Assessment #3: Design of an Online Community

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Background: Design and Methodology

Students who have committed to a STEM (science, technology, engineering, and math) major have chosen a challenging path. Underrepresented students face additional challenges since they may be the first in their family to attend college and may not have the support other students might have. While these students may be supported among their peers (Dennis, Phinney & Chuateco, 2005), they may not be aware of the benefits of a "formal" online community. Engagement in such has the potential to create a community of practice that will build relationships and serve to support them long after they graduate.

The STEM Scholars website was created and designed for the cohort of students that have been accepted in the 2019 Summer STEM Academy at NJCU. The purpose of the website is two-fold. Initially, it will serve to fulfill a niche (Kraut & Resnick, 2011) by supporting challenging academic courses with specific campus resources, access to answers frequently asked questions, as well as interactions with past students, faculty, and STEM professionals. As students engage with these learning partners in a meaningful way, the creation of a community of practice will form. The interplay of the community through technology in which learning and support are central (Wenger, White, & Smith, 2009). The challenges of STEM courses and balancing a full school schedule with work and family are some of the commonalities that give students the "incentive to interact" within this community (p. 7). The hope is to involve and engage these STEM students in building an online community that will support and retain them until they graduate with a STEM degree.

The website was designed with two objectives in mind. The first is that of supporting new STEM majors in a "more structured way" as a way to enable students to help one another

(Claveria, 2019). Not only would there be peer-to-peer interaction but additional interactions from faculty, former members of the Summer STEM Academy, as well as STEM professionals. Second, the topic-driven design incorporates focused material specific to STEM students (Palloff & Pratt, 2007). Additionally, collaboration, through a number of different technology tools, is the primary methodology on which the online community is built (Fogelson, 2019).

Design Decisions

All design decisions were made in order to allow members to fulfill the purpose of membership - to build a supportive community that will sustain them on their journey to the completion of their STEM degree. Because technology steward(s) keep the purpose of the site at the forefront, they continue to collaborate with members by collecting input. This allows for the technology stewards to improve and update the community to meet members needs through this dynamic website. Wenger, White, & Smith (2009) suggest the steward understand what principles are relevant to that vision. With this in mind, the vision for the community, to support STEMScholars to the completion of their degree, must remain focused. It is also important that the community feels that they have a "sense of its own evolution" in the development and evolution of the sight. When everyone is able to feel they are able to contribute to the decisions that are made it gives members the sense that they are supported and their input matters (p. 149).

While I did not include a page for personal profiles for members, I think that it would be important to have members be identifiable. Kraut & Resnick (2011) indicate that "personal information such as pictures promotes interpersonal bonds among people who have not yet interacted" (p. 95). While the group of students may have seen each other during orientation, most of their time will be spent in a small group. Having students upload a photo (or having a

page for member profiles) would allow students to engage with groups of students, or create new groups, that may have similar interests. Finally, the use of push notifications (if they opt in) allows students to have a continuous connection to the community (p. 234).

Compare and Contrast

Both the STEMScholar website and the many sites that I procured for Assessment # 1 - *Online Educational Gamification Communities* would be considered communities. I would posit that they each have the potential to create communities of practice. Wenger, White, & Smith (2009) state that "a community of practice represents an intention - however tacit and distributed - to steward a domain of knowledge and to sustain learning about it." These connections, within each of these online domains, connects members through their common interests, support for one another, and interactions that build relationships.

In contrast, the Gamification sites, while some may be communities of practice, many of the sites in Assessment #1 were focused on the topics of how to incorporate gamification in education, promoted products, supported educators, and offered up to date information on gamification in business and education. However, similar to STEMScholars, many of the sites had a number of helpful resources, offered blog posts with advice and personal stories and new information that specifically related to gamification. While most of the current online websites related to gamification, the intent of my website is to apply gamified methods within the website to support STEM students journey until the completion of their degree. Because most students have mobile devices it is my hope that this ubiquitous use of technology allows STEMScholars to interact and be supported 24/7 by professors, school resources, former STEM students, and STEM professionals throughout there enrollment in the STEM program.

Conclusion

In conclusion, by designing the prototype for an online learning community, STEMScholars, one must apply all of the objectives set forth for the course. If the objectives had not been taken into consideration it would be very difficult to create this cohesive, interactive, and successful website community. The creation of the website must have a specific purpose, in this case, procured by having researched similar communities in Assessment #1. This allows for the new website to fill an unfilled niche (Kraut & Resnick, 2011). Having an understanding of what is already available online to support this type of STEM student helps to refine its purpose.

The use of various technology options, blogs, forums, chats, podcasts, individual profile pages, push notifications, interaction with social media, and many more (Wenger, White, & Smith, 2009, p. 60) allow for a plethora of ways to support members interact with one another. These tools contribute to the creation of community while building inter-group relationships as they allow members to "try-on" different roles within the community. Additionally, as with any group dynamic, it is important for community members to understand what is normative behavior in the community, and what is not, so it is prudent to set these expectations and rules early on (Kraut & Resnick, 2011, p. 125). STEMScholars displays "Site Rules" on every page and askes members to accept them before joining.

Finally, the creation of a successful online community takes a lot of work! As stated in the syllabus we must review, analyze, and understand underlying theories and research related to online communities. While we have done this throughout the semester the STEMScholars prototype was created with these objectives in mind.

References

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