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Maximizing Opportunities: Smart Learning Spaces, Smarter Interactions and Collaboration

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Abstract

The article exploresthe implications of pedagogical conceptual frameworks on classroom designand gains that come from flexible settings. Classroom spaces are not ends in themselves, but rather are means for achieving essential learning objectives and learning outcomes. It is necessary to strive for a model that is inclusive to infuse variety into teaching and learning strategies. The optimal hybrid models embrace and expand ways to research learning and establish accountability. The hybrid blended learning spaces tend to bridge the gap between physical and virtual learning spaces.

Keywords: TILE, Optimal hybrid and Technology enhanced learning

Introduction

In this article, the authors discuss the implications of pedagogical conceptual frameworks on classroom design and gains that come from hybrid learning environments. How can institutions of higher learning bridge the gap between physical and virtual learning spaces and the movement of the learner between the spaces? Optimal hybridclassroom (OHC) spaces that meet the technological needs of both face-to-face and online learners should be designed and studied. The optimal hybrid classroom environment provides flexible uses of technology and enhances students' interaction and engagement. Classrooms settings and other learning spaces are being transformed to support active learning pedagogies (examples available at http://tile.uiowa.edu/content/about-tile).

In order to differentiate these unique new spaces, institutions of higher learning are looking at spaces as TILE (Transform, Interact, Learn, and Engage) classrooms. The identification of these TILE classrooms reframed the conversation to develop optimal hybrid that accommodate both face-to-face and online student interactions instantaneously (Click to follow link optimal hybrid classroom).

Research looking into the creation of new classroom spaces that are beneficial to the pedagogical use of educational technologies has stimulated colleges and universities to initiate construction projects to bring these innovative classrooms to campuses (Brooks, 2012). TILE classroom spaces do not acclimate technological options that instantly accommodate online applications such as Adobe Connect, Blackboard Collaborate, Zoom, or WebEx. As a result, there is a need to consider optimal hybrid classroom (OHC) spaces that guide learners in useful ways which accommodate the virtual learning. Georgia Tech Global Learning Center is an example that illustrates flexible settings (see http://www.gatechcenter.com/video/purpose-built-facility).

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The OHC framework brings flexible uses and available technological online options that can accommodate more and different teaching methods and strategies. There are expectations calling for new, innovative, smarter learning spaces that promote collaborative problem solving inquiry-learning strategies. Emerging types of classroom settings are attempts by institutions of higher education to change with the times, meet new expectations, and remain relevant. Development of similar technologically embellished learning spaces in colleges and universities reflect a change in the very meaning of learning. Hybrid learning uses technology rich real-time interactive and collaborative tools (see details at http://www.blendsync.org/). Learning necessitates changes over time, as civilization and technologies change and as institutions of higher education identify new needs and opportunities. Learning must then mirror multifaceted objectives and strategies that include OHC features that are most appropriate for learners. An OHC setting should provide the most appropriate opportunity for face-to-face and online learning. From this perspective, education should provide meaningful benefits for all learners, or as close to it as is feasible, so long as the suitable platform is available in that setting.

In the 21st century, technology enhanced learning (TEL) is presenting new ways to access learning in flexible formats. These flexible formats are transforming pedagogy by providing new ways to engage learners. With flexible formats, instructors can bring together their deep knowledge of the subject matter with insightful understanding of what is good for learning in this new learning environment. The combination of both OHC and deep knowledge of the subject matter is more than the simple addition of TEL. The blend of OHC and TEL empowers both the instructors and students. The face-to-face context of learning must be a part of this reciprocity between different aspects of teaching and learning. These new pedagogical approaches ought to sway our design of learning spaces, and the design of learning spaces will affect our pedagogy.

Studies show that there are benefits of using mixed synchronous learning approaches. It allows a fair access to learners who cannot physically attend classes due to life demands (Norberg, 2012). For example, mixed synchronous learning enables students who are geographically isolated and those working full-time to join on-campus learning experiences. Blended synchronous learning opportunities with flexibility are becoming more an imperative to the students learning experience. According to Irvine, Code, and Richards (2013) multi-access learning is one of the ways to address learners' need for flexibility and choice by allowing them to select and customize the modalities through which they access classes, irrespective of their enrollment mode. Educational research shows how synchronous learning supports better course and program completion rates for students who interact with their instructors and other learners, rather than relying solely on asynchronous communication (Norberg, 2012; Power, 2008; Power & Vaughan, 2010; Roseth, Akcaoglu, & Zellner, 2013; Stewart, Harlow, & DeBacco, 2011). The argument for combining face-to-face and online learners in a single learning experience attests to a growing appreciation of the learner's control over the whole learning process. There is sufficient evidence that suggests that giving the learner control improves both learning effectiveness and responsibility for learning. This is the basis for such approaches as problem-based and inquiry-based learning (Desharnais & Limson, 2007), where learners decide how to engage in personally meaningful learning through interaction, connection, collaboration, and shared knowledge building.

Within the context of the learning environment, research regarding learning spaces, whether physical or virtual, has increased in recent years, but research on optimal hybrid learning spaces which accommodate both face-to-face and online learning instantaneously is scarce. An interesting observation by Oblinger (2006b) focuses on how learner expectations influence such spaces and the role of technology from the perspective of those who create learning environments. A more recent study presents spaces that suggest a transformative, interactive and engaging learning environment; spaces that advocate prolonged inquiry under the control of students, with teachers as consultants, coaches, and guides; and spaces that allow for emergence and chaos, that give students time and space for developing patterns of meaning projects (Childs & Wagner, 2012, p. 34).

Other studies indicate "learning space designs do not only support the existing dominant teaching and learning approaches, but the expected changes and transformations of the teaching and learning culture at the universities in the future" (Fox & Lam, 2012, pp. 75-76). Appropriately designed learning spaces build

pedagogy and are a necessary, but not sufficient, condition for effective student learning. As Hunt, Huijser and Sankey (2012, p.194) observe, suitably designed learning spaces which are optimal to a blend of physical, online and mobile spaces characterized by openness, consistent and pedagogically informed approaches are best. Conversely, Hunley and Schaller's (2006, p. 13.9) assessment of learning spaces shows that the learning space often limits the faculty's pedagogical repertoire. Faculty prefers flexible space with movable furniture and seamless technology. Faculty who were not comfortable with a range of pedagogical approaches tended to alter most innovative spaces to obtain a lecture-room feel. Faculty should discuss new approaches for engaging students.

Understanding the diverse range of hybrid spaces is not only about challenging the parameters of what constitutes learning space within a university context but also providing opportunities to define and engage in innovative ways that require a theoretical, conceptual and empirical understanding of the alternative discourses and the tensions this undertaking creates by challenging the prevailing rationality. As Keppelland Riddle(2012, p. 18) posit, academics need to consider the interrelationship of all these dimensions when conceptualizing their teaching as all of these factors influence the learning and teaching interconnection. Academics must embrace hybrid-learning environments. Hybrid-learning environments are an essential aspect of the learning and anticipate future technological approaches that ensure designs accommodate change.

These pedagogic approaches encourage active and collaborative learning, as well as effective discussions essential in establishing what is required, what pedagogic changes are needed, and why. The optimal hybrid design supports both instructor-led and learner-led activities. These activities include presentations, discussion, collaborative work, and information sharing. Learning does not just occur in the formal university setting. Institutions of higher learning are no longer defined by the physical boundaries of the campus but by an all-inclusive student experience. Multiple approaches are emerging comprising learning spaces, including optimal hybrid spaces and online in a wide range of contexts (Lea & Nicholl, 2002, p. 2). Justifiably, a diverse range of settings and approaches is a significant shift for both students and faculty, who are accustomed to a teacher-centered classroom with a monopoly on information. In contrast, optimal hybrid classrooms create a venue where instructor as "guide on the side" and students are no longer totally dependent on the teacher for knowledge. Optimal hybrid classrooms and pedagogic advances ensure that designs accommodate change. Flexibility with mobility rather than fixed technologies is justified when the space supports a range of purposes and is easily reconfigured. Innnovative leadership and research within higher learning institutions are creating technology-rich approaches that promote the development of flexible learning environments and instructors who use technologies to guide their own learning, recognize the pedagogical potential of technology to help students understand content, and know how to embed new technologies in their instructional practices.

Mapping Future Classroom Settings

The on-campus university learning experience is changing, with most students selecting to participate exclusively, or in some measure, away from campus. The decision to enroll in online classes or attend campus class is driven by different irregular work, family, distance and social commitments (James, Krause, & Jennings, 2010). Because of the everchanging student demands, higher learning institutions should involve students in new effecient learning activities regardless of learner geographic location.

The task is setting up combined learning activities, which are the basis to develop the skills and resources necessary to engage with social and technological change, and to continue learning throughout life (Owen, Grant, Sayers, & Facer, 2006). Furthermore, learning must be strengthened by an explicit learning paradigm and well-versed pedagogies that support learner self-direction and knowledge construction.

According to McLoughlin and Lee (2007), "Learning occurs in a socio-cultural system in which learners use various tools and multiple forms of interaction to create collective activity, supported by technology affordances" (p. 667).Information and communication technologies provide a unique way to connect face-to-face students with the remote students using devices common to learners and are more focused on creating communities in which people come together to collaborate and interact. To teach both face-to-face and remote students concurrently can result in an exponential increase in teaching demands (Norberg, 2012). It is important to address the issues of content, pedagogy and technology before making the effort to teach using mixed synchronous learning approaches.

Today, an ideal environment for twenty-first-century liberal education includes not only discipline-based content but also critical-thinking, interactive, and collaboration skill sets (National Leadership Council for Liberal Education and America's Promise, 2007). While scholars and academicians argue that the term critical thinking has not been clearly defined in the literature, it is generally acceptedthat critical thinking refers to the ability to bring theories to bear in new situations one is trying to understand. Critical thinking also involves the ability to engage in analysis that requires the extraction of the component variables or dimensions which comprise the phenomenon being examined. Understanding theory requires the ability to think analytically. Analysis is a learned skill, and one that is not natural to most individuals. As any other skill, it requires learning and practice. To bring theories to bear in new situations requires the ability to understand the phenomena in its analytic composition. Likewise, theory-building requires analytic thinking. A necessary condition for theory-building involves the synthesis of various analytic elements. Synthesis is also a learned skill, and one that is difficult until one has mastered the process.*Analysis* and *synthesis* are the two aspects of critical thinking. According to Teng (2006), critical thinking is to explore and make conceptual explanations and reach conclusions using evidence. Most educators believe that critical-thinking skills can be developed through applicable instructional approaches. These skills are viewed as being flexible in the face of ever-changing global economies, teamwork with others from different backgrounds, and involved citizenship. The classroom, as we once knew it, may no longer be relevant. And yet, this is undoubtedly the most exciting time in history to be an instructor and a learner. The future of the flexible borderless classroom setting as a relevant and viable place is largely dependent on us as citizens and how quickly we respond to change.

Classrooms, learning spaces, and communities continue to exist as places for learners to find information, learn, and receive instruction. But layouts, arrangements, technologies, learning needs, and universities are changing. Consequently, learning and teaching are being redefined. Learners themselves are contributing to this redefinition. Most instructors and learners agree that the entire information delivery and communication sceneries have shifted, and this transformation continues to evolve. The apprehension is that colleges and universities are not shifting fast enough to seize new opportunities to create valuable, vibrant learning spaces in higher education (Rockell, 2009). Rockell (2009) maintains that the learning process and how students take responsibility for knowledge construction is linked to favorable learning experiences and environment and to students' attitudes. When students vigorously develop skills, they are constructing knowledge and achieving deep learning. Retention is improved when students take responsibility for knowledge construction with positive learning experiences, engagement, and interaction. Researchers such as Garrison, Anderson, and Archer (2001) have proposed that knowledge is constructed through progressive learning experiences, engagement and interaction exchanges when new and deeper understandings are found in face-to-face discussion forums and other computer mediated tools. These authors also posit that advanced levels of knowledge construction occur when students show the ability to articulate, evaluate, and apply new ideas to resolve issues.

The optimal hybrid design has the potential to provide students with a structure that supports knowledge construction at advanced levels during effective participation and interaction (An, Shin, & Lim, 2009; Bliss & Lawrence, 2009). Through direct instruction and facilitated discourse, learners who engage in active learning classroom space are not passively taking in information from instructors but are discussing and problem solving (Anderson, Rourke, Garrison, & Archer, 2001). The OHC setting is a process consistent with

the social constructivist approach in higher learning. The social constructivist approach argues that knowledge is constructed as one interacts with one's environments through processes of discourse, negotiation, and consensus building (Syh-Jong, 2007). Knowledge is constructed through a creative process. Advocates of this approach contend that student learning is promoted most effectively in courses featuring an environment providing opportunities for an active learning classroom and knowledge construction, thereby allowing the instructor to remain in the background. This empowers the student and "decenters" the teacher (Glynn, Aultman, & Owens, 2005). Learners take center stage, whereas instructors become facilitators of student learning. Learners attain deep learning when they successfully construct knowledge and then retain the constructed knowledge for the purpose of bringing benefits to themselves and society.Teachers in this new model become the *managers of the learning process*.

In essence, instructional practices have changed and so have the expectations held of instructors. The specificity of the instructional practices with blended learning steers both faculty and student attention toward the practice of engaging in innovative teaching and learning strategies (Bergmann, & Sams, 2012). No matter how much subject-matter expertise an instructor possesses, there can be no assumption of student learning in the absence of effective facilitation of the learning process (Williams, Berger, & McClendon, 2005). While there is a strong case to make that learners hold, unquestionably, the ultimate responsibility for their own learning, instructors are responsible for selecting those evidence-based instructional strategies that best develop students' talents.Accomplishing this new instructional role is easier when instructors understand learning theories and set learning-outcome goals that are consistent with student-centered lifelong learning. Achieving this new educational role is easier when educators are knowledgeable about strategies and can design learning environments that promote holistic active learning.

Instituting a holistic learning space means paying attention to the role of the instructor, and the role of learners, the coursework, tasks designed for attaining definite learning results, and the collective atmospheres surrounding the whole course. An instructor's most significant work is to design ways that can produce learning and respond to learners' constructive interpretations. These responsibilities often demand more time versus one-way teaching as the main instructional vehicle. Moreover, instructors must also function as learners, whose insights and arguments constitute part of the knowledge that produces collaboration with students and promotes active learning space. Fox and Lam (2012) infer "one challenge universities face is in helping educators become aware of the potential and make full use of these new learning spaces to support their own teaching as well as their students' learning" (p.75). It is shared conjecture that a changing world of work necessities demands for both paradigm changes and classroom space to be inclusive. New technologies and software applications have bypassed both the structure and content of existing educational classroom settings.

Pressed by this sense of dilemma, comprehensive educational reforms are essential. Optimal hybrid classroom settings enrich the social significance of education while advancing universities and colleges technological vitality. The optimal hybrid classroom entailssuitably active space and collaborative learning activities that promote student learning, activities, and satisfaction. Satisfaction with any active learning space centered on collaborative activities should not be counted by itself to increase student learning. Additional assessment of the link between student satisfaction with given instructional strategies and student learning is recommended, as it will create more data in aiding instructors to facilitate higher levels of student learning.

One of the best ways to teach, reach, wake-up, retool, and engage students for change today is to prepare learners for a highly connected world. The blended learning space brings a paradigm shift in higher education. Already, students are doing blended learning in unofficial ways to some extent. They chat in labs and libraries, share views and information, search out journal articles and secondary sources through a popular search engine and share comments, tips, and even work on mobile devices in the palms of their hands. This

culture of teamwork, and continuous construction of shared knowledge across a multitude of platforms, presents an opportunity. It harnesses student power to work together and individually in these familiar ways, but under guidance to help students arrive at essential understanding of their subject and develops academic skills. It models the way students will often work after they leave university.

The contrast between an instructor being the "sage on the stage" versus being facilitator of the learning process within a flexible learning space is intriguing. Equally attractive is the potential pedagogical advantage of an active learning space relative to a physically isolated classroom. A more inter-relational view is offered by Steel and Andrews, and while there are significant differences in the types and purposes of the spaces being provided, common characteristics that define these innovative formal spaces are"the use of technology to support learning and teaching activities andthe requirement for flexibility; and increasingly adaptability" (Steel & Andrew, 2012, p.243). As new technologies emerge, the prevailing ones become outdated, and higher learning institutions must reflect this change.

It is important to address ways students learn. The constructivist classroom focuses on understanding which is more beneficial. In such a classroom setting, instructors are clear about the understandings they value and the understandings they want learners to exhibit. In this type of arrangement, learners are encouraged to try new ideas. There are a number of ways in which an instructor can help, such as developing hands-on engaging activities. This setting involves all learners in learning in all different subject areas and situations including those who may benefit from differentiated approaches and accommodations. This universal engineering of curriculum and space is effective and maximizes their benefits. According to Scherer (2002), students become amazingly flexible when they have a teacher who engages and who cares about encouraging them to be independent and to find out what is important to them. By first offering students information and materials in various formats augmented with built in assistive learning supports and then letting students decide and choose what to do with the subject matter itself, students improve their learning.

Optimal Hybrid Centered Curricula

There must be a balance between learning space and curricula in order to make the point that pedagogical advances cannot reach maximal effect if confined to a structure that is not conducive to flexibility and innovation. The role that physical space plays in curriculum advances is very important. In the case of the typical technologically enriched setting, the physical constraints could easily prevent the instructors from making all the curricular changes they want to make in order to accommodate both face-to-face and online students. Tying course design to classroom physical space isa coherent incentive to offer to course innovators. Steel and Andrews (2012) make a valid point; while universities are enthusiastic about building technology-enriched learning spaces; there is less emphasis on how teachers are helped to re-conceptualize their learning designs for these spaces.There are challenges associated with technology-enriched learning spaces, and at the same time, little attention is paid to academic development to assist instructors to transform their practices for these spaces.

Optimal hybrid space plays an important role in learning and subsequently how spaces can be used to promote courses that accommodate both face-to-face and online learners. Additional research should explore general issues related to optimal hybridclassroom spaces and learningby first examining physical spaces in the instructional model, followed by a consideration of the research on the impact of physical space on learning. The advances in how in classroom design has been implemented at colleges and universities should also be explored.

The OHC involves pedagogical strategies that create community and foster transformation, interaction, engagement, and learning. How can optimal hybridphysical spaces support pedagogical strategies? The space can be an agent of change, and physical changes can carry symbolic impact and foster, as well as support, pedagogical change. Similarly, the classroom space settings provide visible, noticeable reminders of purposeful shift toward a new paradigm. Kirkwood, et al., (2012) note that as learning institutions implement

the challenging shift from teacher-to learning-centered pedagogies, it will be important to attend closely to these differences and their effects. Different settings suggest subtle shifts of knowledge power brokerage that may help or hinder learning (Kirkwood et al., 2012, p.290). Education practices must change if we are to make the most of the opportunities provided by this rapidly evolving learning tool. Brooks (2011), demonstrates that controlling for nearly all other factors, physical space alone can improve student learning even beyond students' abilities as measured by standardized test scores. Useful models of the Active Learning Classroom were developed by College of Education in Lindquist Center, Iowa Techology Enhanced classroom (ITEC) (See illustration at

http://www.education.uiowa.edu/projects/itec).

Both of these learning environments encourage small and large group collaboration by using round tables that are linked to large screens on the wall. The large screens show the rest of the class what is happening in all corners of the room; the round tables encourage small group interaction. There is ample evidence that both space and pedagogy matter when it comes to improving learning. More often institutions of higher learning ignore the impact that physical spaces have on learning. As a result, many instructors find themselves teaching in spaces from another era orwith tech heavy classrooms that present instructors with various challenges.

Because most institutions cannot afford the opportunity to refurbish rooms or build new facilities, most instructors ignore the impact that physical spaces have on learning. However, by acknowledging the vital role and effect of space on learning, and by remaining sensitive to the impact of room organization, institutions of higher education can modify where possible and seek creative solutions that enhance interactivity and engagement and allow face-to-face and online learning. Likewise, when instructors are designing courses and considering active learning practices for classes, instructors should consider the optimal hybrid classroom space. There are classroom spaces that sometimes hinder the best interactive and engagement, e.g., when both face-to-face and online arrangements are prescribed and applied. Given paradigm changes, appropriate optimal hybrid learning space is a main concern that needs to be addressed institutionally and recognized as a priority. Heinrich and Bozhko (2012, p.131) maintain that successful adoption of these spaces for lifelong, life-wide and self-directed learning requires changes across institutional structures and stakeholders. What the University of Iowa started as a design for a better use of TILE classroom and conceptualizing its role in the College of Education later became a way of thinking about optimal hybrid spaces that reorients our approach to both the learning environment and paradigm shifts. A classroom that transforms the way teachers teach and how students learn.

Throughout history, universities have undergone many conceptual paradigm shifts in what, how, and whom they teach. Restricted Medieval universities developed current university qualities. Evolving virtual universities are attempts by institutions of higher learning to change and remain relevant in the future. The effects of the digital age on higher education seem somewhat connected with the day-to-day realities that currently face instructors and learners. Newbegin and Webster (2012, p. 157) note that there is a move toward more flexible physical spaces which can be used to service multiple needs with minimal changes. The investment in virtual spaces is seen as beneficial because it can reduce the burden on physical spaces, and enable students to reach a wider potential student body outside of their physical geographic region. Optimal hybrid settings provide a stable framework for learning spaces depending on the specific educational contexts. Typically most technology laden classrooms are restrictive as more Massive Open Online Courses (MOOC) continue to move into online educational spaces that are optimal and amicable to hybrid settings that are least restrictive in supporting learning, collaboration, and creativity.

Hybrid settings that are optimal spaces have the potential for learning at many levels—physical, emotional, cultural, and intellectual. They create an enduring sense of place for both the instructor and the student. To respond to the changing environment, universities and colleges must foster hybrid learning and classrooms to foster creativity. Classroom environments must support collaboration, teamwork, and interaction. Longitudinal data indicate that students have expectations based on their experiences and technology plays a big part in students' lives (Pryor, DeAngelo, Blake, Hurtado, & Tran, 2011). Therefore, learning spaces must support collaborative interactive technologies that predominate students' social-cultural experiences.

Teaching, learning and space blend in transformative and interactive efforts leaving behind the models of the old paradigm. If universities and colleges accept the learning space of learner-centered instruction and curricula that are more collaborative, integrative, flexible, and least restrictive, then they will invest in hybrid settings that support and reinforce those qualities. But if an institution cannot spend the money on this style of classroom, it risks becoming irrelevant and obsolete. This poses a dilemma. The rise of new technologies has influenced the learning space. Ochola, Stachowiak, Achrazoglou, and Bills (2013) describe how the learning environment and rapidly evolving handheld technologies have changed the way students and teachers learn. Will further research and investment in more optimal classrooms have a positive impact on learning? When students are participating in their learning, the magic of innovation is clear and observable. Engagement is a relationship, a space in which exchange of ideas occurs.

Impact of Teaching Models on Learning Spaces

Transformation is never easy. However, sometimes transformation is easier to bring about by modifying and not abandoning existing practices than by starting afresh. A typical classroom setting has all participants facing the front of the room with an instructor's desk in front of a chalk or whiteboard. This arrangement, whether in classroomsor large lecture spaces with fixed seating andorderly rows, leads to the focal point—the instructor stands in the front of the room. This type of space makes sense when the mode of instruction is one of conveying information from the instructor to the learner. The instructor teaches and the learners passively listen and take notes. This antiquated approach to teaching, learning and space setting is not effective in the twenty-first century information-technology paradigm. Essentially, the instructor's role is to facilitate and maximize students' engagement with the material and with each other in their learning-creation efforts.

Based on responses from over 2,800 academic leaders, the tenth annual survey, a collaborative effort between the Babson Survey Research Group and the College Board reveals that the number of students taking at least one online course has now surpassed 6.7 million(Allen & Seaman, 2011). Thus, the optimal hybrid classroom is built upon a solid approach to learning.

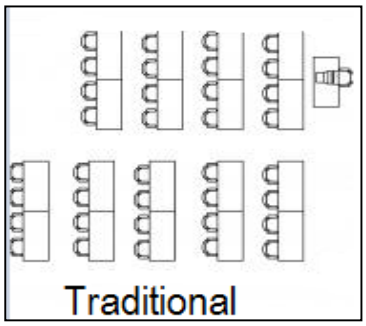
This classroom model also fits with other approaches to learning, whether teaching history or literacy. As a result, flexibility is a key part of the learning environment that links what is being learned (content), how it is taught (pedagogy), and the appropriate tools (technology). It is no longer necessary for the instructor to be on stage as the point of interest in the front of the room. This arrangement creates a one-directional communication pattern between the instructor to student which is both restrictive and unfavorable to student collaboration. The physical setting of the classroom affects how information is communicated and received. Seating sends messages about communication and control. The classroom designs are central to improving communication, collaboration, interaction and engagement within the classroom both from instructor and learner perspectives. In particular, thehybrid arrangement is reflective of the instructional paradigm where collaboration is encouraged. Assimilation oflearning space and collaborative learning experiences should go hand-in-hand with re-conceptualizing technologically enhanced learning spaces that complement paradigm shift. It is essential to have flexible classroom environments that support integration, engagement and collaboration among instructors and learners without regard to location.

What we know

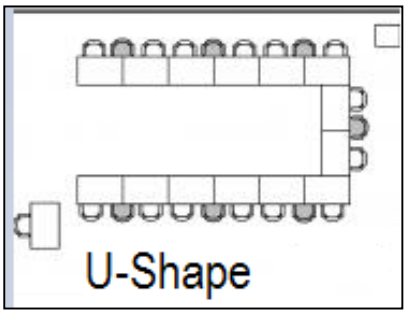
Part of the shift of a meaningful interactive and engaging learning space lies in promoting learning where both the instructor and learners accept and expect a collaborative environment paralleling hybrid classroom settings. Establishing this hybrid learning space depends to a large degree on how higher learning institutions involved in education adapt to the paradigm shift. It is imperative to providean environment for access to the educational opportunities provided by rapidly evolving technologies. Other wise, education is not relevant and does not meet the needs of the learner-citizen of the twenty-first century. Higher learning institutions must establish effective hybrid, least restrictive environments with smart learning spaces that can and will be utilized in all stages of the lifecycle in education.

Shown below are configurations and seating examples

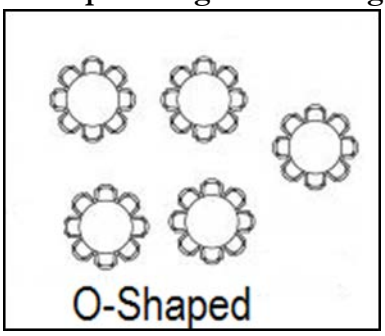
Seats are arranged in rows: Figure 1



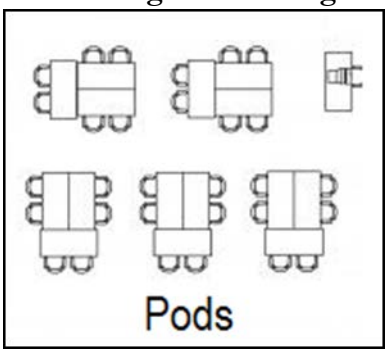
U-shaped configurations: Figure 2



O-shape configurations: Figure 3



Pods configurations: Figure 4



The classroom setting sends messages to students about learning and how learning will occur in the space. The seating arrangement can depict a message about power and control and how communication is going to take place. Room arrangement also has an impact on students' expectations about learning. Harris and Cullen (2010) reviewed three seating arrangements and the preference toward learning. The three classroom settings pictured above in Figures 1 and 2 transmit different messages to students regarding their role as learner, and each setting promotes a different communication pattern in the classroom. Figure 3 and 4 features O-shaped and pod configurations seating. The non-traditional seating configurations increases opportunities for student interaction, engagement, and reduce the power of the instructor in terms of imparting or exchanging information.

Conclusions and Recommendations

Clearly conversation is necessary to better prepare learners to engage, interact, and collaborate. Educational research should explore classroom settings and answer philosophical questions regarding the fundamental nature of successful teaching and learning and how these classroom settings affect the educational process. Universities and colleges that reorganize best to make hybrid settings and address face-

to-face and online experiences and relationships will greatly expand their ability to serve all learners while simultaneously increasing their access to resources found in rapidly diversifying learning spaces. To embrace OHCs where educational excellence is inextricably connected to inclusion, administrators and instructors need the empirical evidence and tools to help guide them into this largely uncharted territory. New research and tools are necessary to demonstrate benefits of hybrid spaces and gains that come from flexible settings. Classroom spaces are not ends in and of themselves, but rather are a means for achieving essential learning objectives and learning outcomes. This inclusive hybrid setting model is an opening phase that will help make innovative and effective learning environments a reality.

As a blend, hybrid classrooms that are optimal bringboth quality and variety. They reflect striving for a model that is more inclusive to infuse variety into teaching and learning strategies. Hybrid models also embrace and expand ways to research learning and establish more accountability. Similarly, hybrid models and optimal classroom settings move beyond the number of learners or the number of programs as end goals. Instead, the hybrid model isa multilayered process through which colleges and universities achieve quality in learning, research and teaching, and student development and are ready for both local and global community engagement, workforce collaboration, and interaction. Embracing optimal hybrid space builds on major university and college initiatives. Most notably among them are meaningful engagement, interaction, and collaboration to educate students. Ultimately this ties together college and university long-standing interests and purpose in educational quality in the curriculum.

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