

# Employing Active Learning Strategies to Become the Facilitator, Not the Authoritarian: A Literature Review

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*Traditional higher education instruction involves an authoritarian educator who is charged with delivering information in lecture format to passive students. Within the past few decades, a new approach has gained popularity. Active learning allows the students to become more involved in their own learning. The educator becomes more of a facilitator than an authoritarian ruler in the classroom. The purpose of this literature review is to explore the historical underpinnings of active learning, its relevance in pedagogy and contemporary research. Also examined are several active learning strategies that can be utilized in the classroom, including lecturing with pause procedures, the flipped classroom, clickers, peer review and games.*

*At one time, the idea of the college classroom was uniformity. The educator stood at the front of the room and lectured at his or her students. That instructor was the authority, the all-knowing leader who poured wisdom to the students while they busily took notes. That was then.*

*The realm of education has changed dramatically over the past few decades. In the 1980s, educators began to look beyond that passive learning strategy and the words active learning were gaining popularity (Berek, 2013). A broad definition for active learning is “anything that involves students doing things and thinking about the things they are doing.” (Bonwell & Wilson, 1991, p. 4). Traditionally, homework primarily fulfilled this type of learning (Prince, 2004). Today, in order to improve pedagogy, the traditional educator-centric role of lecturing to students is augmented with active learning strategies in the classroom (Bren, Hilleman, & Topp, 1998). The purpose of this literature review is to explore empirical research findings on more active learning pedagogies and to share some strategies that educators can use to incorporate more active learning in the classroom.*

*A literature review is written to accomplish several tasks. The review divulges findings of empirical studies related to the topic of examination. Creswell (2014) notes that it “relates a study to the larger, ongoing dialogue in the literature, filling in gaps and extending prior studies” (p. 28). This literature review includes the underpinnings of the active learning pedagogical style, active learning research findings and the application of active learning in the classroom.*

## WHY ACTIVE LEARNING?

### HISTORICAL UNDERPINNINGS

Before higher education institutions came to existence in medieval times (Park & Choi, 2014), learning a trade consisted of apprenticeships. By working hand-in-hand with the master, the apprentice would actively learn valuable skillsets and eventually be ready to venture off on his or her own (Paul, 2012). With the inception of the college classroom, the shift in paradigm from one-on-one teaching to teaching en masse, saw the incidences of apprenticeships dwindle. Instead, the plan was to have the master, the authoritarian educator, impart knowledge on learners while they sat quietly and listened attentively. Long before the resurgence of attention to the need for active learning in the 1980s, criticisms of this technique were evident. Jean Jacques Rousseau (1712-1778) denounced the traditional model of teaching, positing that it was boring and did little to make the student enjoy the subject. Instead, Rousseau believed a student must learn by doing (Page, 1990). His pedagogic method could be summed up in his words, “experience and feeling are our real teachers” (Rousseau, 1762/1889, p. 143). Rousseau believed that an explanatory lecture was uninteresting and soon forgotten. His abhorrence of the traditional methods is unmistakable in the following, “Things! Things! I cannot often enough that we attach too much importance to words. Our babbling education produces nothing but babblers” (p. 144). Maria Montessori (1870-1952), the Italian educational scholar, suggested surrounding students with carefully chosen materials that will lead to them accomplishing their goals (Berek, 2013; Kirkpatrick, 2008). Jean Piaget (1896-1981) also had a vision of what education should look like. He believed:

a) students should construct their own learning for the knowledge to be meaningful; b) students learned best when they could be active and interact with concrete materials; c) learning should be student-centered and individualized; and d) social interaction and cooperative work should play a significant role in the classroom. (Page, 1990, pp. 27-28)

Piaget felt that the role of the educator should be one that: develops an atmosphere of learning in which students would discover knowledge for themselves, diagnoses learner development, cre-

ates “cognitive conflicts to induce thinking” and encourages social interaction (Page, 1990, p. 28). John Dewey’s 1916 tome, *Education and Democracy* emphasized the benefits of active learning, through hands-on approaches or education through experience (Berek, 2013).

### TRANSFORMATIONAL AND SITUATIONAL, RATHER THAN AUTHORITARIAN

Chickering and Gamson (1987) posited, “Learning is not a spectator sport” (p.4). They recommended active learning in the classroom as one of their seven principles for good practice in undergraduate education. Bonwell and Eison (1991) concurred that active learning goes beyond simply listening to conveyed information. Instead, the focus is on developing skills, just as in an apprentice situation. It is in this skill development that the learner transforms into a capable individual, ready to take on his or her role in society. This requires the educator to become more of a transformational and situational leader than that of an authoritarian, directive leader in the classroom. The transformational leader is one who is concerned with long-term goals, satisfies followers’ needs and treats “them as full human beings” (Northouse, 2013, p. 185). By educating using active learning styles, the focus is on the student, rather than the educator or the content. The active learning approach helps achieve long-term goals of the student. Students need to be treated as holistic individuals who come to the classroom with a variety of life experiences and prior knowledge. The educator, therefore, is more of a facilitator than the all-knowing deliverer of information. Facilitators allow students to form their own connections to the subject matter and stimulate critical thinking. Aligned with the empowering aspect of the transformational leader, the educator promoting active learning strategies empowers students in class, not allowing them to be simply passive learners (Horsley, 2010; Jung & Sosik, 2002).

Peleaz (2002) concluded, “Delivery of factual information is ineffective as a mode of instruction for some students” (p. 174). Traditional educator-delivered lectures appeal to the auditory learner, but are not the best option for visual, kinesthetic, cognitive, or global learners. The latter groups of students may prefer a video or observation, a hands-on approach, putting information in their

own words and discussions, respectively (Boctor, 2013). A situational leader is one who “adapt[s] his or her style to the demands of different situations” (p. 99). By paying attention to the students’ needs and treating them as individuals with varied learning styles, the student-focused paradigm of active learning is a logical choice. Hazim, Almir and Amir (2008) define a competent college-level educator as follows...

...an efficient teacher: he or she knows how to encourage students to active learning, he or she has a wide theoretical and practical knowledge on the teaching subject (content he or she teaches), on principles and strategies of course organization, teaching materials and curriculum-related issues, teaching certain subjects, on students, educational contexts – from class to wider social community, educational goals and values, research methodology in teaching. (pp. 134-135)

### CONTEMPORARY RESEARCH

The passive learning approach, such as lectures, does not require students to participate actively, viewing videotapes and reading tasks (Phillips, 2005). Active learning, on the other hand, requires a greater degree of student involvement. Rowles (2012) suggests that faculty members must provide a risk-free environment to develop active learning in the classroom for those accustomed to the more passive styles.

Education scholars disagree on the merits of active learning. Kane (2004) argued that students’ opinions of the educational approach are important in determining the likelihood of success, rather than the actual approach used. Austin and Meschia (2004), on the other hand, asserted that active learning methodologies are generally more preferable than passive learning approaches. Andrews, Leonard, Colgrove and Kalinoski (2011) reported no gains in student learning with employment of active learning methodologies in their study of college biology instruction. Prince (2004) states, “not all...support of active learning is compelling (p. 3). Regardless, there is plentiful empirical support for the approach. Bonwell and Eison’s (1991) review of the literature found better attitudes in students as well as increased levels of writing and critical thinking. Prince’s (2004) review concluded, “Although the results vary in strength,” every form of active learning examined proved beneficial (p. 7).

### ACTIVE LEARNING STRATEGIES FOR THE CLASSROOM

Research shows that the primary method of teaching in higher education is still the traditional lecture approach (Wilson, 2012). For faculty members who do not employ any active learning strategies in their pedagogy and are interested in doing so, the following paragraphs offer a number of active learning classroom applications.

#### LECTURES

Perhaps the simplest approach for the traditional educator is to begin incorporating active learning into a classroom. By pausing during a lecture to allow students to take a couple minutes to work in small groups with the aim of clarifying their notes, retention of the lecture material is increased (Di Vesta & Smith, 1996; Prince 2004; Ruhl, 1987). The premise behind this pause procedure is that students’ attention tends to decrease after approximately every fifteen minutes of lecture. Therefore, the breaks allow opportunities to start anew and keep the student focused Prince, 2004).

By delivering lectures outside the classroom through an online format, the face-to-face classroom time is reserved for active learning. This model is called the “flipped or inverted classroom” (Herreid & Schiller, 2013, p. 62). Videos are the preferred method of out-of-class learning for both students and educators, when compared with readings, according to Herreid and Schiller (2013). Pruneske, Batzil, Howell and Miller (2012) found that the students in their study, who watched lectures of educator-recorded PowerPoint presentations with sound, felt that the maximum length of the lecture should be twenty minutes for proper student engagement. Some of these students reported their appreciation of learning the material at their own pace in an open-ended comments section of the post-course survey. These students used in-class time to “build a conceptual framework and to elicit and discuss student misconceptions” with educator facilitation (p. 69).

#### CLICKERS

The study by Pruneske et al. (2012) used the first few minutes of class time to determine if the students accomplished the learning objectives of the at-home PowerPoint® presentations. Classroom response systems, otherwise known as student response systems and simply referred to as clickers,

were used for this assessment. Clickers are wireless handheld response pads, resembling a television remote control that students use to choose a correct answer to a multiple-choice question. Immediate result tabulation allows educators formative assessment opportunities, which enable them to allow further discussion for more complex concepts. The tabulated responses can be aggregated and displayed as a histogram to the class, yet the students' individual answers are not revealed to each other.

Registered clickers can be used for educators to keep track of student responses, using them for summative assessments, or they can be randomly distributed for anonymous participation. Multiple studies conclude that students find these interactive tools quite engaging and enjoyable to use (Martyn, 2007). Meedzan and Fisher (2009) included the use of clickers as an active learning tool in a study held in the classroom of 29 sophomore baccalaureate-level nursing students. There was a high degree of positive satisfaction with the use of clickers in the classroom. Every student felt that "they were enjoyable and should remain in [the] class" (p. 12). 98% appreciated the feedback and interactions that the clickers provided. 89% "strongly agreed or agreed that clicker questions helped them know how well they were learning the course material" (p. 12).

When asked about the motivational aspect, there was less agreement; where 48% either strongly agreed or agreed that the clicker was a motivational tool. In a study by Vail, Maldonado, Graeff and Galante (2008), results were similar. Clickers were used in a physician assistant program "to gauge students' knowledge of material, improve attentiveness and concentration during class and create an environment of active learning through discussion of case studies" (p. 35). When surveyed about their usage, 98% of the respondents reported that clickers kept them engaged during the lectures, 84% believed their usage helped them perform better on exams and 93% were highly satisfied with using them and were in favor of incorporating them in other classes. The clickers would appeal to those in the Generation Y age bracket because this demographic enjoys use of current technologies (McCurry & Martins, 2010; Partridge & Hallam, 2006).

Some hindrances to using clickers in the classroom would be cost, time spent on creating applicable questions, resistance to the technological

aspect of the equipment and resistance to change from an educator's typical teaching environment.

## PEER REVIEWS

Pond and Ul-Haq (1997) defined peer review as a strategy of instruction that requires active participation of students in order to assess another's work formatively. Black (1999) suggested peer reviews to help students remain more interested and engaged in the classroom. She uses the technique during demonstration lessons in her Early Childhood Teaching Methods course. The classroom becomes a team atmosphere and best practices are often exchanged. By assessing others' work, the presenters gain valuable feedback from peers and suggestions for improvement. In a study by Odom, Glenn, Sanner and Cannella (2009), thirty nursing students were asked to perform peer reviews for other groups' projects in the class. They were given a grading rubric from which to assess other groups' work. Though some had difficulty determining whether a peer fulfilled the objectives or not, both educator and students found the process to be a positive experience. The authors concluded that peer review is a useful active, versatile learning tool that "appears to be especially useful in courses where there is an emphasis on developing higher level thinking skills and collaboration" (p. 112).

Multiple scholars are equally as enthusiastic about the use of peer review. Students recognize that they can gain valuable information from sources other than the educator or the required texts (Prins, Sluijsmans, & Kirschner, 2005; Towns et al., 2000). Peleaz (2002) concluded that problem-based writing with peer review led to improvements in learning for undergraduate students taking a physiology course "even when used to replace rather than supplement didactic lectures" (p. 181). Students are more apt to revise writing when peers review their writing when compared to self-review, as well as significantly improve their final draft for new and/or better developed ideas and rectifications of factual mistakes, according to Trautmann (2009). Grammatical and spelling errors were not included in calculating the results. Eighty-one percent either strongly agreed or agreed with a statement asking if they changed something in their report due to peer review comments. 86% strongly agreed or agreed with a statement asking if review-



ing other students' work helped improve their own writing. Trautmann's (2009) study also involved a qualitative component. Many students expressed positive comments regarding the peer review experience. Among them were:

- "I liked creating the peer reviews for others because it made me look at my own work even more critically. If I saw something I liked when reviewing someone else's paper I used it in my own publications."
- "I commented on things that people could do to make their reports a lot better. When I edited my report I remembered those things and I made sure that I did them in my paper."
- "I think that the best part of the peer review is that in most other classes we never received feedback from our peers. This gave us a chance to see what we did wrong without being penalized for it."
- "Hearing things from a different view makes me realize what I need to work on. I realized just because it makes sense to me doesn't mean it will make sense to everyone else." (pp. 698-699)

The peer review process is completed via identifiable student feedback or anonymously. Lu and Bol (2007) found anonymous reviews to be more effective and critical in nature.

## GAMES

Playing games in a classroom is not merely a form of entertainment; it can be an effective active learning strategy. Educational games are activities "presided over by precise rules that involve varying degrees of chance, in which, players compete through the use of knowledge or skill in attempts to reach specified goals" (Peddle, 2011, p. 647). These games promote collaboration, critical thinking and reasoning while enhancing student-centered learning (Boctor, 2013). Games offer the advantage of immediate feedback. Prompt feedback is one of Chickering and Gamson's (1987) listing of seven principles for good practice in undergraduate education. Additionally, teamwork is involved and there is a degree of excitement and entertainment. These components appeal to learners in the Generation Y age bracket (McCurry & Martins, 2010). The games need to specifically address the course's learning objectives (Baid and Lambert, 2010; Dempsey, Haynes, Lucassen, & Casey, 2002;

Leach & Sugarman, 2006). Baid and Lambert (2010) further note that there should be adequate planning of the classroom games so that there is time for debriefing.

Empirical studies have demonstrated significant differences in outcomes when comparing pre and posttest scores of students who learned via traditional methods versus playing an educational classroom game, i.e., Cowen and Tesh (2002), Ingram, Ray, Landeen and Keane (1998). Weigel and Bonica (2014) concluded that games as an active learning strategy allows "dramatic improvements in engaging the students and their information retention" (p. 29).

Frame games, educational games that are based on existing television or board games geared to cover course content, often increase student comprehension (Susi, 1988). The television game show, Jeopardy, provides the basis for a popular frame game used by educators. Walker (2008) played Library Jeopardy with her students in order to motivate the students, reinforce learning of course concepts and provide a fun learning atmosphere. Walker concluded that the game met most objectives, with the exception that some students may remain unmotivated and may not actively participate in the activity. Boctor (2013) also studied the use of a Jeopardy-style game in the classroom with a rendition created for nursing students called Nursopardy.

Multiple learning styles were taken into consideration while creating the game. A PowerPoint slide displayed the question and read aloud by the facilitator. Each team discussed the category, dollar amount for each question and the students acted as a team to arrive at the correct answer, sometimes eliciting a lively debate. Throughout the game, discussion time occurred after the correct answers were revealed. Theme music, pictures and applause added to the game show atmosphere. The students competed in teams of 8 and 10. Boctor (2013) recommended small teams to encourage participation from all students and alternating team leaders, so that they could provide the final say in the team discussions. The game took quite a while to create, though the author notes that "once created it was easy to implement" (p. 99). There was no direct cost involved in the creation of the game, as it only used a computer, a projector and a screen, all of which were already used in the classroom.

The 39 nursing students who took part in this study had nothing negative to report regarding Nursopardy. They found it “beneficial, as a reinforcement of material learned, [it] increased student confidence about answering test questions in the future...[it] helped them review [the course] and helped them to learn new information” (p. 99). In addition to the findings discovered in the survey, students also offered comments such as, “‘It was fun’ and ‘very helpful’...‘I feel better about taking the final now’, ‘loved it’, ‘great learning activity’ and ‘it helped me to look at things in a different way’” (p. 99).

Frame games are not the only way to incorporate games in the classroom. Browning (2009) uses a highly interactive game to teach her military history students – a water balloon battle. The students, divided into two teams, toss balloons to eliminate the other team’s members. Once the water balloon war is finished, the students write about their experiences, “either in a form of a letter to a loved one or a more official after-action report” (p. 301). Later, they write a 10-20-page research report that consists of answering the question of “Why did Team X win (or conversely, why did Team Y lose?)” (p. 301). The students must conduct multiple interviews and research extensively, while accounting for each person who participated in the war game. Browning found that student feedback to be “overwhelmingly positive” (p. 303).

## CONCLUSION

The traditional model of instruction involves the educator in the role of authoritarian, the leader of the classroom who spews out wisdom to passive learners. Much empirical evidence suggests that student outcomes improve with a more active learning approach, where the educator takes on the role of a facilitator, taking into consideration students’ learning styles, attention span and specific needs. Active learning strategies such as pause procedures during lectures, group discussions, clickers, peer reviews and games have been successfully utilized in college courses. However, most educators in higher education still use the traditional lecture approach (Wilson, 2012). Educators who wish to incorporate active learning in their pedagogy can try one or more of the strategies listed to decide for themselves the benefits of becoming a facilitator in the classroom.

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