



Developing Community for Distance Learners in an Engineering Management Program

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Abstract

As universities explore options for the delivery of high quality degree programs to distance learners, some students will look for innovative offerings that combine virtual instruction with elements of face-to-face interaction. Distance learners often select programs that support the asynchronous delivery of core classroom material to retain the momentum of established careers and better manage work-life commitments. There is additional value in distance education opportunities that combine a flexible, academically rigorous curriculum with a personalized approach to create and sustain a supportive community for remote candidates. The existence of such a community can ultimately increase the potential for long-term academic success.

A low-residency version of an established graduate level Engineering Management program was launched at Duke University in 2009. This cohort-driven model utilizes a blended classroom to include distance and campus students in shared course sections each semester. Distance content is delivered in the form of recorded classroom lectures posted online weekly. The distributed program participants are predominantly employed on a full-time basis and typically complete the degree in two years. The credit requirements are identical for both distance and campus students. The remote candidates must, however, attend three weeklong residencies on campus to graduate.

This paper will detail the types of activities that can promote the development of an engaging distance learning community through an analysis of the four cohorts enrolled to date. Surveys distributed to a representative sample of distance students will be used to examine the experiences that were most effective in fostering connections with faculty, staff, and other students. Focal areas for assessment will include: community membership, key activities for relationship building, sources of program support, and communication channels.

Introduction

Distance learning provides a powerful mechanism by which nontraditional students can pursue their academic and professional development goals. As individuals increasingly harness the power of distance education to meet the demand for expanding skills, administrators and educators alike will seek ways to both attract and retain candidates through completion of their targeted programs. Remote students who have feelings of connection to their academic units and their universities are more likely to have higher levels of satisfaction as well as stronger levels of commitment to their studies. These individuals may furthermore develop and sustain a lifelong affiliation with the academic department and the institution as a result^{1,4,5}.

The term ‘community’ can be used to represent this notion of connectedness in the distance classroom and can fundamentally be defined in the context of four dimensions: spirit, trust, interaction, and learning as a common expectation⁵. Spirit represents the recognition that one holds membership in a given group and reflects the bonding that emerges as individuals spend time together. Trust demonstrates the developing reliance that members have on one another.

Interaction can be described as the degree to which individuals share more personalized information to provide mutual support. Learning as a common expectation represents the unified goal of the students and provides everyone involved with a focused outcome⁵.

Ruth Brown’s theory about the community-building process in distance learning classes suggests that there are three levels of community that can be identified: 1) “making online acquaintances or friends” through interactions with similar individuals, 2) “community conferment” via intensive discussions on a topic of importance, and 3) “camaraderie” achieved through long-term or intensive exposure to others¹. Subsequent work to identify pedagogical approaches in support of Brown’s theory reveals that educators and students alike need practical strategies to progress through these levels of community in order to yield successful distance learning outcomes³.

Methodology

Distance learners enrolled in the Master of Engineering Management Program (MEMP) at Duke University between 2009 and 2012 were surveyed to examine the four cohorts of students engaged to date. All of the distance learners held undergraduate degrees in engineering or science at the time of admission and completed or were in the process of completing the Master of Engineering Management degree while working full-time. The distance students watched recorded video sessions of required classes asynchronously in most cases, but had the option of seeing live classes if their schedules permitted. The required courses were typically blended sections with both campus-based and distance students. As such, the distance learners were sometimes paired with campus students for team assignments at the discretion of the faculty member delivering the class. A total of 59 individuals (24 alumni and 35 current students) were invited to complete the anonymous online questionnaire; 29 responses were received (14 alumni and 15 current students).

Results

Community Membership

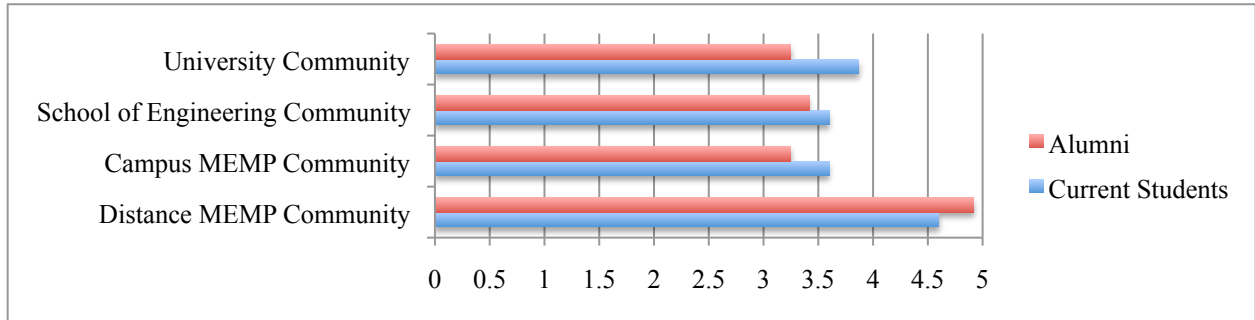
All (100%) of the survey participants indicated that they perceived themselves to be members of a distinct community of distance students. Respondents described what they gained from and contributed to the distance community as summarized in Table 1. The items referenced extend well beyond the bounds of simple task-based interactions (e.g. assistance with class assignments) to include more complex, experiential constructs involving relationships as well as personal development.

Table 1: Summary of gains from and contributions to distance community

Gains from Distance Community	Contributions to Distance Community
Support, friendship, encouragement, challenge, unconditional assistance, sense of belonging, knowledge, resources, academic assistance, help with work/life balance issues, contacts, national network	Knowledge, ideas, support, leadership, friendship, humor, experience, loyalty, career guidance, industry insight, collaboration, communication

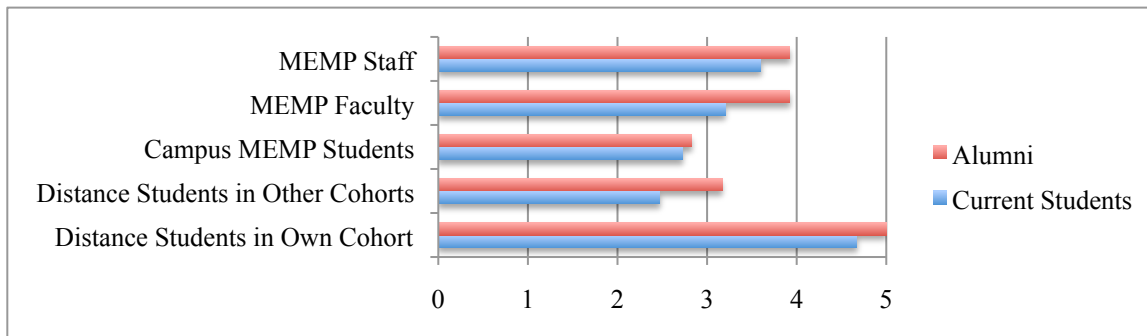
An analysis of engagement across a variety of segments indicated that interaction with peers in the distance MEMP community was rated as most important for both alumni and current students as noted in Figure 1.

Figure 1: Importance of engagement with various communities



Distance learners additionally rated the strength of their relationships with various constituencies as illustrated in Figure 2. Connections with peers within a specific cohort were strongest for both alumni and current students. Connections with campus students and distance students in other cohorts were weakest for both groups of respondents.

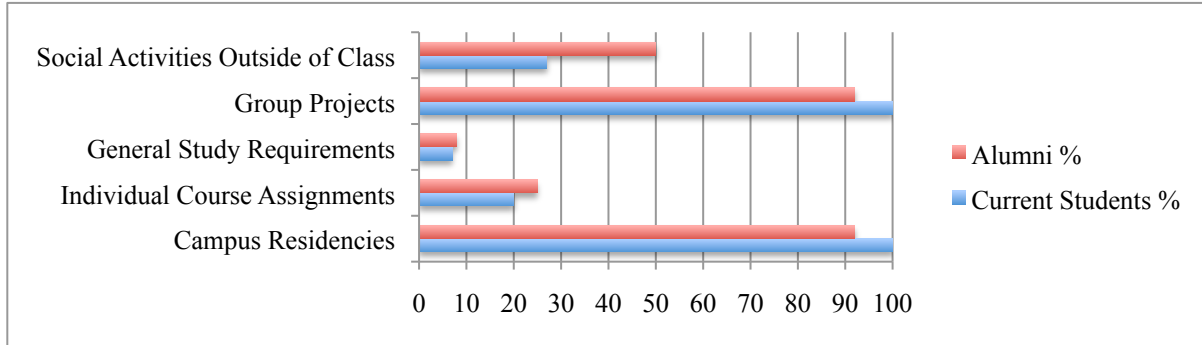
Figure 2: Strength of connections with various groups



Key Activities for Relationship Building

An analysis of the activities positioning the students to establish the strongest relationships with their distance peers is presented in Figure 3. The campus residencies and group projects had the greatest impact as reported by the respondents. General study requirements and individual course assignments appeared to have little impact on facilitating the strongest relationships.

Figure 3: Activities yielding the strongest relationship with distance peers

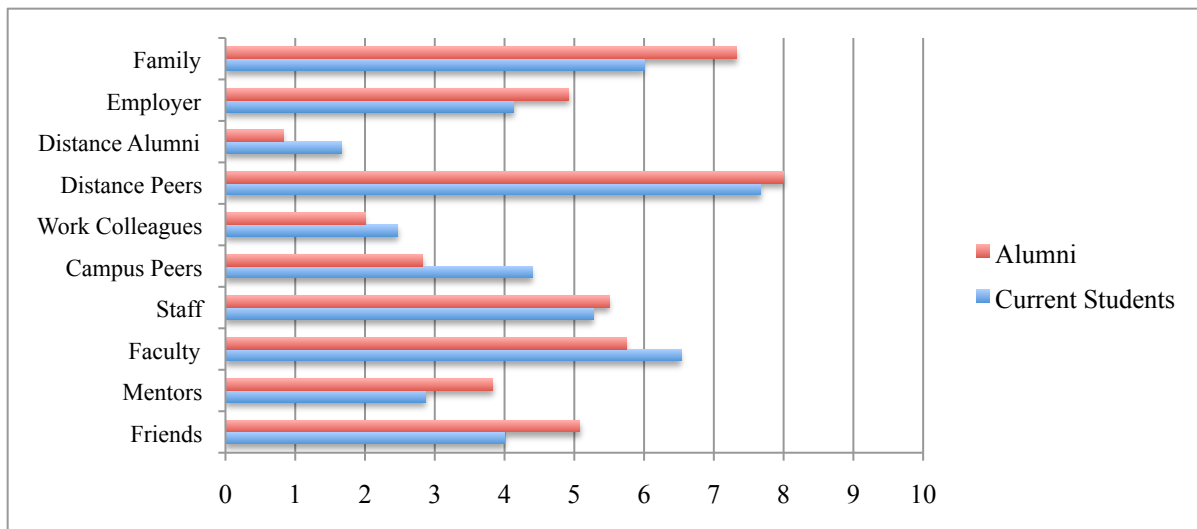


As expected, the three mandatory weeklong on-campus residency experiences (held in August of year 1, July of year 2, and May of year 3) specifically generated very strong connections among the distance students. The students experienced intensive workshops face-to-face with their peers as well as an extended team of faculty and staff members. The residencies legitimized the remote learners' experience as graduate candidates with a genuine context for and knowledge of the university. These findings are consistent with the credibility that residential experiences lend to distance education programs as described by other studies². Students in both groups additionally indicated that group project work was also a source of connection for the distance students.

Sources of Program Support

An analysis of the sources of support contributing to the students' progress in the program is provided in Figure 4. The data revealed 'distance peers', 'family', 'faculty', and 'staff' as the more critical sources of support. The least critical sources of support were 'work colleagues' and 'distance alumni'.

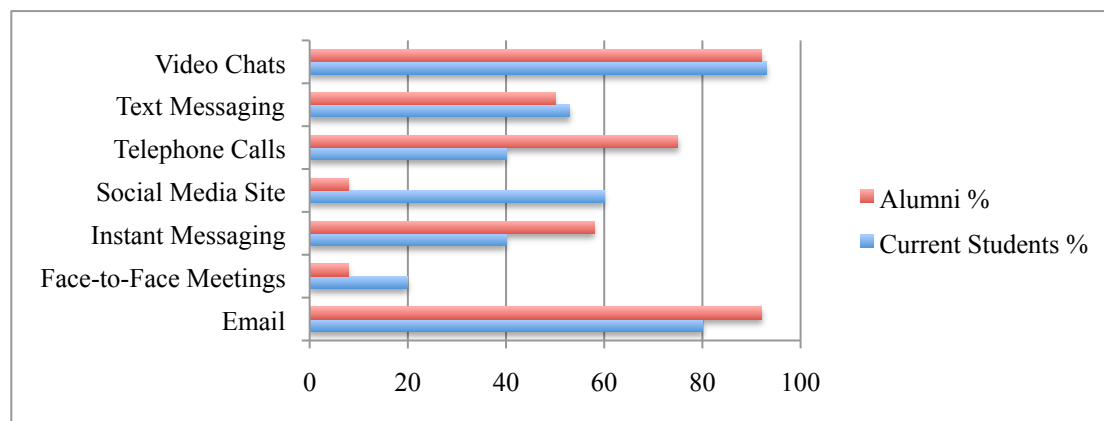
Figure 4: Average rank for sources of support contributing to distance students' progress in the program



Communications Channels

Distance students utilized the modes of communication presented in Figure 5 to engage most effectively with their remote peers. A review of the data shows that video chats and email were the most effective mechanisms for communicating among both alumni and current student populations. The alumni students additionally seemed to leverage instant messaging and telephone calls whereas the current students use social media sites; this may be related to personal preferences endemic to members of a particular cohort.

Figure 5: Modes of communication for effective engagement with remote peers



Student Suggestions

The distance learners identified suggested activities that could better connect them to the university as follows:

- Provide students with access to the distance technology in advance to set expectations and provide more information about class management
- Provide students with online versions of workshops traditionally targeted for campus candidates (e.g. job search session, networking programs)
- Encourage faculty members to talk with the distance students directly via monthly video chats or teleconferences
- Create a newsletter for distribution to current students
- Invite current students to alumni events sponsored in other cities
- Utilize Google Hangouts technology for student check-ins and discussions

These suggestions will be reviewed and incorporated as appropriate for the benefit of current and future distance student cohorts. In some cases, improvements have already been integrated into the distance infrastructure to better acclimate students to the program, obtain on-going feedback, and provide more detailed information upfront. Distance faculty members are likewise more of a focus as we work to improve the educational experience for the distributed candidates by sharing best practices, acting quickly on student feedback, and reviewing course evaluations for any systemic challenges.

Recommendations

Based on a review of the survey data, a number of internally driven activities can be pursued to better develop and sustain the distance community in the Duke University Master of Engineering Management Program as listed in Table 2.

Table 2: Recommended activities to develop and sustain the distance student community

Recommended Activities
Continue to require attendance at the three mandatory residency experiences as they provide an important foundation for the individual cohorts of students
Introduce students to each other electronically before the first residency to facilitate the identification of commonalities requisite for the development of relationships
Provide more access to campus programming and student services in virtualized formats that can enhance the academic experience
Define and socialize the term ‘community’ among the distance learners to level set expectations and encourage engagement beginning at the point of admission to the graduate program
Promote interaction across distance cohorts during the semester
Engage program alumni to interact with incoming cohorts before the start of the semester and throughout the duration of the program
Encourage faculty to leverage pedagogical strategies that drive community-building interactions among both distance and campus populations in the classroom ³
Connect distance graduates into broader activities driven by the university alumni association and socialize the importance of alumni connections throughout the program
Clarify staff roles and maintain contact with students during the semester while courses are in session

Administrators, staff, faculty, and students all bear some level of responsibility to contribute to the momentum required to establish and maintain community for remote learners. Clear, consistent communication with all parties involved will be critical to ensure that the distributed program continues to deliver an impactful, high quality learning experience that attracts and retains talented students.

Conclusions

The students in Duke University’s distributed Master of Engineering Management Program define themselves as a distinct community, and they view engagement with the members of their cohort as requisite for their successful completion of the degree. While solid connections currently exist, there is still work to be done to drive distance student linkages to the extended campus, school, and university communities. Community in a distance class promotes connection among individual cohorts, but can additionally influence the overall educational experience. Ultimately, such feelings of connectedness can facilitate student engagement, promote program retention, and align students with the mission of the university as well as a broad, international network of colleagues.

Further study is required to examine the extent to which the implementation of the

recommendations identified could impact the development of community among the program's future cohorts of distance students. There could additionally be value in assessing distance learners' longitudinal affinity to and engagement with classmates, the department, and the university as alumni.

Bibliography

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