

Connection-Engagement-Empowerment: A Course Design Model

**David Yearwood, University of North Dakota,
Ricky Cox, Murray State University,
Alice Cassidy, University of British Columbia**

Authors' Contact Information

*David Yearwood, Professor and Graduate Director,
Technology Department, University of North Dakota,
10 Cornell Street, Stop 7118
Grand Forks, North Dakota, US 58202-7118;
Phone: 701-777-3061; Fax: 701-777-4320;
email: yearwood@und.edu*

*Ricky Cox, Professor of Chemistry,
Murray State University,
1201 Jesse D. Jones Hall, Murray, Kentucky, US;
email: jcox@murraystate.edu*

*Alice Cassidy, Course Coordinator,
Faculty of Land and Food Systems,
University of British Columbia, Room 235, Michael Smith Laboratories,
2185 East Mall, Vancouver BC, Canada V6T 1Z4,
email: alicecas@telus.net*

Abstract:

Connection, Engagement, and Empowerment (CEE) is a new model designed to support a student-centered approach to teaching and learning. Understanding the role of activating strategies to help students with connection to course material and processes is a necessary precursor to engaging them in meaningful ways. Further, the extent to which students feel a sense of empowerment may very well hinge on the type of authentic experiences that faculty create, allowing students to demonstrate not only what they know and understand, but what they can do as a result of our work with them. We outline each step in CEE, providing examples that could be applied in face to face, online or blended teaching and learning environments.

Key Words:

Connection, Engagement, Empowerment, student-centered approach, authentic experiences, activating strategies, teaching and learning.

Introduction

Many academicians would agree that educational activities should be planned, purposeful, and pedagogically appropriate. As teachers, how prepared are we to carry out each stage and how can we show students the importance of these stages? Humans are social creatures (Volti 2014), naturally curious, inquisitive, and active experimenters. Optimally, then, learning should be taking advantage of this inborn trait (Medina, 2008). The extent to which a lesson plan first allows students to make connections, then engages students is crucial to their understanding and ultimately their ability to apply what is learned in real or simulated settings.

This paper presents a new model that can provide a consistent and flexible framework in which to plan courses in any discipline or level, in face to face, online, or blended environments. The model, Connection-Engagement-Empowerment, termed CEE, shown in Figure 1, is unique because it emphasizes a stepwise series of three constructs necessary in successful teaching and learning environments:

1. Why activating strategies are needed for connecting with students and their usefulness as precursors to purposeful engagement;
2. Three approaches to think about when focusing on engagement in the student-centered classroom;
3. How authentic experiences that faculty create might lead students to have a greater sense of empowerment, including self-confidence.

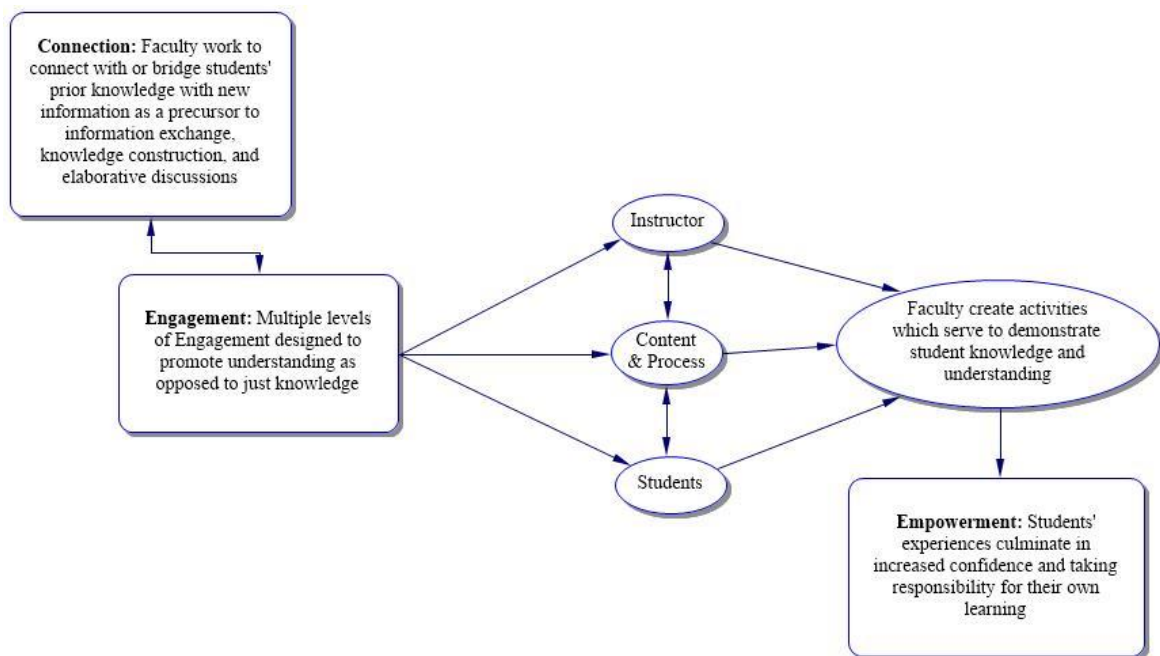


Figure 1. An integrated model of Connection-Engagement-Empowerment.

While connection, engagement, and empowerment are useful frameworks for thinking about and planning course design, these three constructs should also be

thought of as co-dependent on the traditional stables of goals, outcomes, learning experiences, and assessment.

- The establishment of goals and objectives developed for individual courses and the alignment of these two entities with the outcomes of the overall program.
- The type of learning experiences faculty create for students consistent with course outcomes.
- Authentic assessment activities that measure what students know and can do with knowledge acquired from inside and outside the classroom.

Some faculty members tend to focus more on content mastery and delivery, which is likely to promote a more teacher-centered approach (Robertson, 2000). In general, as faculty members gain more experience, they tend to follow a path toward more student-centered strategies (Robertson, 1999). The CEE model is particularly suited to faculty members who wish to revitalize how they connect and engage with students.

Theoretical Foundation

A number of scholars have included reference to aspects of connection and engagement, especially with helping faculty members design courses and curricula. Examples include the work of Fink (2013) on designing for significant learning and historical works by Bloom (1956) on the taxonomy of learning, especially for constructing learning objectives, Gardner (1985) and Kolb (1984) on aspects of multiple intelligences and learning styles, respectively.

Previous work that closely relates to the CEE model include Austin's (1993) Input Environment Output (IEO) model, the National Study of Student Engagement (NSSE; Kuh, 2009) and the classic "Seven Principles" work of Chickering and Gamson (1987). The issue of student success and outcome, however, may not be easily measured when viewed from the narrow context of what students want from a college experience. Similarly, employers might have vastly different ideas about what skill sets they wish students to have (Hart Research Associates, 2015). For example, some students may consider success largely from the perspective of whether or not they are hired upon graduation. Employers, on the other hand, while they expect that students will have the requisite discipline specific knowledge, might in addition, also want students to be critical and creative thinkers. The constructs of connection and engagement might be helpful in addressing these two measures of success for both students and employers. Clearly developed goals and outcomes should not only be content and discipline specific but also include critical and creative thinking activities that are measured via authentic assessment methods. Examples include activities that require the use of content and discipline knowledge for problem identification and problem solving. Students learn best when faculty help students make connections and are able to employ activating strategies that results in engagement with course content via events designed to access and use student's prior knowledge (Willis, 2006). We see the third element of the model, empowerment, as resulting from clear connection and engagement in and out of class. Empowered students take responsibility for their own learning, and leave a course or program feeling confident of their own abilities.

Austin (1993) notes the importance of post-secondary institutions having a clear understanding about the characteristics of incoming students (Input) as this knowledge will enable them to create the sort of programs, policies, and the experiences (Environment) that will enhance a student's work. However, what students, parents, faculty, and the administration see as the desired outcomes (Output) might be vastly different and may be compounded by the types of data that would be necessary to collect including the various analyses that need to be conducted.

The annually conducted NSSE (2009) provides another perspective about engagement. This report categorized information from 416, 000 first-year students from 673 educational institutions in the US and Canada provides information about student engagement in the areas of level of academic challenge, active and collaborative learning, student-faculty interaction, enriching educational experiences and a supportive campus environment. The results suggest that students perceive value in some areas of engagement, such as the need to seek out help when they do not understand course materials, for advising, and for engagement with the profession via internship or cooperative experiences. The findings suggest a possible need for greater peer to peer and faculty to student engagement. In particular, we note what appears to be the mismatch between faculty and student expectation for success as it relates to study time, which would suggest that a greater need exists for more student engagement with course content and possibly with their peers outside of the classroom.

The Faculty Survey of Student Engagement (FSSE; <http://fsse.iub.edu/>, a companion survey to NSSE) includes questions about how much time faculty members expect students to spend preparing for class, and how much they believe students actually spend. McCormick (2011) notes a decline in the amount of time students invest in studying. Likewise, Khachikian et al. (2011) note changes in student effort and grades throughout the term. See Lammers et al., (2005) for other views about student and faculty expectations regarding university work.

The work of Chickering and Gamson (1987) represents various hues of engagement. There are several ways to think about engagement but three relate closest to what we propose in our CEE model: faculty-student engagement, student-peer engagement and student engagement with the content and process. One can reasonably argue that while engagement at all three levels is desired, they may not occur equally at all times. How then should faculty optimally approach the engagement construct? Perhaps, this much can be distilled from the works addressed above: engagement matters, and it is therefore necessary for faculty to create learning environments that promotes multiple, recurring levels of engagement. From a comprehensive literature review, Zepke and Leach (2010) note ways to conceptually organize and improve student engagement in four categories motivation and agency, transactional engagement, institutional support, and active citizenship. Examples include enhancing students' self-belief, recognizing that teaching and teachers are central to engagement, creating learning that is active, collaborative and fosters learning relationships, ensuring that institutional cultures are welcoming to students from diverse backgrounds, and enabling students to become active citizens (p. 169).

Connection

Establishing connections with students is important for them to see the value of course components to their own lives; this can be challenging if teachers are unable to find common reference points allowing them to reach across generational, cultural, socio-economical, or socio-political divides. We feel that making connections from the outset sets the stage for dialogue and engagement around course topics. Likewise, establishing relationships with students requires teachers to understand who their students are, what they bring to the classroom, and how to make connections with them based upon shared common interests or experiences.

These kinds of connections can lead into opportunities for meaningful engagement. Connection activities could be diverse and may include current affairs, ethical, social, religious, or political issues. Providing students with clear learning objectives and associated class activities and assignments is illustrated by Cassidy et al. (2008) to promote aspects of global citizenship.

The use of technology where appropriate is an important point. The Pew Research Center (Lenhart et al., 2010), describing the attitudes and behaviors of the Millennial generation (individuals 18 to 29 years old) found that 72% of this group use social network websites. Seventy five percent of teenagers and 93% of those 30 and older have a cell phone. The increasing trend of using technologies as tools for making connections is also not lost on incoming students (Smith, et al. [ECAR], 2009). Instructors could consider using some of the same technologies as their students in order to connect with them through purposeful activities designed to engage students. Angelo and Cross (1993) provide many discipline-specific examples that can be used to both connect and engage students.

Several factors might hold the key to student learning: student motivation and student involvement in their own learning, the ability of instructors to situate students at the center of the learning experience, the setting of clear goals and objectives that are measurable, faculty helping students make sense of their experiences within the context of new information and faculty focused opportunities for students to apply what they have learned.

Some of these same tools offer real possibilities for instructors to make connections with students. One example of starting class to foster connection among students is to use crossword puzzles that students feel compelled to solve — one of many activating strategies. Groups of 2-3 students are able to connect with each other or with the instructor as they attempt to solve the puzzle. Other examples include showing short YouTube® video clips or other popular media that has some edutainment value, a provocative audio or sound file, or a creative or intriguing image. These high interest activities provide ways to help students feel connected with ideas and people. To be most effective, connection activities should meet two criteria: timeliness and selectivity.

Timeliness

Timeliness of a connection activity is important and should have some personal relevance to students at the time of its use. The connection activity could involve a current social issue that impacts relationships or a technology matter that is related to

ownership, use, cost, etc.. Maybe the connection activity is related to the university experience—rising tuition costs, restrictions related to downloading mp3 files, or graduation requirements. Whatever the issue, the connection activity must be designed to generate interest and conversation. It is also important that the selected connection activity be used when it is likely to have the most effect. The first five or so minutes of class time used for any connection activity may be well worth the effort if instructors not only plan the event, use an activity that is timely, but also have a strategy for moving seamlessly from the item that enabled them to make connections with students to the content identified for the class.

Selectivity

Any activity employed to establish a connection with students must be carefully selected to achieve its intended purpose, tied to the specific learning outcome of that class or section. Further, it should match or complement one's style of teaching, and promotes the feeling that the classroom is a "safe place" to offer an opinion. Care must be taken, however, to ensure that what is used is not too abstract or out of reach for students' understanding and eventual participation. Other considerations are for the activity to be "politically correct" and not cause offense, and adhere to policies governing the use of copyrighted materials.

Challenges and opportunities

In some way, attempts at connecting with students may be related to an educator's ability or willingness to take risks in the classroom. If students do not respond, and a connection is not made, it has the potential to damage the relationship between students and instructor. On the other hand, if connection or re-connection activities are successful, it opens up opportunities for engagement and learning. Imagine a scenario where the only interaction between instructors and students are hellos and goodbyes at the beginning and ending of class periods. It can be easy for instructors and detrimental for students, to lecture by following a pre-planned script that does not actively involve students. The probable inattention of students in these types of environments is related to untroubled adequacy — students come to class but are never challenged/encouraged to participate (Boreham, 1984); these types of classrooms are usually labeled as passive. Bain (2004) states that the best college instructors are not afraid to take risks and provide some level of active discomfort, in a supportive environment, for students as they are challenged to confront ideas and disciplinary concepts. Learning requires a stretching of the mind, being creative, taking calculated risks, experimenting, understanding and working through simple to challenging problems, so shouldn't these apply equally to teaching as well? An appropriately designed classroom environment can be the place to provide a framework for these activities and making connections with students is an important first step in the process.

Examples of connection activities

The following examples of connection activities are worth considering, keeping in mind that what works in one class may not work in another. One of the authors (Cox), a Chemistry professor, employs a theatre like approach periodically throughout the semester where he involves current and former students to act out skits related to class

topics. Another example from Cox revolved around the concept of interdigitation through the use of YouTube® clips where in one case, two tanks are shown pulling a phonebook apart which can make for some interesting conversation. A follow-up discussion about how proteins, like keratin, use interdigitation to gain strength could ensue.

Someone teaching mathematics might use video, audio, or static image that examines how stimulus monies offered to US communities was used; calculate the amount of oil leaked by the BP disaster; determine the various contributing factors related to the increasing out of control price of petrol; or conduct calculations to show how to achieve the greatest mileage on a liter of petrol as a way to make learning real for students.

Finally, a composition educator might use some humorous piece, which shows how a misspelled word or a misunderstood sentence had outcomes other than what was intended. Connection pieces used in this manner serves the dual purpose of generating interest as well as making content relevant to student's lives. It may also allow for the injection of humour and laughter amongst students.

While connection activities at the beginning of class are intended to serve a specific purpose, we also recommend that educators plan for periodic re-connection activities, a sort of mind-break or reinforcement. These could take various forms from the use of media interest items, "So what questions" about content or a low-stakes quiz, to help students see how far they have progressed and where they might go next.

Engagement

Student engagement ideally should consist of three parts: 1. Student engagement with *the instructor*; 2. Student engagement with *their peers*; and 3. Student engagement with *the content*. These forms of engagement are at times synergistic and supportive and can be tied together through the process of questioning. Socrates believed that the technique of questioning was a more effective teaching practice than by merely telling. However, near the 14th century, in an effort to reach more people, the practice of questioning was replaced by lecturing, which is still used today in various forms. As a result, educators were placed at the center of teaching and learning, a 'teacher centric' model of education. Huba and Freed (2000) and Weimer (2002) argue for a shift to a more 'learner centric' model of instruction where learners are more actively involved in their own education. This is of course the new classic 'guide on the side' as advocated by King (1993) as opposed to the 'sage on the stage' approach.

Although the lecture format is often criticized (Handlesman, 2004; Spence, 2001), this technique allows one to reach large audiences and is also ideally suited for the dissemination of information and instructions. Lectures can also be engaging by virtue of a presenter's ability to generate interest and passion for a given subject matter. While it can be a challenge to provide an environment where questions can be asked, there are numerous ways to increase audience engagement. Providing concrete examples to illustrate a point, systematically taking an audience through steps in a process, as in concept mapping, or leading audiences through the steps of problem-solving can hold interest and involve learners. Clearly, adequate planning, knowing when to provide key

summaries or to insert examples, and reading one's audience to limit cognitive overload are actions that will improve the effectiveness of lecturers.

Many instructors have moved beyond the traditional lecture method in an effort to promote more student engagement in the classroom. A well-designed lecture (Cox et al., 2005) usually has diverse pedagogical elements, supports effective processing of concepts and ideas (deWinstanley et al., 2002) and involves the use of questions to guide and facilitate discussion. At times, simple "yes, no, or maybe" questions posed by the instructor can help students determine if they are grasping concepts with "maybe" questions providing opportunities to engage students in the discussion of topics that require the integration of multiple sources of information. Although simple questions do little to engage or challenge students to think about the content in critical and creative ways, they can be a prelude to higher-level questions posed in the classroom. For example, a history teacher may engage students by asking controversial questions designed to provoke an emotional response relative to the civil war or the ethics of using weapons of mass destruction. An engineering instructor may present a problem relative to what is needed to construct a $\frac{1}{4}$ mile four-lane bridge that will handle weights of 10 tons of traffic. A mathematics instructor could engage students in the solution of a problem by deliberately inserting incorrect information similar to the mistakes that students typically make when solving certain problems, to see if students would catch the error (done only occasionally and as a teaching tool, not as a way to fool students.)

Engagement between instructor and student could also be easily facilitated through effective questioning, but care must be taken to ensure that this exchange create opportunities for dialogue as a result of thoughtfully framed questions where instructors do not respond to their own questions. Students need time to think and while the questioning technique can be an effective engagement tool, educators may need to become more comfortable with periods of silence (McKeachie et al., 2006). McKeachie and his colleagues (2006) also believe that the types of questions educators pose to students may go a long way towards cognitively engaging learners, thereby increasing their activity level in the classroom. Markert's (2001) suggestion is that good teachers talk less, and this practice may be a model for all educators to consider if they wish to have increased faculty-to-student and student-to-student engagement.

Another important consideration of engagement in the classroom is the development of mutual respect, a willingness by all parties to be both listeners and contributors to any exchange, as this will allow for some degree of openness. Becoming familiar with students' names and giving them permission to pass a few times when they may not have answers to questions can create a more relaxed environment that may be conducive to student/faculty exchanges and ultimately, increased engagement. Understandably, there will always be those students who would prefer to play a more passive role, and instructors will need to become creative in their attempts to draw out these students. Calling on students at various times for a concept check might be one way to identify areas that need clarification. Other techniques might involve guiding students in approaches to problem solving, helping them evaluate the logic of arguments presented, and providing examples about how to frame and provide adequate responses to problems.

Student engagement with their peers in and out of class is key. An engaged class gives lots of time for student-led discussions, ways to hear all voices and other techniques for the student to be the centre of the active learning. Cassidy (2009) outlines over 50 techniques and strategies to draw students in and keep them engaged, including examples and web links for further exploration. Examples include 'ticket to class' to encourage pre-readings are done, index card and 'snowball' activities to hear all voices in class, as well as strategies for providing and asking for feedback, and flexible assignments to allow students to connect course material to their interests.

Engagement strategies are also crucial to online, blended and/or distance learning environments. Software applications that allow synchronous, online collaboration between teachers and students using products such as Blackboard collaborate® and Adobe Connect® are examples. Options such as video, Voice-over-Internet, application sharing, chatting and polling also provide engagement opportunities online. Online work, whether synchronous or asynchronous, can also be built on the process of questioning individuals or collaborative groups of students. Educators who create opportunities for collaborative work, in both face to face and online environments, are more likely to have increased peer to peer interactions. In a study designed to evaluate the effectiveness of Reciprocal Peer Teaching (RPT), Krych et al. (2005) discovered that when select students were trained to teach an exercise, their understanding as teachers and learners was very high — 100 and 92% respectively. Johnson et al. (1988) found that individuals preparing to teach were more likely to have greater levels of knowledge due to the degree of understanding required to teach subject matter content.

The practice of engagement holds value in the academy, at times when it is augmented with techniques that make it possible for individuals to provide input anonymously. For example, Clickers (Course/Student Response Systems) offer educators the potential to promote increased dialogue when appropriately utilized, because such systems provide an element of immediacy and also elicit interaction based upon student responses to questions posed to them. What really matters is the amount of interactivity that is created. Consideration should be given to the types of questions asked in order to ensure consistency with the course goals, be it simple recall, demonstrated understanding of content, etc. (Bruff, 2009). West (2005) found that the success of clickers in the classroom could be attributed more to changes in teacher practice, which transformed the classroom environment from one of passivity to one of active student engagement.

While clickers hold promise for promoting more active and engaging learning environments, by virtue of their interactive nature, it is important that teachers pay close attention to the pedagogical nature of the interaction. Guthrie et al. (2004) note that clickers work best pedagogically as:

- Tools to engage students in open discussions, not simply as a tool to collect responses
- Devices that help promote conversation among and between students—peer collaboration where students are asked to interact with each other about a given topic

- A way to assess what students know and understand.

The key take away for educators is that Course/Student Response Systems can promote learning as a result of participation and engagement “when these devices are coupled with appropriate pedagogical methodologies” (Fier and Marshall, 2006, p. 106).

Educators who successfully communicate their passion for teaching and learning to audiences are more likely to have higher levels of initial engagement. However, continued and deeper levels of engagement may only be possible if instructional strategies are employed that make the content relevant to audiences and create opportunities for interactions that result in substantive discussions. No one technique will work every time for every class. Rather, having a repertoire of ideas to draw from is more likely to engage students. Engagement, like connection, must be planned and may require healthy doses of creativity to be successful. Creating meaningful engagement might revolve around the idea of educators thinking about how they could use the power of the question to evoke emotional responses or to strike responsive chords with students. Perhaps, students may learn more if educators teach from a position of optimum uncertainty—few things exist at the extremes—or where students and educators are forced to respond to open-ended questions as opposed to well-defined questions. Further, even when the answers to important questions are well established, having students discuss and propose possible answers or scenarios enhances their learning experiences when they finally learn the right answer, if indeed one exists. Weimer (2013) presents a collection of such concrete examples contributed by faculty members for new and experienced faculty.

Empowerment

The word ‘empowerment’ is defined in the Oxford English Reference Dictionary as the act of giving someone the authority or power to do something; making someone stronger and more confident, especially in controlling their life and claiming their rights; to make able (Pearsall and Trumble, 2003). We see empowerment clearly relating to gender, politics, economics, religion, social and education issues.

Robbins, Chatterjee, and Canda (1998) suggest that empowerment is a “process by which individuals and groups gain power, access to resources and control over their own lives” (p.91) in order to achieve some desired goal. Given that education is an ongoing process, occurring in stages, it seems reasonable to assume that the various phases of a student’s experience that culminates in knowledge and understanding can be both enlightening and empowering. Students come to the academy from diverse backgrounds, experiences and knowledge. Therefore it is important that careful consideration be given to ensure that the classroom is not only a place where students gain knowledge, experiences, and skills but a place where they acquire and build on the necessities to live and work in changing environments.

Student expressions such as “Now I get it,” raised eyebrows accompanied with a smile and a nod of concurrence, or the simple “hmm” of agreement help us see how knowledge acquisition could be considered a precursor to empowerment. Svinicki (2004) suggests that students must be able to monitor their own understanding and that course design should foster such self-monitoring. Indeed, the ability of a student to track

their own knowledge acquisition can be a compelling form of empowerment! However, knowledge acquisition by itself would require the added dimension(s) of the student successfully applying what was internalized to some tangible problem in order to affect a solution.

Assessment provides avenues for determining what students know, understand, and are capable of doing; the positive results of an assessment activity can be an empowering experience for students, by virtue of grades received or the successful completion of a task. Similarly, the gaining of confidence can also be a demonstration of empowerment; however, this may be harder to assess or show concretely. It may be that students will not readily have the kind of confidence that they or their instructors wish to see and perhaps, such confidence can only be realized over time as a result of continued immersion experiences. An effective way for some students to achieve higher levels of confidence may be for them to be confronted with real-world problems that are ultimately solved with the tools and skills obtained throughout their educational path.

Students process information through various filters whether they are of the experiential, cultural or ethnic, and psychological variety (Lever-Duffy et al. 2003). Thus, what teachers think students heard might not be what they *really* understood and the resulting message that was transmitted might be radically different in their minds from what was intended. “I know what you said but that is not what I heard or understood” may be a standard response from someone who failed to apply a principle or accomplish a task that we think they should be capable of doing but which they could not. Another component of this may be the issue of “illusion of comprehension” studied by Svinicki (2004). Students often misinterpret their own understanding of concepts and material and frequent feedback and opportunities to apply what has been learned are ways to avoid this illusion.

Empowerment, at a very fundamental level, might be a difficult concept to grasp from an educational perspective because students may not feel as though they have mastered the necessary content at a desired level of proficiency. In one sense, empowerment is about providing students with the habits of the mind they need to take information and apply it in meaningful ways. In another sense, empowerment is also about providing a structure in which students can use existing knowledge and experiences to contribute to class discussions that provide richness and complexity to the discussions. Therefore, it is conceivable that immersion experiences of varying levels may be necessary for students to develop a feeling of empowerment regarding what they know, understand and feel capable of doing. Cooperative or internship experiences could play a pivotal role as an avenue for gaining confidence mid-way between a student’s program of study as these avenues provide practical and working world or authentic opportunities for students to be immersed in the day-to-day activities or realities of the profession. The feeling of empowerment might also be aided by chance-taking activities created by instructors where students are given permission to explore or experiment, and opportunities to tackle difficult issues of the profession in order to solve problems. Thus, while empowerment could occur even within an introductory course, it may be at a superficial level and it may take some time for students to gain the kind of confidence that will allow them to perform at higher levels. Empowerment may be easier to achieve in advanced or capstone courses, although

some students may not feel the elements of empowerment gained in these courses until they reach graduate/professional school or enter the work force. Indeed, even the most cleverly or effectively designed courses in college may never be able to provide the type of immersive activities that the working world, or next level of education, can provide for students to truly feel empowered.

Empowerment can be delayed or not fully realized until years later or after other educational/work experiences. For example, one of the authors (Cox) knows of someone, who while enrolled as a pre-medical student, earned a high GPA and had developed excellent process skills, she appeared to clearly lack a sense of self-confidence about her abilities and knowledge. After just one year, the student returned much more confidence and spoke about how her undergraduate education allowed her to accomplish so much in medical school. Now in Year 3, she is clearly a self-confident individual participating in surgical rotations and helping mentor premedical students who want to follow in her footsteps. It would have been impossible for this student to fully realize her empowerment as an undergraduate if she had not been given the opportunity to prove herself in an environment with new people and new challenges. Perhaps, this student will achieve an even greater sense of empowerment once she starts her own practice and develops even more independence.

Empowerment ideally starts in our classrooms and laboratories with opportunities for students to accomplish some task by applying knowledge to a particular problem, observing the impacts, and reapplying lessons learned in order to achieve a successful outcome. The first step along the pathway to empowerment is making connections with students. This important first step fosters student engagement inside and outside the classroom. Ramsden (2003), in explaining differences between deep and surface learning, refers to similar examples. One such example of deep learning cited by Ramsden (2003) is teaching and assessment methods that foster active and long-term engagement with learning tasks.

Ultimately, students are provided opportunities to demonstrate in concrete ways what they know, understand, and can do as a result of our work with them. Such a demonstration leads to a feeling of empowerment that can be further developed as students enter the work force or graduate/professional school. Another way to empower students is to involve them in undergraduate research where they are provided with engaging hands-on research experiences under the direction of a mentoring faculty member. In this setting, students work as collaborators with faculty, acquire knowledge in research, and participate in laboratory meetings and planning sessions with faculty advisors. This level of association can also be valuable in the classroom where students can work as co-collaborators in the scholarship of teaching and learning, either for a course they are enrolled in with you as instructor, or in another capacity, e.g. peer tutoring. Healey et al. (2014) make a pedagogical case for partnership in learning and teaching, noting that partnership is essentially a process of engagement and show examples of where and how this has been successful. Two examples are including inquiry-based learning by students in a course and engaging students in designing the curriculum and giving pedagogic advice and consultancy.

Conclusion

CEE is a model that can provide a consistent and flexible framework in which to plan courses across levels and disciplines in face to face, online or blended teaching and learning environments. It is important that teachers employ connection or activating strategies to help students see how content and processes tie in to their own lives. Similarly, a need exists for meaningful student engagement at multiple levels, not only with the content but engagement with student peers and with the instructor related to the discussions that take place around given topics. Empowerment can follow, during or much after a course has ended.

Careful attention has to be given to how the use of such tools would add real and meaningful value to academic experiences. CEE, an integrated model to promote teaching and learning, may be unique because it emphasizes a stepwise series of constructs that teachers can use to achieve success in teaching and learning environments. Therefore, connecting, engaging, and providing students with opportunities to successfully navigate in a dynamic world will go a long way to promote student success, growth, independence, and feelings of empowerment.

References

- Angelo, T. and Cross, P. (1993). *Classroom Assessment Techniques: A handbook for college teachers*. NY, NY. Jossey Bass.
- Bain, K. (2004). *What the Best College Teachers Do.*, Cambridge, MA. Harvard University Press.
- Bloom, B.S. (Ed.,1956). *Taxonomy of educational objectives: The classification of educational goals: Handbook I, cognitive domain*. New York; Toronto: Longmans, Green. See <http://www.coun.uvic.ca/learn/program/hndouts/bloom.html> for chart adapted from Bloom.
- Boreham, N. (1984). Personality Factors Related to Self-Reported Lapse of Attention During Lectures, *Psychological Reports*, 55(1), 76-78.
- Bruff, D. (2009). *Teaching with classroom response systems: Creating active learning environments*. San Francisco, CA. Jossey-Bass.
- Cassidy, A. (2009). 50 ways to lure your learner. Volume II, Collected Essays on Learning and Teaching (CELT). Society for Teaching and Learning in Higher Education (STLHE); <http://apps.medialab.uwindsor.ca/ctl/CELT/vol2/CELT1.pdf>
- Cassidy, A., M. Nabavii and Y. Sipos. (2008). Learning Objectives and Objectives. In *Road to Global Citizenship: An Educators' Toolbook*. (Harlap, Y., Editor). Centre for Teaching and Academic Growth, in collaboration with UNICEF, University of British Columbia. http://wiki.ubc.ca/Documentation:CTLT_programs/Global_Citizenship/Road_to_Global_Citizenship
- Charron, S. and Koechlin, E. (2010). Divided Representation of Concurrent Goals in the Human Frontal Lobes. Retrieved 3-12-11 from: <http://www.sciencemag.org/search?submit=yes&fulltext=divided%20representation&andorexacttitleabs=and&andorexactfulltext=and&where=fulltext&hopnum=1>
- Chickering, A.W. and Gamson, Z.F. (1987). *Seven Principles for Good Practice in Undergraduate Education*. http://www.flinders.edu.au/Teaching_and_Learning_Files/Documents/7%20Principles%20of%20Good%20Practice%20in%20Undergrad%20Ed-ChickeringGamson.pdf

- Cox, R. and Rogers, J. (2005). Enter: The (Well-Designed) Lecture. *The Teaching Professor*. 19(5), 1-6.
- deWinstanley, P., Robert A. Bjork, R. (2002). Successful Lecturing: Presenting Information in Ways That Engage Effective Processing. *New Directions for Teaching and Learning*. 89, 19-31.
- Fink, D. (2013) *Creating Significant Learning Experiences*. New York, NY: Jossey-Bass. Download a 37-page self-directed guide from <http://www.deefinkandassociates.com/index.php/resources/>
- Gardner, H. (1985). *Frames of Mind: The Theory of Multiple Intelligences*. New York, NY: Basic Books, Perseus Book Group.
- Guthrie, R. W & Carlin, A. (2004). Waking the Dead: Using Interactive Technology to Engage Passive Listeners in the Classroom. *Proceedings of the Tenth Americas Conference on Information Systems*, New York, August 2004.
- Handlesman, J., Ebert-May, D., Beichnerruns, P., Chang, A., DeHaan, R., Gentile, J., Lauffer, S., Stewart, J., Tilghman, M., & Wood, B. (2004). Scientific Teaching. *Science*. 304, 521-522.
- Hart Research Associates, (2015) *Optimistic About the Future, But How Well Prepared? College: Students Views on College Learning and Career Success*. <http://www.aacu.org/leap/public-opinion-research/2015-students>
- Healey, M., Flint, A. & Harrington, K. (2014). Engagement through partnership: students as partners in learning and teaching in higher education. UK Higher Education Academy. <https://www.heacademy.ac.uk/engagement-through-partnership-students-partners-learning-and-teaching-higher-education>
- Huba, M., Freed, J. (2000). *Learner-centered assessment on college campuses*. Needham Heights, MA. Allyn and Bacon.
- Johnson, D., Johnson, R., & Smith, K. (1988). *Active Learning: cooperation in the college classroom*. Edina, MN. Interactive Book Company.
- Khachikian, C. S., Guillaume, D. W., & Pham, T. K. (2011). Changes in student efforts and grade expectation in the course of a term. *European Journal of Engineering Education*, 36(6), 595-605.
- King, A. (1993). From sage on the stage to guide on the side. *College Teaching*. 41(1), 30-36.
- Kolb, D. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice Hall.
- Krych, A., March, C., Bryan, R., Peake, B., Pawlina, W., and Carmichael, S. (2005). Reciprocal Peer Teaching: Students Teaching Students in the Gross Anatomy Laboratory. <http://onlinelibrary.wiley.com/doi/10.1002/ca.20090/pdf>
- Kuh, G. (2009). The national survey of student engagement: Conceptual and empirical foundations. <http://onlinelibrary.wiley.com/doi/10.1002/ir.283/abstract>
- Lammers, B., Kiesler, T, Curren, M.T. Cours, D. (2005). How hard do I have to work? Students and faculty expectations regarding university work. *Journal of Education Business*, 80(4), 210-213.
- Lenhart, A., Purcell, K., Smith, A., (2010). Social media and mobile internet use among teens and young adults. <http://www.scribd.com/doc/50662556/PIP-Social-Media-and-Young-Adults-Report-Final-With-Toplines>
- Lever-Duffy, J., McDonald, J., & Mizell, A. (2003). *Teaching and learning with technology*. Boston, MA: Pearson Education, Inc.
- Markert, Ronald J. (August 2001). What makes a good teacher? Lessons from teaching medical students. *Academic Medicine*. 76 (8), 809-810.

- McCormick, A. C. (2011). It's about time: What to make of reported declines in how much college students study. *Liberal Education*, 97(1): 30.
- McKeachie, W., Svinicki, M. (2006). *Teaching Tips: Strategies, research, and theory for colleges and university teachers*. Boston, MA. Houghton Mifflin Company.
- Medina, J (2008). *Brain Rules Brain Rules: 12 Principles for Surviving and Thriving at Work, Home, and School*. Pear Press, Seattle, WA.
- New Paradigm of Toronto. (2010). <http://www.prnewswire.com/news-releases/77-of-the-worlds-online-youth-would-rather-live-without-tv-than-live-without-the-internet-52722072.html>
- Pearsall, J., B. Trumble, Editors. (2003) *Oxford English Reference Dictionary*. New York: Oxford University Press
- Ramsden, P. (2003) *Learning to teach in higher education*. (p.47) 2nd ed. London and New York: Routledge Falmer.
- Reay, B. (2008). Students who use clickers score better on physic tests. http://www.eurekalert.org/pub_releases/2008-07/osu-swu071608.php
- Robbins, S.P., Chatterjee, P., & Canda, E.R. (1998). *Contemporary Human Behavior.Theory*. Boston: Allyn & Bacon.
- Robertson, D. L. (1999) Professors' Perspectives on Their Teaching: A New Construct and Developmental Model. *Innovative Higher Education*, 22 (4), 271-294.
- Robertson, D. R. (2000). Professors in space and time: Four utilities of a new metaphor and developmental model for professors-as-teachers. *Journal on Excellence in College Teaching*, 11 (I), 117-132.
- Smith, S. D., Salaway, G. and Caruso, J. B. (2009). *The ECAR study of undergraduates and information technology* <http://www.educause.edu/Resources/TheECARStudyofUndergraduateStu/187215>
- Spence, L. (2001). The Case Against Teaching. *Change*. 33, (6), 11-19.
- Svinicki, M. (2004). *Learning and Motivation in the Postsecondary Classroom*. San Francisco, CA, Jossey Bass
- Volti, R. (2014). *Society and Technological Change* (7th ed.). New York, NY: Worth Publishers.
- Weimer, M. (2002). *Learner-centered teaching*. San Francisco, CA. Jossey-Bass.
- Weimer, M. (Ed). 2013. *Teaching strategies for the college classroom: A collection of faculty articles*. Madison: Magna Publications. www.magnapubs.com
- West, J. (2005) *Learning Outcomes Related to the Use of Personal Response Systems in Large Science Courses*. <http://www.academiccommons.org/commons/review/west-polling-technology>
- Willis, J. (2006). *Research-Based Strategies to Ignite Student Learning: Insights from a Neurologist and Classroom Teacher*. MA, Association for Supervision and Curriculum Development (ASCD).
- Yearwood, D. (2008). Notes from the teacher ... Teaching Tips: Engagement makes. *University Teaching Services—Learn*. 17(1), 5-7.
- Zepke, N., and Leach, L. (2010). Improving student engagement: Ten proposals for action. *Active Learning in Higher Education*, 11 (3), 167-177.