovations and models a method for engaging students in technology-rich, problem-based curricula. Between 2000 and 2009, each cohort's time in the program coincided with

the development of new technologies with significant educational application. Blogs, Second Life and WIKIS are examples of applications that emerged as cohorts began and became the basis for coursework and creating technology-integrated curricula.

Research Methods

In the spring of 2009 a survey was emailed to 174 iMet Program alumni. Ninety-two students (56%) responded to the survey. In the survey students were asked to identify the degree to which they agreed or disagreed with a series of statements about the program and to explain their responses in narrative form. Additional data were obtained from an analysis of course reflections (N=78) submitted by students upon completion of their initial and final courses.

A summative content analysis was used to determine the findings in this study. This process involved examining narrative text for keywords and phrases, sorting these key words into categories and then identifying findings based upon these categories (Hsieh, Hsien & Shannon, 2007). Trustworthiness was maintained using authenticity criteria. Authenticity criteria involved maintaining a deliberate focus on examining multiple perspectives, looking for changes in stakeholder thinking, awareness of thinking, increases in interaction and evidence of collaboration between leaders and stakeholders (Guba & Lincoln, 1989).

The Importance of Community Development Strategies to the iMet Program

The data analysis revealed that the community development strategies employed in the program were key factors in facilitating community and vital to students' success in the program. Some of these strategies were designed from the onset of the program, while others emerged based upon feedback from students and/or instructors. Strategies were also developed due to the need to respond to administrative demands such as budgeting and personnel changes. What these strategies have in common is that they all emerged in the data analysis as critical to student success from the perspective of multiple stakeholders in the community, changed students thinking about community and technology education, and helped to contribute to a community consisting of both faculty and students working together to develop technology-based content, lessons and staff development activities. The strategies are defined and discussed below.

Strategy 1: Establish a Community as Well as a Cohort

Cohorts in the iMet Program have proven to be positive experiences for students. Factors that have helped to ensure community development include:

- Making certain the cohort is a community that consists of both students and instructors. Program faculty members attend all face-to-face sessions in the program. This ensures consistency across courses and helps to ensure that all instructors are a part of the cohort, and less likely to be the target of a cohort;
- Establishing and maintaining program-wide expectations based upon the learning environments in the program. Face-to-face sessions and synchronous and asynchronous online environments all have rubrics that describe program expectations and assess participant behavior. These rubrics are flexible enough for instructors to set individual criteria for content, but clearly identify what constitutes exemplary, target, and marginal student performance in all program environments;
- Providing students with a very clear set of expectations for cohort community participation. iMet Program orientation meetings are held prior to the start of new cohorts. In these sessions students are informed of the community-based nature of the program. In addition, students are accepted into the program partly based upon their response to a written application prompt that asks them to describe their feelings about participating in a cohort community and working predominately in small group situations during the courses.

In responding to the survey item, "The experience of being a member of an iMet community was not a significant factor and less time should be spent trying to establish and maintain community", 87% of respondents disagreed and identified participating in a community as a major strength of the program. The following are examples of students' narrative responses:

- Student 9: "The cohort was critical. The support and different expertise of various members magnified the learning. The group *IS* greater than the sum of its parts."
- Student 24: "I believe that the cohort system gave the iMet program the ability to build relationships among the students. These re-

lationships were key for both respectfully listening in class and also during the purely online portions of the program. I feel that the sharing of information and skills would not have occurred if not for the relationships built and time shared together."

- Student 38: "I knew that if ran (sic) into trouble and needed help I wasn't alone in the IMet program. The community fostered in the iMet program is its greatest strength!"
- Student 47: "We were able to get close to peers who share similar careers and goals. We have possibly made career connections and/or lifelong friends."

The establishment of a community takes valuable program time, personnel, and budget resources. In addition, many students are initially reluctant to participate in community building exercises. To change students attitudes regarding participation in group activities required having a clear plan to make certain that time in this regard was carefully crafted and served a purpose, not just for the moment, but as a part of the long term program experience.

Strategy 2: Take Advantage of Professional Experience Diversity

The iMet Program cohort community development philosophy is captured well in a description of the community of practice model proposed by Lave and Wenger (1991) in assuming that members:

> Have different interests, make diverse contributions to activity, hold varied viewpoints, participate at multiple levels, and participate in an activity system about which participants share understandings concerning what they are doing and what that means in their lives and for their communities (p. 98).

Since the iMet Program is a master's degree program in education that does not require a teaching certificate, students enter the program with a wide variety of background experiences and expertise in areas such as teaching, technology, and administration. Because of this diversity, individual members of the group can be either an expert or a novice given the skill set called for in a given situation. For instance, some teachers do not have extensive experience with technology and some technologists know little about teaching. Analyzing and integrating technology into the curriculum requires both of these skill sets.

Ninety-two percent of student survey respondents disagreed or strongly disagreed with the statement, "The experience of working with people from a diverse range of backgrounds created more problems than it was worth and this program would be better if it focused on K-12 education." The following statements are examples of students' statements about the diversity of background experiences in the IMet Program:

- Student 22: "It was awesome having so many different expertise (sic) in the group. We all balanced each other out and had something to offer one another."
- Student 43: "I strongly disagree...the diversity was great. I have a background in graphic design and web design...so I was able to bring something to the table. I lacked the educational background, so having k-12 teachers in the classroom really helped me."
- Student 61: "It was very important for me to meet and work with the diverse community in iMet. Our world is now very diverse and culturally complex. Working in small groups within the cohort actually helped broaden my perspective, and my ability to relate to others."
- Student 74: "This is what made the program interesting. We all have something to contribute and feel valued for that reason. I have NEVER learned so much in school before."

The time and resources spent to develop community in the iMet Program allowed students with the diverse knowledge and experiences to build trust with each other and this allowed for teaching and learning to occur, not only between faculty and students, but also between students. Each member of the cohort had the opportunity to be both an expert and a novice depending upon the learning task—to both receive and share expertise.

Strategy 3: Recognize the Individual Nature of Teaching and Provide a Process for Community Development

There are multiple references in the literature to the inevitability of isolation in the teaching and teaching-related professions (Pomson, 2005; Schlichte, Yssel & Merbler, 2005). Some of these references go so far as to point out that the isolation of teachers is not only rampant, but also actually institutionalized in the training of new teachers (A'Vila De Lima, 2003):

> In the absence of a surrounding culture that welcomed and nurtured collaborative work as an accepted daily way of dealing with teaching matters, the initial teacher training

> arrangements that existed ended up serving the cause of individual survival. By insisting on individual planning, the independent development of materials and the individualized assessment of teacher performance, teacher training practices promoted and reinforced a culture of professional isolation, even within a formal framework that at first sight seemed ideally tailored for putting a prime value on collaborative work (p. 215).

Placing students in a cohort group has the potential to disrupt the tradition of isolation, but does not guarantee a successful experience. To ensure the opportunity for successful community interaction, the iMet Program faculty designed an initial 4-day (Wednesday evening through Saturday afternoon) retreat. As students enter the room for the first evening of the orientation they are greeted by faculty and invited to leave their laptops in their bags and to participate in a buffet dinner provided by the faculty. Tables and chairs are organized into one large square and students are encouraged to find a place at the table and to get to know someone while they have their meal. After the meal, students participate in activities that allow them to learn each other's names quickly, identify their individual learning styles and conflict coping strategies. They also begin to think about and discuss group dynamics that result in low and high-functioning groups.

At the end of the first evening students are introduced to a check-in, check-out process. This process involves everyone moving their chairs into a circle and opening the floor for comments group members would like to share. This process occurs at the start and end of each face-to-face session and allows for group members to share things that are happening in their lives, to ask for things that they need, and to share things that might be of benefit to others in the group. For the duration of the retreat the content focus for students is an introduction to the online technologies used in the program. The process focus is on continuing to provide time, meals, and activities that allow the participants to get to know each other and explore potential collaborative relationships for the group projects to come.

On Friday evening of the retreat week an alumni dinner is held. At the alumni dinner new cohort members dine at circular tables in small groups. An alumnus of the program is seated at each table and shares and answers questions from the students. At the end of the dinner each alumni table host addresses the whole group and shares their advice for being successful in the program. At the end of the evening the new members are presented with flash drives embossed with the iMet Program logo.

By the end of the 4-Day retreat, students have: 1) become acquainted with one another and become part of the learning community; 2) worked in task-oriented collaborative groups on tasks such as determining and discussing their coping and learning styles; 3) created summaries of their work and presented their findings to the group; 4) learned how to use the online teaching tools used in the program; 5) established membership on a team with whom they will complete their first course culminating assignment, and 6) are connected electronically through individual emails, the program website and a cohort listerv.

In reflecting on their retreat experience, students made the following comments:

- Student 13: "The retreat - at first it was daunting that we'd be spending 4 days together, wondering "what in the world were we going to do?" But at the end, I felt that it was a very meaningful time spent together. I am glad that you have organized so much to develop the relationships (large and small group work, lunches together, the dinner) within our learning community. "
- Student 28: "Everything functioned to create community: from check in to check out. Check in set the tone; group work provided the "meat;" the substantive tasks to hone our adaptation to making a team; dialogue provided informal watering holes; social times were ample; the final project gave us a windmill to tilt at. It all worked, and it all worked well."
- Student 36: "I think that spending time with people over the four days of the retreat was invaluable. Time with people in and out of the classroom to get to know each or at least some of the personalities was a huge benefit. I found that the name game really helped me remember everyone's name. It was also funny how some people had second thoughts about their nickname after they had chosen it."
- Student 52: "It allowed relationships to form that would not naturally occur in a regular program. The team approach helped to keep me focused.... I had started a couple of other master's programs which I never finished.... this did not happen with iMet."

iMet students initially identify making themselves available for the 4-day retreat as the greatest challenge and most frustrating part

of joining the cohort. They initially question why a primarily online program would make them spend so much time face-to-face. But at the end of the program, students overwhelmingly identify the retreat as the single most positive and important aspect of the program. For example, in one cohort group's (n=27) reflections, 54% of students disagreed with the statement, "Prior to attending the orientation retreat, I thought the retreat would be worth giving up three and a half days of my life". But in reflection, 100% of the students either agreed or strongly agreed with the statement, "Having attended the orientation retreat, I think the retreat was worth giving up three and a half days of my life."

Strategy 4: Utilize Multiple Levels of Expertise: Alumni Instructors

An emergent feature of the iMet Program is the utilization of alumni instructors. iMet alumni instructors are exemplary students from previous cohorts who have been invited back into the community to teach. These students are chosen based upon their capacity to become graduate instructors, their growth during their time in the program, and their dedication to the community-related functions in the program. The alumni instructor feature of the program came to be not through design, but through necessity. A full-time faculty member left the program and was not replaced. To fill the void, exemplary program graduates were hired as part-time instructors. But as the alumni instructors began their work, it became clear they were providing a critical additional layer to the community. iMet alumni instructors serve the unique function of providing a level of support that is above the level of the student, but below the program director. The following responses from a iMet cohort (n=25) indicate the feelings of the students regarding the iMet alumni instructors:

- Student 11: "It was great to see their projects and their perspective on the program, and on how they have used their experience in their current situations. Very valuable, and added a dimension to the program."
- Student 32: "I think having former IMet students as instructor (sic) was a great experience. They understood how stressful times could be. They also knew about technology issues that can occur because it happened to them as students."
- Student 56: "It was nice to have the benefit of their experience in the program. They can truly relate to our issues because they have been there."

The alumni instructors serve not only as valuable resources for the students but are also capable of providing valuable feedback regarding program-related structures, processes and issues because of their unique experience as both student and instructor. The role alumni instructors represent what Lave and Wenger (1991) refer to as varying levels of mastery within the community. Situations emerge where a participant might not feel comfortable approaching the head of a community (or master, in Lave and Wenger's apprenticeship terminology) with an issue or question. The alumni instructors fulfill not only a program need, but provide a vital bridge between the students in the program and the leadership of the program.

The Post-Program Experience of iMet Students

One way to test the effectiveness of a program is individuals indicated having found new positions at the time of the survey and many directly credited the iMet Program with their success in finding new employment. Survey comments from students regarding new employment included:

- Student 28: "My combination of El Ed experience, plus the technology and professional development emphasis in coursework led directly to this position."
- Student 40: "iMet gave me the confidence to go for the new program, and the degree gave me the credibility with Admin such that they were willing to take a chance on both me and the program."
- Student 65: "Formerly I was a part-time teacher and worked for myself part-time running a website design company. I now work full-time for myself and also do consulting with school regarding technology."

Program graduates also have a high rate of achieving new leadership roles as educational technology leaders in schools, district offices, state agencies, and the private sector. The following descriptions from students indicate a variety of new roles found by students in their careers after participating in the program:

- Student 18: "It has allowed me to become more involved at a State level to foment distant learning in the Employment and Training World of the State of California."

- Student 42: "I am a middle school teacher and because of this iMet program I am teaching technology to students and doing staff development for my school."
- Student 57: "I started iMet as independent study coordinator/teacher … Two years ago I began working as a full-time special program teacher, helping teachers use technology as part of their teaching."
- Student 67: "I still teach the 4th, 5th, and 6th grades; however, now I am the technology leader/advisor for our school and principal."
- Student 90: "I was 100% in the classroom. I am now 70/30 with the new title of technology mentor. I have initiated a 21st Century program in my district, created and maintain the district website, and I am mentoring staff members in integrating technology into their programs."

Conclusion

In the case of the iMet Program, efforts to develop a community of practice for technology education professionals using the strategies described in this article produced high levels of retention and completion. In addition, students in the program became highly engaged with each other, and with technology integration and content development. Upon completion of the program, students were able to seek and attain positions of leadership in the educational technology community. Bonds were formed through the exploration of emerging technologies and creation of technology integrated content that have lasted beyond the boundaries of the program. The community that began in the iMet Program has grown to become a regional community of educational technology leaders who are all connected through their iMet Program roots.

It is important to acknowledge that these successes do not come without challenges. Because the iMet Program requires face-to-face participation, it tends to be a regional program. There has been interest in the iMet Program from students around the country and the world, but most students outside the region are unable to participate because they are not able to attend face-to-face sessions. It is also true that the cohort experience is not for everyone. Some students struggle with working on teams. Work, family, and other life responsibilities can make active participation on a COP difficult. In addition, maintaining the integrity of cohorts can also be a challenge for scheduling and budgets. For example, having students in cohorts requires closing course offerings to students outside of the cohort – many of whom may need a particular course offering to complete their programs.

My experiences during these years taught me the value of bringing education professionals together and allowing them to communicate and build relationships with their peers. In a time of tight budgets, finding resources to bring people together and to develop community can no doubt be a challenge. But my personal experience working within in a community of practice is that resources spent thoughtfully in this regard are resources well spent.

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