Identifying Student Needs and Capturing Their Interest

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Introduction

This literature review looked at the inherent difficulties that arose in assessing students' needs and motivations, and how technology fostered greater student success. Capturing and keeping the attention of students was a complicated and frustrating endeavor. There was no single formula for motivating students to attend class, be attentive and strive for their best. The world changed at such a fast pace, the motivations and attentions of students varied significantly. Teachers must stay informed in order to understand and work with the complex array of emotions and backgrounds that the constantly evolving class presented. Technology was considered important but so was an understanding of the broad socioeconomic, cultural and personal factors that bubbled beneath the attitudes of students.

Student Retention: Considerations for Improvement in Student Success Rates

In higher education student retention was an important two-pronged topic in regards to students staying in class, and students remembering the material. Shapiro (2009) discussed the advantages from a simple technology integrated into the classroom. Shapiro used the iClicker personal response systems (PRS). The individual PRS devices were found to be useful tracking participation and incorporating quick review questions and answers into lectures to get a sense of how well students absorbed the class material. The author reported students' participation was tracked each day in class, and students felt a greater obligation to show up to class because knew their presence was being documented. According to Shapiro the iClicker PRS engaged the students in the classroom, encouraged participation, and improved the attentiveness of the students as well. Bowen, Price, Loyd, and Thomas (2005) found that student attendance improved when they actively monitored attendance of students with the simple technology Uni-

Nanny®. Uni-Nanny® not only encouraged students to come to class, but also helped identify potential problem students that were contacted and sometimes saved from dropping out.

Roger (2004) observed that the shortage of educators able to teach other educators new technologies presented an obstacle to the technologies implementation. Roger found the shortage was expected to increase if graduate ready educators continued to be in short supply. Continued accumulation in the short fall of educators, all the way down to lower grade level teachers, threatened sustainable levels in educators to teach educators. Halligan (2009) observed the effectiveness of well-implemented system wide technology at Pennsylvania's Montgomery County Community College (MCCC). When MCCC openly adopted and displayed new technologies and made them available for students to freely use in and out of class, student participation, learning, and communication improved. As Halligan discussed, when information technology (IT) focused on education and serving the students at MCCC, technologies were readily tested and installed across the whole IT system when they were found to be successful. Then when technology, Halligan noted that the whole system was found to be more functional and streamlined when it was implemented in administration based on its initial success with the students.

Simple technology helped teachers and students get better results in the classroom as Shapiro (2009) and Bowen et al (2005) discovered. Roger (2004) found that inherent societal obstacles made some teachers resistant to technologies that seemed unnecessary to learn and understand. As Halligan (2009) showed, technology was more readily adopted when it was presented as a natural part of the learning environment so students and institutions could discover what worked for them.

Creating an Educational Experience

Different students learned differently. Jensen (2008) thoroughly discussed the many different ways people learned. A classroom environment that used a whole-brain approach as described by Jensen, incorporated many different types of activities that engaged a broader spectrum of learning styles. Jensen talked about how the classroom needed to be a dynamic learning environment that allowed teachers to subtly adapt to specific student need without disrupting the lesson plan. A greater empathy developed in a shared multilevel learning experience as suggested by Jensen, and that created an overall richer and more connected learning experience. Gulpinar (2005) also talked about the whole brain approach and how it created a greater awareness of what types of emotions and states of consciousness really allowed students to learn most effectively. Gulpinar summarized that the brain was most receptive and aware when it was in a relaxed yet alert state, yet in an overly stressed and fatigued state it was less likely to be able to make the important connections needed to move new material to the long term memory.

Özel, Bayindir, Özel, and Çıftçıoğlu (2008) discussed the importance of not only the teacher's awareness of optimal learning environments, but also the student's awareness of different learning styles. The authors found that when students understood and felt comfortable with their learning styles, they appreciated their classes more and participated more. Roberts (2002) mentioned the importance of using various approaches of looking at the big picture and also chunking information up. When used to create rituals or patterns in the classroom for the students, it promoted a structured and self-aware learning environment. Roberts discussed the importance of students' educational awareness that created meaning and encouraged them to give feedback about their learning experience.

Jensen (2008) and Gulpinar (2005) both spoke of the benefits that arose from an adaptable learning environment that took into account many learning styles. Özel, Bayindir, Özel, and Çıftçıoğlu (2008) and Roberts (2002) demonstrated the advantages from increased student awareness of the many learning styles they and their classmates had.

Identifying Students Needs and Motivations

No two students' needs and motivations were exactly alike. According to Cheng, Lin and Su (2011) both intrinsic and extrinsic motivation can play a role in student engagement and success. The authors found that internal motivations tended to be stronger and created motivational dissonance in failures, while external motivations lead to greater complacency when students failed. Cheng, Lin and Su also stated that a sense of free will created more positive attitudes in students. Faye and Sharpe (2008) discussed the three basic psychological needs of self-determination theory. Students felt a true sense of ownership in their education when they had a sense of autonomy, competence, and relatedness. Faye and Sharpe said that some of the educational experience had to be structured by the teacher but the student still needed a sense of free will.

Ayers (2011) described critical realism and looked at the complexity of accurately defined student needs and motivations. The author found that meeting students' needs was not just a matter of survival but also was defined by emergent needs that depended upon social and personal factors. Sobkin (2007) found that student motivation and goals transformed as students matured. Sobkin said that differences existed between age groups, the sexes and socioeconomic groups and that identifying any one set of motivations and goals among a broad demographic of students was not possible.

Cheng, Lin and Su (2011) and Faye and Sharpe (2008) showed that students' motivations were difficult to identify and even the free will of the students required guidance towards achievement. Ayers (2011) and Sobkin (2007) discovered difficulties of identifying motivations when students had very diverse backgrounds and senses of survival.

Conclusion

In a global society, the educational playing field is leveled to some degree by technology. Technology was not the only solution to leveling the playing field though, as a deeper understanding of the broad range of motivation and personality types was really the key to unlocking education to many students. By observing and engaging students through many different learning styles and applied technologies, the classroom became a place where students not only learned the facts, but also learned how to learn. New technology needed to be used by both the students and the teacher. Whole brain learning theory needed to be understood by the teacher to support a dynamic learning environment. Students benefitted from their awareness and sense of free will that resulted from a dynamic learning environment. Ultimately students were empowered to the highest degree when the balance was struck between instructor guidance and students' natural self-motivation. Technology encouraged that balance.

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