

Leading Edge Online Classroom Education: Incorporating Best Practices Beyond Technology

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ABSTRACT

Educators often struggle with delivering top-notch online courses that create a climate for a fulfilling classroom experience, provide content that translates into immediate action and application, and blends relevance, rigor and a personal touch to the classroom setting. Based on research studies of human intelligence also known as multiple intelligences by cognitive scientist Howard Gardner, and secondary sources focused on functions of management, the art and science of using technology and multiple intelligence practices to deliver leading edge online classroom education is examined. Furthermore, this empirical study through a lens of instructing and observing as a teacher and administrator, over 80 online courses comprised of learners seeking undergraduate, graduate and doctoral degrees during 18 years at public and private universities, explores a myriad of implications resulting from using technologies to deliver stellar online classroom education to include: (a) human psychology, (b) medium, (c) information, and (d) instructional design. The article concludes with a perspective on the challenges and opportunities of using technologies to deliver leading edge online classroom education. The content can be used to assist current and future educators with developing or strengthening the online classroom using technologies and incorporating multiple intelligence practices for a more fulfilling classroom experience.

Keywords: Multiple Intelligences; Human Intelligence; Technology; Online

As the delivery of classroom education evolves, so has the variety of tools used by teachers to instruct learners. Change is abound in this digital era of technology, as computers, personal hand-held devices and apps are used on a daily basis. This technological phenomenon has become the new normal for persons of all ages, cultures, and genders. “We live in an era when individuals can study, or attempt to acquire a skill, when they want to at their own pace of their own selection, alone or without others” (Gardner & Davis, 2013, p. 174). Thus, the new normal technological world has fostered an opportunity for educators to revisit and revamp methods of course instruction. “Despite this freedom and the availability of extensive research on effective teaching, many teachers still choose to teach the way they were taught” (Cooper & Garner, 2012, p.68). However, some educators have chosen to move out of their comfort zone to enhance their methods of course instruction with creative and innovative practices using technologies, content mastery, and effective communication skills to reach those being taught. To that end, some educators have begun to integrate technology with their curricular content to deliver courses in the online classroom. “The online classroom, a place on the Internet where students and teachers log in to learn together” has become a popular and unique way to reach and teach learners while fostering a learning community (Papa, 2011, p.147).

Spaces Within the Leading Edge Online Classroom

As educators strive to adapt to the new norm of technology and enhance the classroom course delivery, the use of technology has grown in popularity as a tool that is integral to offering a dynamic and leading edge online classroom experience. Although there are similar components to delivering quality face-to-face and online instruction, an obvious modality difference between quality face-to-face and online instruction is the proficient and creative use of technology in the online classroom. “Components of quality instruction such as effective communication with students, quality of instructional delivery, provision of feedback on assignments, and fostering a positive classroom climate are the same regardless of classroom format (e.g. face-to-face, online)” (Papa, 2011, p. 226). However, the components of

quality online instruction should also (a) blend technology with instructional design and learning materials, (b) include technologies to assist with fulfilling the course learning outcomes and assessment, (c) use technologies to effectively foster communication and collaboration, and (d) convey via the visual medium significance in terms of creativity, originality, course look and feel, and web usability.

THEORETICAL FRAMEWORK

Human Psychology: Classical and Operant Conditioning, and Cognitivism

Overtime, the learning process involves conditioning. Conditioning entails an association between two stimuli becoming synonymous during the learning process. Russian psychologist, Ivan Pavlov discovered classical conditioning, as he was instrumental in uncovering the relationship between associations and natural responses. This associative process of learning through experience was discovered from a series of experiments with dogs, conducted by Pavlov. Pavlov identified four components of classical conditioning to include: unconditioned stimuli, unconditioned responses, conditioned stimuli, and conditioned responses. B.F. Skinner's work centered on the belief that learning is acquired and associated with a particular behavior and the resulting consequence. Skinner's perspective on the learning process became known as operant conditioning. If the learning process is associated with a behavior followed by positive reinforcement, more than likely the individual will repeat the behavior. Or, if the learning process is associated with a behavior followed by negative reinforcement, it is likely that the individual will not repeat the behavior.

Jean Piaget, "a founding father of constructivism found that learners construct ideas based on previously learned knowledge" (Papa, 2011, p.94). Piaget theorized that the way individuals behave is an indication of how they perceive the world and construct meaning. On an ongoing basis, individuals are active constructors of knowledge and faced with circumstances from their environment which challenges the human mind and causes an imbalance (Hall, Murphy, & Soler, 2018). Piaget believed that individuals use their cognitive development to revive equilibrium.

Multiple Intelligence

Howard Gardner is considered a pioneer for his work and views on human intelligences. His theory of multiple intelligences was a radically new conception of intelligence based on empirical evidence on the basis of brain science, psychology, anthropology and other relevant disciplines (Gardner, 1999). Gardner's original list of seven human intelligences include: (a) verbal/linguistic intelligence, (b) logical/mathematical intelligence, (c) visual/spatial intelligence, (d) bodily/kinesthetic intelligence, (e) musical/ rhythmic intelligence, (f) interpersonal intelligence, and (g) intrapersonal intelligence. Two intelligences, (h) naturalist intelligence, and (i) existentialist intelligence were added subsequently totaling nine human intelligences identified by Gardner to date. Based on Howard Gardner's theory of multiple intelligences, many learners may be outstanding at speaking and writing (verbal/linguistic intelligence), and some learners great at knowing oneself (intrapersonal intelligence), and other learners good at working effectively with others (interpersonal intelligence), while there may be learners that require music to be fully engaged (musical/rhythmic intelligence) (Hall, Quinn, & Gollnick, 2017). The teacher's challenge is to diversify instructional approach that incorporates the diversity of all adult learners in the online classroom to enrich the experience.

Management Functions

To effectively accomplish stated goals of an organization a variety of functions are practiced by management. Although, the practice of management involves a process that may differ in focus, complexity and duration of completion time, the management process involving the four functions of management approach is quite similar. According to Knicki and Williams (2018) "management has four functions: planning, organizing, leading and controlling" (p.9). here is a systemic, interrelated relationship among the four management functions. If a poor plan is developed, the objective may not be met even if the plan is effectively organized, led or controlled. Conversely, if great plan is developed and poorly organized, led and controlled, the objective may not be met (Lussier, 2017).

Planning

Planning involves establishing objectives and determining how objectives will be attained. During this first stage of the management process, thinking through pertinent details, what direction to pursue, and the course of action to take given controllable and uncontrollable factors often faced by an organization occurs. Sometimes the most thorough plans go awry, as contingency plans should be developed to serve as an alternative or back-up approach to realize organizational goals and objectives. Developing a solid plan forces leaders and followers to critically think about short-term and long-term goals, and the quality of work proposed that will impact the organization's success "today" and in the "future".

Organizing

Organizing the second stage of the management process, entails "delegating and coordinating tasks and allocating resources to achieve objectives" (Lussier, 2017, p.7). Organizing requires top-notch task and relationship orientations, which organizations must effectively perform on an ongoing basis to achieve objectives. "Managers who attempt to organize without a plan find themselves reorganizing on a regular basis" (Ghillyer, 2012, p. 50). Organizing without a plan negatively impacts the organization's performance, creating chaos, inefficiencies and organizational dysfunction.

Leading

Motivating, influencing and directing followers to accomplish the organization's objectives is a central focus of the third stage of the management process, leading. Developing positive relationships between the leader and follower is essential to achieving specific and on-going objectives. As Manning and Curtis (2015) state "leadership is a social influence. It means leaving a mark. It is initiating and guiding, and the result is change" (p. 2). Successful leaders embody several key traits: intelligence, confidence, charisma, determination, sociability and integrity (Northouse, 2018). Leadership comes naturally to some individuals, as it is developed overtime through hard work, perseverance, and practiced by others.

Controlling

The fourth stage of the management process, controlling entails "monitoring performance, comparing it with goals, and taking corrective action as needed" (Knicki & Williams, 2018, p. 546). Why is controlling a necessary function of management? There are several compelling reasons why control matters, such as: (a) proactively monitoring the organization's internal and external environment to propel adaptability to change, (b) uncovering organizational errors and inefficiencies to assist with cost efficiencies, (c) identifying opportunities to help organizations with seizing innovation solutions that may have been overlooked (Knicki & Williams, 2018).

Research Questions

The research questions for this empirical research study are as follows:

1. Does the art and science of using technology matter to deliver leading edge online classroom education?
2. What are the implications that human psychology, medium, instructional design and multiple intelligence practices have on delivering leading edge online classroom education?

As observed, leading edge online classroom education (a) blend technologies with art and science (b) require learners to practice twenty-first century skills, the four Cs of critical thinking, creative thought, collaboration, and community, (c) engage learners by using technologies and multiple intelligence practices, and (d) incorporate the appropriate human psychology, medium, information, and instructional design dimensions to deliver stellar online classroom educational experiences.

Online Course Delivery: Blending Technologies with Art and Science

Unequivocally balancing art and science approaches to developing and implementing a leading edge online classroom education requires blending technology with art and science for a successful online classroom experience. The blending of art and science for the delivery of the new online instruction, requires:

- selecting the appropriate learning management system (LMS) components *for user clarity and ease of interaction*
- providing clear and concise instructions of how to use the LMS and other required course technologies *to facilitate efficient use of the online system*
- incorporating technologies such as Blackboard Collaborate and the university's research databases *to assist with attaining learning outcomes*
- organizing the course instructional design components *to ensure navigation proficiency*
- enhancing the online course with relevant course content *to engender learner engagement*
- integrating multiple intelligence approaches *to appeal to a diverse population of online learners with varied intellectual strengths*

The “science” of delivering a leading edge online course requires incorporating the use of technologies as a foundation. Whereas, the “art” of delivering an award winning online course extends beyond the foundational use of technologies incorporating functions of management, human psychology, learning theories and multiple intelligence practices. “Until recently, education was strongly constrained to highlight two forms of human intelligence: linguistic and mathematical. The digital media enable a far greater spectrum of intellectual tools” and opens up of options allowing many more forms of expression, understanding, and formulation of knowledge (Gardner & Davis, 2013, p. 181).

Beyond Technology: Human Psychology, Learning Theories and Multiple Intelligence

Practices

Leading edge online course classroom education is a dynamic, multi-faceted process, which includes human psychology, learning theories and multiple intelligence practices that challenges the teacher leader to be a more learner-centered, attentive and caring educator. As a result, online learners are fully engaged and receptive to the subject matter being taught. An example of the aforementioned practices that are integral to the online course design and delivery, include: (a) *classical conditioning*, the online classroom is designed for anticipation of an exciting and challenging experience upon log in until the exit of the online classroom, as learners yearn for new knowledge that allows for immediate practice and application in their world at home or office, and include a class agenda that allows for flexibility, and blends content from the prior class sessions, new content, coupled with individual and team dialogue and exercises. (b) *operant conditioning*, the reinforcement of positive performance such as praise for job well done regarding online course dialogue, exams, and/or assignments fostering a sense of pride and accomplishment by the online learners (b) *cognitivism* whereby the learner's exploration of new techniques, procedures, organization, and structure catalyze online learners to gain value-added knowledge and integrate new knowledge to problem solving. For example, during the online classroom learners examine and dialogue on case studies, access online resources such as the university's database to conduct research and develop research assignments, use web-based technologies for access to learning materials to foster critical thought and enhance content knowledge. In addition to developing their conceptual knowledge, learners also elevate their *multiple intelligences skills* such as verbal/linguistic, interpersonal, and intrapersonal skills through ongoing dialogue between teacher to learner and peer-to-peer learning communities. Online learners are required to communicate effectively in writing and orally using Blackboard as they dialogue individually and in teams on course concepts and assignments requiring in-depth, critical thinking and creative thought. The teacher begins the online course with an objective in mind to develop the learner's conceptual knowledge and foster imagination by managing the content of learning activities using technologies, learning theories to include multiple intelligence practices and the functions of management. Managing the content is an ongoing process requiring proactive planning, organizing, leading and control functions as a guide for the development and implementation of the leading edge online classroom education experience.

Medium, Information and Instructional Design

Leading edge online classroom education requires adherence to the four functions of management. For example, the development of the new online course requires careful medium, information and instructional design decisions. To that end, the online course development process requires extensive planning, organizing, leading and controlling, and consideration regarding the university's vision and mission, LMS components, course content, course learning outcomes, and online learner's access to technologies. "Thorough planning is important for teachers working with a wide range of learning needs" (Matthews & Foster, 2014, p. 140). In short, leading edge online courses by design require continuous and effective, planning, organizing, leading and controlling, to deliver leading edge online classroom content enabling learners to practice twenty-first century skills, such as the four Cs of critical thinking, creative thought, collaboration, and community. "Creativity is what happens when content mastery, divergent thinking, critical thinking, and communication skills all come together in balance, in the service of a goal" (Matthews & Foster, 2014, p. 35). Observed leading edge online course classrooms engender the four Cs and include several of the following components.

- *Home*: A welcoming message and description of the course expectations and learning outcomes are posted for all online learners to view on the "home" tool.
- *Announcements*: During the course, announcements are posted periodically to all online learners on the "announcements" tool, with updates regarding current, time critical information related to the course particulars.
- *Assignments*: The course required assignments (individual and/or team) are visibly stated for all adult learners to review, post and submit assignments to the "assignments" link online.
- *Messages*: Communication to the entire class and/or to each adult learner occurs using the "messages" link and subsequently posted on to the "announcements" tool (if the message is intended for all adult learners).
- *Modules*: Power Point Handout slides, with and/or without narration by course content chapter are posted to the "modules" or "Power Point Handout" tool for the online learners to access and review.
- *Resources*: Several documents to assist online learners with enhancing their writing skills and attaining course success are posted on the "resources" tool to include:
 - (a) online protocol guidelines, for learners to adhere to when interfacing with their peers online,
 - (b) database research process, for learners to follow when using the university database for research assignments,
 - (c) APA format legend, a guide developed to assist learners with enhancing their APA writing skills,
 - (d) sample papers, examples of papers developed by online learners that earned excellent grades for access and review as a guide, and
 - (e) practice quizzes to assist learners with testing and reinforcing their knowledge of specific content.
- *Task, Tests, and Surveys*: Learners have access to online course exams that are imported from formatted text documents, and posted on the "task, tests, and surveys" tool for easy navigation.
- *Syllabus*: The course syllabus is posted via the "syllabus" tool for online learners to access and review during the course.
- *Discussion Questions*: Posted on the "discussion questions" tool, learners respond to course discussion questions and participate in dialogues with the teacher and their peers regarding course related topics. During this dynamic process, online learners receive timely and substantive feedback regarding their initial and subsequent responses to the discussion question assignment. Also, online course attendance or chat requirements were communicated to all learners in advance of course enrollment. Thus, the discussion question topics addressed by learners online in writing are also elaborated on during designated online classroom sessions via Blackboard to reinforce the content and enhance each learner's cognitive development.
- *Gradebook*: Adult learners have continuous access to their grades earned for course assignments and exams via the "gradebook" tool. Although online learners have access to course grades at their fingertips, learners periodically receive "progress update" emails from the teacher keeping them abreast of their course progress and reinforcing grading criteria.

- *Web Content:* Blackboard and course related materials are posted to the LMS course menu using the web content tool. Thus, in addition to the required course text, additional materials (e.g. articles, videos) from a variety of peer-reviewed sources are posted online for learners to access. The web course content is examined with the learners during the online classroom dialogue, and collaboratively discussed as a shared, community learning experience. Also, online learners are encouraged to share their peer-reviewed research articles with the class for review and in-depth dialogue.
- *Blackboard:* An overview of Blackboard coupled with a video highlighting user instruction and pertinent features are posted for learner access as a “Blackboard” tool online. Learners were required to review the tool featuring Blackboard to ensure appropriate navigation of the technology and enable the best technology performance with an understanding of the tool requirements. For example, the online course individual and/or team assignments required proficient navigation and use of Blackboard. Based on feedback from online learners, the Blackboard teaming activities were quite exceptional and sharpened their cognitive development skills. The online learners were given a case study assignment in the “main” online classroom, and then divided into “teams” (using the Blackboard “Break-out Teams tool) to discuss the case study and answer case related questions. The teacher visited each designated “team” in their designated break-out rooms during the break-out session, to assess progress and answer team inquiries. The teaming sessions are timed as the learners subsequently returned to the “main” online classroom, after the break-out teaming session. Upon returning to the “main” online classroom, each team delivered an oral presentation to the entire class, sharing their perspective and solutions to the case study assignment.

Conclusion: Challenges and Opportunities

Educators are often faced with a plethora of challenges and opportunities to develop their craft. Educators who are passionate about their profession, care about all learners, continually seek to attain excellence, and embrace challenges and opportunities in an unwavering manner. In doing so, many educators have transformed their methods of classroom education to include the use of technologies. “In the two decades since the prefix *e-* started taking over our lives, technology has totally transformed our world” (Ghillyer, 2012, p. 334). This transformation in the digital era has impacted the way people, work, play, live and learn. The challenges faced and observed to delivering leading edge online classroom experiences, include: (a) keeping up with the acceleration of technological advances, and (b) managing the online classroom. Whereas, the opportunities to deliver a leading edge online classroom experience, include: (a) sharing knowledge with a community of learners, and (b) having a rewarding and fun experience.

Challenge: Acceleration of Technical Advances

As the teacher leader for learners to emulate and respect, thoroughly preparing learners for the workforce is imperative. “In high-tech workplaces of today, technical proficiency in database management, spread sheet analysis, presentation software, e-mail, and electronic networks, and Internet searches is often a hiring prerequisite” (Schermerhorn, Hunt, Osborn and Uhl-Bien, 2010, p.17). In support of learner preparedness and career success, the teacher must keep up with the acceleration of technical advances, and include value-added technologies to deliver leading edge online classroom instruction. Teachers may address this challenge, on several fronts, by: (a) attending courses or conferences for professional development to update skills, (b) meeting periodically with a learning community of peers who instruct online courses to discuss best practices experienced (c) meeting periodically with online learners to gain insight from their perspective, and (d) continuing to read recent research and literature regarding technological advances for new instructional approaches.

Challenge: Managing the Online Classroom

The delivery of education online can be challenging. For example, during an observed online classroom experience, the system shutdown during the online classroom session. Thus, the interaction with the online learners was temporarily lost due to a technology glitch. “For technical challenges, people look to the leader for a solution, and they accept the leader’s authority to resolve the problem” (Northouse, 2016, p. 261). In such instances, the syllabus should inform learners of the classroom process when uncontrollable circumstances, such as technical glitches occur.

When managing the online classroom, the teacher's role is to ensure that the classroom experience is a positive one for all adult learners. However, circumstances in the online classroom such as cyberbullying may occur. "Cyberbullying is the use of technology to harass, threaten, embarrass, or target another person. Online threats or flames (rude texts, IMs, or messages) count "(Papa, 2011, pp. 224-225). Teachers should proactively address cyberbullying to mitigate hurt or embarrassment for all adult learners. "Teachers can address the problem of cyberbullying in a number of ways. They can advise students to keep passwords and real last names confidential. They can also show students how to block messages from sources who have harassed them" (Papa, 2011, p.225)

Opportunities: Sharing Knowledge with a Community of Learners and Rewarding Experience

Sharing knowledge with learners is an honor and privilege, as "such practices can help to bring about a community in which every member cares about quality and standards—the most important catalyst in bringing about such standards" (Gardner, 2011, p. 261). The online forum provides an opportunity for teachers to assist learners in their quest to earn an education and realize their dreams. The opportunity to positively impact a community of learners, as they actively participate in a life-long value-added experience is gratifying.

Furthermore, leading edge online classrooms is a rewarding and fun experience. The process invokes transformational learning, with the use of technology to educate learners in ways never imagined. Eclectic teachers and learners thrive in the online classroom environment as the opportunity to optimize the learning process and access excellence from diverse sources and systems are abound.

CONCLUSION

Leading edge online classroom education incorporate technology as a foundation, and include classical conditioning, operant conditioning, cognitivism, and multiple intelligence best practices for a dynamic learning experience. To make this happen, the four functions of management should be effectively implemented on an ongoing basis, as technology advances and new approaches to enhance cognitive development and knowledge evolves. Positive results in the online classroom occur when human psychology, medium and instructional design components are thoughtfully considered.

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