A Theoretical Framework for Instructional Innovation

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Educators at all levels have been challenged with accountability measures that include student learning outcomes as well as completion rates. In an attempt to meet these accountability standards schools and universities have sought new ways of adapting quickly to changing needs. Many changes fall into the category of “instructional innovation” and teachers are confronted with whether or not to adopt or incorporate new technologies, strategies, content applications and experiences into classrooms or courses. Rogers (1995) defined an innovation as “an idea, practice, or object that is perceived as new by an individual or other unit of adoption” (p.11). The key to understanding an innovation is the “newness” of the idea. For Rogers, “If the idea seems new to the individual, it is an innovation” (p.11). Lee (2008) observed that, “[Instructional] innovation can only be created through education that focuses on cultivating creativity for both teachers and students” (p.43). Lee has further hypothesized that, “Instructional innovation has positive influences on students’ learning satisfaction” (p.46). Cohen and Ball (2000) clarified the concept of instruction, noting “Although many people think of instruction as what teachers do, we define it as interactions among teachers, students and content, in environments … Instruction thus is not created by teachers alone, or students, or content, but in their interactions” (p.3).

In the context of interaction, instruction is a multifaceted process that involves teachers, students, content, delivery systems or strategies, and environments. Innovation involves the introduction of new ideas, technology or strategies into the learning process. Instructional innovations then impact student learning outcomes, student engagement and satisfaction and student success or completion. Figure 1 illustrates these components as a theoretical framework for instructional innovation and is a modification of Lee’s (2008) research framework.

If instructional innovation involves not only the inclusion of new teaching strategies, technology, content and environments, then the anticipated results of such innovations would impact student learning outcomes reflected in higher course grades or higher scores on external state assessments or certification/licensure exams. Instructional innovations would also result in greater student engagement or, “the degree of attention, curiosity, interest, optimism, and passion that students show when they are learning...which extends to the level of motivation they have to learn and progress in their education” (2014, Glossary of Education Reform). In addition to student engagement, students would also have greater learning satisfaction, which Moore (2009) defined as “Students are successful in the learning experience and are pleased with their experience” (p. 74). Sweeney and Ingram provid-

Figure 1. Theoretical framework for instructional innovation.

![Diagram](image)


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ed a similar definition, “The perception of enjoyment and accomplishment in the learning [process and] environment” (p. 57). In addition to outcomes and engagement and satisfaction, instructional innovation should also impact student success of completion of an educational program. Heam (2006) has noted that “Defining student success and effectively measuring it at the student and institutional levels is not nearly as straightforward as it might seem” (p. 1). He continues by suggesting that success ranges from graduation or completion rates to other factors such as value added measures.

Instructional innovation is grounded in newness to both the teacher and students as a way of learning. It involves the interactions of students, teachers, content, technology, and classroom environments. By using the theoretical framework, educators can begin to examine appropriate strategies for classrooms.

What Does Instructional Innovation Look Like in the Classroom?

Instructional innovation can take many forms. What first comes to mind is typically technology innovation for instruction or better known as educational technology. Roblyer (2016) provides this apt description “Today’s educators tend to think of educational or instructional technology as devices or equipment – particularly the more modern, digital devices, such as computer, cell phones, and tablets” (p. 3). As a society, the tendency is to focus on the latest and greatest apps. Educators need to focus on educational technology that enhances pedagogy. “Emergent technologies offer opportunities to understand concepts in deeper, often different, and more meaningful ways. However, this growth in understanding will occur only if teachers learn to use these technologies in effective ways” (Dilworth, Donaldson, George, Knezek, Searson, Starkweather, Strutchens, Tillotson, & Robinson, 2012, p. 130). Some educators fall into the trap of using technology for technology’s sake just to proudly proclaim that they are purveyors of technology. Countless colleagues make this claim even though the extent of their technology use is PowerPoint. While PowerPoint has its strengths in the classroom, there are definitely more engaging tools available. With the plethora of educational apps available it is important to not become stagnant or be afraid to try new things.

To be truly innovative with technology, educators need to understand students’ capacity to learn and use technology. The students are digital natives and use computing devices as easily as older generations used pen and pencil. In planning instruction, teachers need to meet the students where they are in order to engage them with the content and motivate them to learn. If students believe the content or mode of delivery is outdated they tend not to be motivated to learn. As Gillard, Bailey & Nolan (2008) point out our students “eagerly try each new gadget or gizmo and somehow anticipate that we, too, are familiar (or an expert) with the product” (p. 21). Today’s students not only embrace technology, they expect it. It’s important to “demonstrate life-long learning skills as we examine new innovations, determine which are beneficial to our professional life and our students’ futures, and adopt those that are appropriate” (Gillard et al, p. 22).

With ubiquitous (any time, anywhere) access to information, finding apps that enhance pedagogy has never been easier. It only takes time and a little effort to locate and experiment with apps appropriate for any class. Whether novice or expert, a great place to start is the Top 100 Tools for Learning (http://c4ltp.co.uk/top100 tools/). Every year, educators and workplace trainers around the world vote on the top tools for learning. This website not only ranks tools, but provides links to these formidable tools. Some are free, some are modestly priced and some are marketed for enterprise use by a school district or large organization.

Instructional innovation is not limited to educational technology. It can be a new instructional method or assessment or as Ellis (2015) aptly described it, “a teaching method – whether a teaching method or an assessment method – may be perceived as innovative by students when they have never experienced it before or they did not expect to encounter it in a particular course” (p. 111). Currently, the flipped classroom and active learning are trending.

The flipped classroom model described by Fraga and Harmon (2015) is, What generally occurs during class time, such as lectures and demonstrations, occurs at home or out of class, and assignments typically expected to be completed out of class occur during class time. The idea is to allow more efficient and effective use of the instructor’s time during class to provide the necessary scaffolding and guidance students need when engaged in applying newly learned information. (p. 18).

Such a process has also been called inverting the classroom. Many variations of this concept include: flipping a single lesson or
concept, flipping a topic or section, or flipping an entire course. While this practice has been more widely used in higher education, it is becoming more common in the K-12 classroom. What makes this model so effective is that it “allows teachers and instructors the opportunity to work more closely and frequently with individual students, building important rapport and interactions” (Fraga & Harmon, p. 19).

Flipping a course requires a lot of up-front work and takes time, especially if teachers create their own videos. Time is a precious resource that many teachers just don’t have, so an alternative is using existing videos that can be just as effective. Resources for existing video content are Khan Academy (http://www.khanacademy.org), Merlot (https://www.merlot.org) and OER Commons (https://www.oercommons.org). All content on these websites is considered open education resources (OER). The Hewlett Foundation (n.d.) defines OER as “high quality, openly licensed, online educational materials that offer an extraordinary opportunity for people everywhere to share, use, and reuse knowledge” (paragraph 1).

While the flipped classroom has not consistently equated to higher student academic scores, Ogden (2015) found that “students felt that the flipped classroom teaching approach provided them more time to ask their instructors questions” and “the flipped classroom approach utilized multiple instructional components that supported their individual needs” (p. 790). In simpler terms, students were more engaged with their learning.

Another instructional innovation that is trending today is active learning. Miller & Metz (2014) define active learning as “an instructional method in which students become engaged participants in the classroom through the use of in-class written exercises, games, problem sets, audience-response systems, debates, class discussions, etc.” (p. 246). Edwards (2015) further notes that active learning “requires students to intellectually engage with the content using critical thinking or higher levels of thinking such as analysis or synthesis” (p. 26). In Table 1, Edwards provides the following examples of intellectual, social, and physical active learning strategies.

To accommodate active learning, even the design of classrooms has changed. It is not uncommon to see rooms with no desks, or to see furniture configured specifically for collaboration. Gone are the days of orderly classrooms with desks in neat, symmetrical rows. Active learning classrooms are “designed for students to be actively engaged with each other rather than centrally focused on an instructor lecturing” (Petersen & Gorman, 2014, p. 66). In many cases, there is no teacher desk in the front of the room. Teachers are mobile and constantly moving, working with students individually and in groups. These classroom configurations have begun to pay off. Brooks (2011) found that students taking a course in a technologically enhanced environment conducive to active learning techniques outperformed their peers who were taking the same course in a more traditional classroom setting. The evidence suggests strongly that technologically enhanced learning environments... have a significant and positive impact on student learning. (p. 719).

When examining classrooms where instructional innovation is taking place, it could look more like chaos than traditionally quiet places of learning. Classrooms are full of energy, movement, and collaboration. Students are actively engaged with the content and each other. The teacher is mobile, mov-

| Table 1. Examples of Intellectual, Social, and Physical Active Learning Strategies |
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| **Intellectually Active Learning**    | **Socially Active Learning**            | **Physically Active Learning**          |
| **Instructional Strategies**          | **Instructional Strategies**            | **Instructional Strategies**            |
| • Concept Maps                        | • Whole Group Discussions               | • Lab experiments                       |
| • Inquiry Activities                  | • Small Group Discussions              | • Hands-on projects                     |
| • Problem-solving Activities          | • Small Group Projects                  | • Games                                |
| • Synthesizing research for presentations or paper | | • Building models                      |
| • Creating multimedia presentations synthesizing what they have learned | | • Manipulatives                        |

*Note: Adapted from “Active learning in the middle grades,” by S. Edwards, 2015, Middle School Journal, 46, (5), p.27.*
ing around the classroom facilitating learning with individuals and groups; no longer the “sage on the stage.” In applying these examples of instructional innovation for the classroom, it is helpful to refer back to the framework. Questions that should be asked include: (1) Will the instructional innovation improve student learning outcomes? (2) Will the instructional innovation increase student engagement and satisfaction? and (3) Will the instructional innovation lead to greater student success or program completion?

References


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