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Furthering Connected Teaching and Learning Through the Use of Virtual Learning Communities

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On-line learning is a dynamic process, the strength of which is realized through collaboration with peers, teachers and colleagues, and other subject experts or resources. On-line students are most successfully engaged through involvement in goal-directed opportunities promoting discovery, collaboration, reflective analysis, relationship building, and a personal relationship to learning (Fiddler and Marienau, Spring, 1995; Lave and Wenger in McPherson and Nune, 2004; Lock, 2002, p. 398; and Shea, February, 2006, section 1). The use of interactive discussion as an instructional method ensures that such opportunities are accessible to students, enabling the achievement of both individual and collective learning goals. A cooperative and collaborative process that allows inquiry and critical analysis, encourages negotiation, and promotes consensus building extends learning beyond the intellectual domain to include cognitive and affective development.

Certainly, a distinguishing feature of virtual learning communities is their reliance on electronic media to facilitate both access to requisite technology as well as interpersonal processes of communication and interaction. However, the potential for effective collaboration rests not with technological applications, but rather with instructors' abilities to facilitate interpersonal connections: simply stated, a learning community in a Web-based environment consists of participants, both students and teachers, who collectively utilize discussion as a method by which to identify learning needs and achieve shared goals (Palloff

and Pratt, 1999, 2001). Depending on the curricular focus, such groups may be developed as flexible, informal interactions, or more specifically structured communities of practice, focusing on collaborative processes that result in the construction of new areas of knowledge (Wegerif, 2002; Rovai, 2002; Wenger and Snyder cited in Stein, Fall, 2002). Such learning environments are sustained as roles and responsibilities, and the capacity for relational cohesiveness, cooperation, and collaboration evolve throughout the “life cycles” of the communities. Progression through various developmental stages is demonstrated by the depth and frequency of interactions and the relational qualities evidenced through communications, as well as by participant attitudes and behaviors, all of which, in turn, impact the successful achievement of learning goals.

Shaping Virtual Learning Communities: Establishing Logistics for Participation

Effective discussions recognize and legitimize the skills, abilities, and experiences of the collective learning community, while drawing on individual student interests and competencies to move learning forward. Because virtual students do not come into physical contact with one another, discussions become vital links not only to learning, but to affiliation and engagement (Boettcher, November, 2004; Collison, Elbaum, Haavind, and Tinker, 2000; Kearsley, 2000; McCracken, 2005; Palloff and Pratt, 1999, 2001; Rovai, November, 2004; Sergiovanni cited in Rovai and Jordan, November, 2004). Many of the same instructional skills and areas of knowledge routinely used to facilitate interaction and participation in traditional classrooms can be transferred to Web-based environments, including, for instance, the use of communication techniques, facilitation practices, presentation strategies, and assessment methods (McCracken, 2006). Specific types of activities that provide opportunities for increased interaction include structuring questions for response and ongoing discussion; facilitating virtual panels; assigning team projects; encouraging informal brainstorming sessions; and, using case studies and simulations to encourage cooperative problem solving.

The following ideas include best practices related to structural logistics that enable positive interactions.

Students enter on-line courses with varying familiarity with Web-based learning. Instructors should ensure that the institution and/or Department provide detailed orientations for students to whom on-line learning is a new experience, highlighting technical tools and approaches for successful participation.

E-mail forms the foundation for virtual communication, particularly at key points in an academic term, for example, as a course begins and ends. Instructors should provide a current e-mail address to students, and inform them immediately if this information changes. Resist the urge to make numerous email addresses available; select one address on which students can rely. If possible, utilize the email function within a course management system for correspondence with students; this enables communications to be archived in a central location, and ultimately enables efficient organization.

The classroom can be personalized by encouraging students to complete profile information that includes location, interests, hobbies, etc. The availability of minimal individual interests and goals enables students and teachers to have a personal context for introducing and sustaining participation in ongoing discussion activities.

In order to organize class communications, instructors can create separate forums (discussion locations) for the following types of discussions: responses to students' questions; dialogue related to general conversations of a social nature; and, issue specific forums. This enables similar correspondence to be archived in one location, assisting teachers to easily track questions, student participation, issues requiring further clarification, and, progress towards learning goals.

Teachers can request that students can help organize the virtual classroom by carefully labeling postings in the subject line of their responses so that they can be easily accessed and referenced in a threaded discussion outline.

Particularly in courses in which discussion is a primary instructional technique, reviewing and responding to numerous communications can be overwhelming. Instructors should remind students of the importance of organization and time management to studying in an on-line environment; this applies both to the preparation and submission of formal assignments as well as to discussion responses, the majority of which are text-based.

Encourage students to first complete responses to discussion questions using a word processing application before they submit them to the forum. This enables students to create

their own records of their responses in the event that the original posting is lost due to, for example, power outages, incapacitated servers, or other random activities that result in loss of written work.

Require that students stay in touch, encouraging questions, distributing information, and referring students to institutional resources of which they may not be aware. Because course information, activities, discussions and assignments are sequenced, it is important that students are able to clarify any questions or concerns as quickly as possible.

Instructors should take care to promote respect for the community and the process of interaction. Even though they can “attend class in pajamas”, students are obligated to maintain the same standards for conduct and communication in a virtual classroom that they would in its face-to-face counterpart. Teachers must provide guidelines for interaction, privacy, and conflict management (to include the institution’s code of conduct) that identify consequences for behavioral violations.

While it is important to have deadlines for student participation in specific discussion assignments, instructors should allow discussion threads to remain open and accessible following scheduled completion dates so that conversations can continue throughout the course term.

Technical Tools that Support Virtual Learning Communities

Just as a physical classroom requires the use of tools such as blackboards or chalk to communicate course content, a virtual classroom utilizes a variety of elements to facilitate learning. Each on-line course exists within a course management system; this system exists on the system’s Website, and generally includes all collateral components needed to support course instruction via a common portal, for example, an electronic grade book, a file manager, a course schedule, access to library and other resource materials, and plagiarism detection programs. Additionally, course management systems include functions that enable discussion through both synchronous and asynchronous communications, for example, by the use of email, virtual chat, audio- and video-conferencing, and discussion forums. Asynchronous discussions are organized by creating discussion threads, or message

sequences consisting of an original message followed by multiple responses. These types of discussions are commonly used in virtual classrooms as they allow continuous participation, independent of a fixed time or location. Additionally, many systems include a mechanism allowing synchronous discussions, conversations dependent upon participation at a fixed time and location, and may require that software is obtained and installed, and its use coordinated. The integration of multiple media is becoming increasingly common when using an electronic conferencing platform, allowing various combinations of asynchronous and synchronous text-, audio-, and/or video-based communication. Such applications may differ on the basis of their capacities for interaction and connectivity (e.g., one-to-one vs. one-to-many communications; one-way vs. two-way connectivity); time/location dependency and spontaneity (e.g., synchronous vs. asynchronous communications); accessibility (e.g., availability of requisite software, hardware, bandwidth, etc.); functionality (e.g., seamless integration of technology components); and, usability (e.g., ease of use of applications). These variables are important for consideration both as a course is developed and delivered, as on-line students typically have variable access to bandwidth, software, and hardware, and, therefore, may find the use of expensive and elaborate software or plug ins prohibitive to purchase and operate. Additionally, students enter virtual classrooms with varying experience in and understanding of the use of technological applications. By utilizing technological applications that can be easily obtained, installed and used, teachers ensure that the curricular focus does not become secondary to software and hardware.

In selecting media, instructors should use a variety of tools and methods not only to communicate course content and facilitate interaction, but also appeal to a range of learning styles and processes. A focus on the overall goals of the learning community and identifying media that are relevant to curricular focus and goals enables the selection of tools that enable the broadest access to all systemic components of the course website. Methods and tools can be chosen that enable parameters for communication and conduct to be established and maintained, and that facilitate the appropriate use of the discussion forum. As instructors make such selections they can assess the level of privacy afforded by the method or tool, noting, for example, the capacity for communications to be recorded/archived and retrieved. The following includes best practices in using technology to promote interaction.

Instructors should select technological applications that support curricular goals as well as multiple learning styles and intelligences, ensuring their use is relevant and appropriate.

Such applications should be supported by a mechanism to provide ongoing technical assistance to students. While it is considered best practice to make this assistance available 24 hours a day, seven days a week, this is not always feasible due to budget, staffing and other resource considerations. In this event, instructors should be able to use the technology characteristic to virtual communication and discussions, and be prepared to assist students by providing minimal technical support in the event they experience problems.

Students enter on-line courses with varying levels of familiarity with various communication tools. Teachers must carefully explain the various mechanisms that will be used to facilitate communication and interaction, providing definitions, minimum system requirements, and expectations for use/participation.

Depending upon students' connections, downloading communications software may take variable amounts of time. Students should be reminded to allow as much time as possible to prepare their systems to accommodate conferencing platforms, particularly when utilizing dial-up modems.

Facilitating and Moderating On-Line Learning Communities

In an instructional environment in which the medium facilitates learning, virtual communication and interaction take on a unique depth. A cooperative and collaborative process that allows questions, facilitates critical thinking, encourages negotiation, and promotes consensus building leads to intellectual as well as personal and professional development. Such a process is created as a result of design by teachers through a willingness to relinquish traditional classroom direction to prioritize a facilitative style to classroom management; responsiveness to inquiry, opinion, and information-seeking; comfort with collaboration as well as discourse; and, the ability to allow students responsibility for their own learning processes and outcomes. Promoting interaction and communication in Web-based learning environments holds variable strengths as well as challenges for students and teachers alike.

As learning communities are created, it is important to consider the range of learning styles with which students enter classes, and, particularly, the discussion space. Students' affinity and tolerances for specific types of activities indicate their educational preferences; these preferences shape styles, indicating the ways they are most comfortable learning. There are many styles by which individuals learn; although most are not limited to one style, dominant preferences may exist. Because Web-based study is heavily text-based, students who learn other than visually may particularly experience challenges to learning in a virtual environment. Because students demonstrate knowledge and skill acquisition through communications, instructional activities should integrate experiences, readings, and observations, enabling researched and reflective responses that promote critical thinking, inquiry, and self-assessment skills. Specific types of activities that provide opportunities for increased interaction include structuring questions for response and ongoing discussion; facilitating small group discussions; assigning team projects; encouraging brain-storming sessions; and, using case studies and simulations to encourage cooperative problem solving.

As examples, the following types of activities may be integrated within virtual classrooms:

Facilitating a conference telephone call with the author of a textbook as she synthesizes her research, and subsequently moderates a student debate of significant issues.

Organizing virtual teams to complete group projects, using a combination of asynchronous, threaded discussions and synchronous white boards and chat applications.

Supervising a student's internship with a community organization in her/his home town, and facilitating a discussion of these experiences with those of other interns placed around the city (and beyond) by reviewing a combination of pre-posted lecture notes and participating in real-time, text-based discussions.

Attending a virtual conference delivered through the use of a MOO[®], participating in a real-time, object-oriented virtual environment for a text-based conversation with peers from around the world.

Developing subject specific communities of practice where students and teachers explore new areas of knowledge to collaborate on research and other scholarly activities within a multi-media conferencing platform (such as Elluminate[®], Learning Times[®], WebEx[®], or HorizonLive[®]).

Although virtual learning environments afford students broad opportunities for interaction, possibilities also exist for the misuse of personal information, resources, course materials, and intellectual property. As the identified leaders in instructional environments, teachers must clearly define the purposes of communities and discussion parameters, identifying inappropriate use of the communication tools and providing visible and consistent consequences to their misuse. While an informal and facilitative approach may maximize the discussion potential for the community, it is teachers' responsibility to assist students to participate in these activities in such ways that substantive learning occurs: this often means setting firm boundaries related to on-line behavior and communications. In the event that the school has a code of conduct related to participation in virtual activities and courses, instructors can remind students of this policy; in the event that the school has no such policy, they can encourage its development.

The following ideas include best practices in facilitating and moderating discussions.

Frequent communications not only build collaborative relationships, they are critical to developing goal-directed learning communities with depth and focus. In order that communication extends beyond an exchange of information, instructors must stay up-to-date in discussions. To maintain dynamic and relevant virtual conversations, they should return to the learning community throughout each week (for example, at least three times weekly) to review student responses, respond to questions, manage crises, and provide clarifying information and referral.

Various aspects of discussion responses can be archived and reformatted for repeated use from term to term. By preparing uniform responses which can be customized later, teachers are able to allocate time to focus on original communications and individualized assessment feedback. This approach also enables instructor to relay consistent information to multiple class sections.

Teachers should consider the range of learning styles present in the discussion and larger classroom and utilize instructional activities that respond to a range of approaches and processes.

Instructors can capitalize on the anonymity provided by the virtual classroom to invite a broader participation from students; for example, students self-conscious about speaking

openly in a physical class may view participation in a virtual learning environment as a means to increase self-directedness, confidence, and assertive participation.

Teachers and students should identify methods and resources that can assist in bringing a wide spectrum of diversity into virtual classrooms, using the wealth of information available on the Internet to integrate new resources for further information or study.

Instructors can utilize previous academic, professional, and personal experiences that returning students contribute to discussions, creating opportunities for more experienced students to guide and/or mentor less experienced students.

Consistently frequent and substantive participation encourages student engagement; teachers must be available and visible, aware that teaching in a Web-based classroom requires them to be easily accessible and responsive.

Frequent communications not only build collaborative relationships, they are critical to developing goal-directed learning communities with depth and focus. In order that communication becomes more than an exchange of information, instructors must stay up-to-date in discussions.

In order to ensure that discussions are focused, relevant, and purposeful, instructors should describe and publicize (for example, via the syllabus) the ways members of the learning community will be expected to engage one another.

Promoting interactivity encourages active involvement and collaboration, enabling teachers to obtain ongoing feedback to modify courses throughout a given term. Because the ongoing use of methods that promote interaction may be demanding in the absence of facial expressions, voice intonation, or eye contact, teachers must identify additional environmental and interpersonal cues related to interaction, problem solving, and ongoing communication in order to continuously assess student progress.

Web-based communications reinforce the continued use of evolving technology applications, allowing students to build secondary skills and abilities to study and conduct research. Instructors should be aware that Web-based communications may present obstacles to students new to on-line learning, as well as those with reading, writing, keyboarding, hearing, or vision challenges.

Instructors must remind students that communications and interactions can be archived, and, therefore, should not be considered confidential. Confidentiality and privacy cannot be

guaranteed in an on-line classroom, and students should consider this when self disclosing personal and contact information. In establishing mutually agreed upon guidelines regarding the disclosure of discussion content, instructors should acknowledge individual boundaries as well as specific requests and needs.

By maintaining public general communications and discussions the entire class membership can benefit from information, ideas, and discussion. Having said this, however, discussions of an individual nature (such as reporting grade progress, discussing on-line behavior, responding to specific questions, etc.) should be conducted via individualized email so that privacy can be maintained.

Assessing Community Development and Student Participation

Unlike in a physical classroom, it is difficult for students to sit unnoticed in the back row in a virtual class; because comments and responses are archived, communication and participation can easily be monitored to the extent that they occur within the confines of the course structure. Whether formal or informal methods are selected, both continuous and cumulative assessment is critical to facilitating the achievement of individual and collective learning goals, as well as promoting the development of secondary academic abilities, such as citation and research skills. Instructors can ensure consistently positive and relevant discussions by continuously monitoring levels of participation, patterns of involvement, and the overall quality of communications; for example, responses that indicate interest, research, and critical thought demonstrate an understanding and application of course information.

Evidence of positive development is demonstrated when the community forms in such a way that students engage one another as they accomplish instructional activities and meet learning goals. Specific indicators confirm that these dynamics are present in a virtual learning space, for example: increasingly frequent discussions that occur independently of the teacher; communications in which participants expand on course ideas, or illustrate course principles through the use of personal experiences and examples; increasing abilities for peer and self assessment; and, familiar relationships that develop among students, who acknowledge one another's strengths or encourage each other through challenges.

Conversely, students at risk of being unsuccessful in meeting learning goals demonstrate a lack of participation (for example, neglecting assignments, demonstrating a decline in quality or quantity of work produced or a complete lack of participation/visibility), display unfocused or inappropriate interaction, or repeatedly refer to personal problems or other barriers to ongoing participation. Instructors must maintain an awareness of changes related to frequency of and substance in discussions, immediately communicating with students who miss assignment deadlines. Moreover, it is important to note repeated references to problems that interfere with ongoing participation, such as continued challenges to access (for example, obtaining requisite connectivity, hardware, and software), or writing, editing, keyboarding, reading, or vision difficulties, as the presence of these issues may indicate that students are struggling to access and understand course information and materials. Most course management systems make course statistical data available, and instructors can utilize such data to monitor student use patterns, identifying those times during which communications are most and least frequent.

The provision of continuous assessment assists instructors to be more personally responsive and engaged with members of the learning community. In order to encourage and motivate students to participate in the virtual community, it is important to provide rapid, specific, and personalized feedback as a means of ongoing assessment; this practice reinforces all participants' investments in and responsibility for facilitating the community. The feedback process promotes continuous and individualized learning, adds depth and insight to the remarks already provided by students, and affords teachers opportunities to reinforce important concepts. Building assessment into the facilitation process provides an opportunity to assess the extent to which a substantive and quality experience has been delivered, and participation in a virtual community has assisted students to achieve curricular learning goals. Moreover, this process enables the identification of those areas in which barriers to learning have occurred within the virtual community.

The following ideas include best practices in assessing student progress.

When assessing the quality of virtual discussions instructors should identify the ways student learning will be measured, as well as minimum criteria related to the quality and quantity of message content. These approaches should be congruent with the larger Department's instructional goals as well as consistent with institutional accrediting benchmarks.

Instructors should understand that students may be self-conscious regarding the quality and quantity of their contributions to the discussion, particularly during the initial weeks of class. Again, continuous feedback noting strengths and areas for improvement help to draw such students into discussion activities.

Instructors should provide parameters for proceeding with coursework, developing and publicizing a rubric (via the course syllabus) that specifically identifies the variables upon which participation will be assessed. While adherence to rubric parameters is critical to promoting self-assessment, teachers can maintain openness to unique and creative perspectives, ideas, and communications that further instructional goals.

By closely monitoring student progress, instructors are able to provide continuous individualized feedback; this practice ensures that students are consistently informed of their status and have opportunities to strengthen their work. Moreover, providing ongoing assessment according to a predictable schedule allows students to integrate developing ideas into ongoing assignments.

Knowing when to ask for help and how to formulate questions to obtain the information one needs are important skills for on-line students to develop. To this end, instructors should encourage students to assess their own progress, providing guidelines, standards, and feedback as they learn skills in self- and peer assessment.

Conclusion

Communities that develop in on-line instructional environments have the potential to be transformational in their significance to self-assessment and critical thought development, as well as important to furthering advising relationships, social networks, and school affiliations (McCracken, 2005). The communication, relationship building, and mentoring generated through participation in interactive communities provide a foundation for continuous engagement and learning. By assisting students to understand the purpose of activities, and directing them in such ways as to build increasingly complex areas of knowledge, exciting instructional opportunities are created that promote learning beyond course and program completion.

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