PROFESSIONAL EDUCATION & TRAINING | RESEARCH ARTICLE

Increasing student engagement via a combined roundtable discussion and flipped classroom curriculum model in an OT and special education classroom

Pamela Lewis-Kipkulei¹, Jacques Singleton¹*, Topeka Small Singleton¹ and Kimberley Davis¹

Abstract: The active learning concepts of the combined roundtable discussion and flipped classroom have been explored and implemented in various formats in K-12 and colleges and universities. Round tables include a discussion and debate on a specific topic. Each person is given an equal opportunity to participate. In

ABOUT THE AUTHORS

Jacques Singleton is full time professor at Arkansas State University. As a research group they have studied cognitive theories, online learning, assessment, higher education accreditation, culturally responsive teaching, and culturally relevant pedagogy, urban education, teacher shortage, special education and occupational therapy. Each have various experience in both higher education and K-12 education.

Pam Lewis-Kipulei is full time professor at Arkansas State University. As a research group they have studied cognitive theories, online learning, assessment, higher education accreditation, culturally responsive teaching, and culturally relevant pedagogy, urban education, teacher shortage, special education and occupational therapy. Each have various experience in both higher education and K-12 education.

Topeka Small Singleton is full time professor at Arkansas State University. As a research group they have studied cognitive theories, online learning, assessment, higher education accreditation, culturally responsive teaching, and culturally relevant pedagogy, urban education, teacher shortage, special education and occupational therapy. Each have various experience in both higher education and K-12 education.

Kimberley Davis is full time professor at Arkansas State University. As a research group they have studied cognitive theories, online learning, assessment, higher education accreditation, culturally responsive teaching, and culturally relevant pedagogy, urban education, teacher shortage, special education and occupational therapy. Each have various experience in both higher education and K-12 education.

PUBLIC INTEREST STATEMENT

Basic lecture continues to be used today although it has been suggested that lectures expose learners to content but exposure does not ensure learning (Lujan & DiCarlo, 2006). Traditional lecturing is considered a passive teaching strategy that does not actively engage the student in the learning process. Many educators and researchers now believe that active learning strategies are necessary for students to learn and to retain the information learned. The aim of this research was to view a flipped classroom’s potential to impact student engagement by facilitating critical thinking skills that would prepare future occupational therapists and special educators to provide interventions and education in real-world settings. The results show participants in the current study felt that the flipped classroom helped increase their learning by increasing their engagement and participation in the learning process.
a “flipped classroom” the teacher delivers lectures before class in the form of various readings and activities. The teacher spends class time engaging students in learning activities that involve collaboration and interaction. Though the combined roundtable discussion and flipped classroom have become widely used approaches, there is still an opportunity for more research to analyze the perceptions of students on these approaches and to measure the impact of both approaches. This qualitative case study examines if the combined round table discussion and flipped classroom curriculum model impacts the student engagement of junior special education majors and doctoral level occupational therapist majors in a university setting. Rubrics, focus groups, and instructor documentation of student responses were used to collect data in this study. The results indicated that student engagement and participation were positively impacted using these models. The active learning strategies of discussion and peer instruction were important to the success of the model.

Subjects: Higher Education; Classroom Practice; Curriculum Studies

Keywords: student engagement; roundtable discussion; flipped classroom; occupational therapy; special education

1. Introduction

Historically, higher education has transmitted information from content “experts” to students via lectures. When books were scarce and costly, this tradition of lecturing and note-taking followed by evaluation (quizzes, exams, papers) was an efficient means of instruction. Basic lecture continues to be used today although it has been suggested that lectures expose learners to content but exposure does not ensure learning (Lujan & DiCarlo, 2006). Traditional lecturing is considered a passive teaching strategy that does not actively engage the student in the learning process. Many educators and researchers now believe that active learning strategies are necessary for students to learn and to retain the information learned. According to Chickering and Gamson (1987):

Learning is not a spectator sport. Students do not learn much just by sitting in class listening to teachers . . . They must talk about what they are learning, write about it, relate it to past experiences, apply it to their daily lives. (p. 3)

In higher education, low levels of student engagement leading to poor learning performance (Lim, 2017) and, ultimately to poor academic performance continues to be problematic. Despite this, lecture continues as the predominant instructional strategy in most higher education classrooms (Gilboy et al., 2015; Prober & Heath, 2012) and when used alone, has been criticized as an ineffective way to help students acquire knowledge and skills (Gilboy et al., 2015; Hattie, 2008; Schwerdt & Wupperman, 2010). Lecture is a type of passive learning that takes classroom time away from student thinking, solving practical problems, and direct application of material (Bergman & Sams, 2012; Gilboy et al., 2015). Previous studies have shown that students’ attention declines after ten minutes of lecture and students only retain approximately 20% of the information presented (Gilboy et al., 2015; Hartley & Cameron, 1967; MacManaway, 1970). This statistic indicates that instructors may need to utilize more active learning strategies within the curriculum, especially if students are expected to learn and retain information.

Learning, in any framework, involves keeping students engaged. Active learning strategies are student-centered instructional activities that require students to “do things” then, think about and reflect on what they are doing (Bonwell & Eison, 1991; Misseyanni et al., 2018) and are used to promote student engagement in the learning process. More recently, “cooperative” groups were introduced as a framework that requires that students work together on activities to learn and
master concepts (Bosworth & Hamilton, 1994). Loes et al. (2018) discussed collaborative learning as a shift from instructor-led classrooms to environments that emphasize peer teaching under the guidance of an instructor who provides materials and ideas to facilitate learning.

Classroom discussion is another active learning strategy that has been used by instructors to engage students in the learning process. Classroom discussion can increase student engagement, participation, critical thinking skills, and problem-solving skills as well as promote learning and retention of information learned. It has been suggested that when students actively share dialogue, they can develop and refine their critical thinking and problem-solving skills (Maxwell, 2013, Socratic Methods section, para. 1; Toledo, 2015, p. 275). Wasserman (2010, para. 1) suggested that productive classroom discussions that “enable students to invent, create, imagine, take risks, and dig for deeper meanings—can only take place in a climate in which students feel safe to offer their ideas.” Wasserman also suggested that teachers can create this climate through interactive teaching and balanced classroom instruction. Bonwell and Eison (1991) stated that for students to be engaged in active learning they need to “read, write, discuss, and solve problems while engaging in higher-order thinking skills. Bodensteiner (2012) suggested that students in courses that utilize discussion learned and retained information better and were more confident in their answers than students who received content-only instruction. Brookfield and Preskill (2005) argued that classroom discussions can make students co-creators of their learning and promote a democratic classroom. Howard (2015) also added to the literature by suggesting that participation in class discussions leads to the development of thinking skills.

Most recently, the active learning concept of the flipped classroom has been explored and implemented in institutions of higher learning. In a traditional instructor-centered classroom, the teacher delivers lectures during class time and gives students assignments to be done after class. In a “flipped classroom” the teacher delivers lectures before class in the form of different types of materials and spends class time engaging students in learning activities that involve collaboration and interaction among students (Butt, 2014). Scholars have reported that the use of this technique provides greater flexibility, improves student attitudes, reduces student stress and failure, and accounts for better learning outcomes (Mok, 2014). Classroom time is not used for lectures, therefore, the teacher can engage with students via discussions, hands-on activities, guidance, and problem-solving. Many professors and researchers have begun to study the “flipped classroom” as a teaching innovation with clear potential to enhance the learning experience of university students (Butt, 2014; Findlay-Thompson & Mombourquette, 2014; Mok, 2014; Prashar, 2015; Strayer, 2012; Toqueer, 2013).

Contemporary teaching and learning approaches are designed to maximize student engagement in the learning process (Brame, 2013). Yee (2016) suggested that students who employed a wider repertoire of strategies for engagement increased their likelihood of achievement. Proper engagement requires teaching styles that are matched with students’ learning styles, and a mismatch of any kind could lead to lesser engagement and poor learning experiences (Borg & Shapiro, 1996). This finding highlights the necessity of having a portfolio of teaching styles catered to the varied learning styles of the students (Lage et al., 2000). Therefore, the research team decided to incorporate the active learning strategies of the flipped classroom, classroom discussion, and peer teaching into their classrooms to explore the impact of these strategies on increasing student engagement.

2. Methods
Upon approval of the University’s Institutional Review Board, the researchers implemented the hybrid curriculum. A qualitative case study method was utilized to research the impact of a combined round-table discussion and flipped-type classroom curriculum model on increasing student engagement. The research aimed to view this hybrid curriculum’s potential to impact student engagement by facilitating critical thinking skills that would prepare future occupational therapists and special educators to provide interventions and education in real-world settings. The
research method and design selected for this study was a qualitative case study (Yin, 2009). Qualitative Research is primarily exploratory research. It is used to gain an understanding of underlying reasons, opinions, and motivations. Qualitative Research is also used to uncover trends in thought and opinions, and dive deeper into the problem. In this study, the researchers wanted to understand the perceptions and thoughts of the participants on the impact of the flipped classroom on student engagement.

Yin (2009, p. 18) defined case study research as an “empirical inquiry that investigates a contemporary phenomenon (the “case”) in-depth and within its real-world context. Cresswell and Poth (2017) also suggest that case study research explores an issue within a bounded system and proposes use when the inquirer seeks to provide an in-depth understanding of the case. Stake (2013) states that case study research requires experiencing the phenomenon in the context or situation in which it occurs. A qualitative case study was selected for this study because it can provide an in-depth and intensive examination and understanding of the multiple aspects of the impact of the flipped classroom on student engagement. (Yin, 2009). Further, it can allow a holistic, more comprehensive understanding of the phenomenon of using a hybrid curriculum of round-table discussion and flipped classroom and how these techniques were used to promote student engagement and participation in occupational therapy and special education curriculums. The primary research question for this study was: What are student perceptions of how the hybrid roundtable discussion and flipped type classroom curriculum model impact student engagement in the learning process? In this study, each of the researchers’ courses, classroom settings, and instructional approaches were examined.

2.1. Participants
The hybrid roundtable discussion and flipped type classroom curriculum model was implemented in two fourteen-week courses. The courses consisted of occupational therapy doctorate (OT) and special education (SPED) undergraduate students enrolled in upper-level courses at a mid-sized university in the Mid-south during the spring semester. Purposeful sampling was used for participant selection. Seven of the 24 OT students and all six of the special education participated in the focus group for a total of 13 participants. Criteria for participation in the study was that students were OT or special education majors and were enrolled in one of these courses during the time of the study.

Both courses covered issues related to the respective fields and were historically taught using a lecture and exam format. Instead of traditional lectures, the researchers used peer collaboration, student-led discussion, and peer teaching in the classroom. The flipped classroom was also utilized as students were assigned readings, guiding questions, and research topics to prepare for in-class participation. During the last week of the class, researchers conducted focus groups to gain an understanding of the students’ perceptions of how the combined round-table discussion and flipped-type classroom curriculum model impacted their student engagement. The purpose of the focus group discussion was to identify trends and patterns in students’ perceptions of the curriculum model. Researchers sought student perceptions of their experiences with both the combined round-table discussion and flipped-type classroom portions of the curriculum model. The focus groups also explored students’ levels of engagement in both portions of the curriculum model. The professor from the OT program conducted the focus group for the six SPED students and the SPED professor conducted the focus group for the seven OT students. The focus groups were recorded and transcribed verbatim. The audio-recorded focus group data was transcribed, then coded using NVivo software with identifying recurring phrases and regularities in the data (Huberman & Miles, 1994). All initial codes followed closely the concepts used by the interviewees to enhance the validity of this study (Punch, 2005). Axial coding was conducted to group codes (Corbin & Strauss, 2007; Merriam, 2009) and to establish ten major themes from the OT and Special Education focus groups that aligned with the focus group questions. The major themes included: (1) Educational/Learning techniques (2) Description of the roundtable and flipped classroom (3) Previous experience with model (4) Curriculum compared to other active learning (5) Curriculum
impact on participation (6) Curriculum impact on engagement (7) Rubrics impact on the number of responses (8) Times students exceeded the set number of responses (9) Course assignments impact on participation and engagement, and (10) Knowing course expectations impact on the grade. All the data and codes for each major theme were sorted into subthemes (Merriam, 2009). Triangulating analysis (Patton, 2002, p. 560) was adopted by having two researchers independently analyze the data and compare findings to ensure internal validity (Merriam, 2009).

2.2. Assessment
This qualitative case study research utilized three data collection points. Rubrics, focus groups, and instructor documentation of student responses were used to collect data in this study. Instructors in both the OT and SPED courses used detailed rubrics to guide and assess student learning and engagement. “Rubrics tell potential performers what elements of performance matter most and how the work will be distinguished in terms of relative quality” (Wiggins, 1998, p. 153). Performance-based assessment offers many advantages in learning goal assessment, especially as it encourages higher-level thinking, problem-solving, and integrating knowledge (Muraki et al., 2000). The rubrics established the expectations for what students should include in the class discussion and the teaching module, detailed how grades would be assigned, and outlined participation expectations for each role. A separate rubric was assigned for each student role including group leaders, student teachers, and group participants. Although the rubrics outlined the expectations, students were allowed the latitude to be creative in their teaching and leadership styles. Students could choose how the teaching content would be delivered and decide which technologies and other active learning strategies to use during their teaching modules.

2.3. Description of the curriculum model
As previously stated, both courses covered issues related to the respective fields and were historically taught using a lecture and exam format. Instead of traditional lectures, the researchers used flipped classroom strategies, peer collaboration, student-led discussion, and peer teaching in the classroom. In the classroom, occupational therapy students led scholarly, evidence-based discussions on population health issues. The issues included ethical and practical considerations, health and wellness needs, risks for social injustice, occupational deprivation, the disparity in the receipt of services, and how occupational therapy interventions can impact the issue. Group leaders (in teams of four or five students) facilitated the discussion and group participants (students not leading the group) were to make evidence-based contributions to the discussion. Students were also assigned to teach population health modules based on existing research and supporting evidence. Teams of four or five students were assigned a population health topic, provided with guiding questions, and were to become “subject matter experts” on their assigned topic.

Special education students also led scholarly, evidence-based discussions on current educational issues impacting special education. The issues included ethical and practical considerations, student needs, risks for social injustice, the disparity in the receipt of services, and how teacher education could impact the issues. Students in the special education course were also assigned to teach education modules based on existing research and supporting evidence. They were given guiding questions and were to become “subject matter experts” on their assigned topic.

Student teams taught an evidence-based, 2-hour module with a 30-minute question and answer period on their assigned topic. In both courses, students were responsible for preparing for the discussion and teaching modules through assigned readings, research topics, and guiding questions. They were also responsible for finding articles on the subjects assigned and researching the topic before class.

The discussion and teaching module were assessed using separate rubrics for group leaders, student teachers, and participants. The purpose of this curriculum model was to increase student engagement and participation by providing opportunities for students to actively construct knowledge and practice using guided questions and intellectual tools to acquire a deeper understanding.
of course content. The instructors believed that the approach could be used to guide students in improving their ability to think critically, apply information to real-world scenarios, and take responsibility for parts of the learning process.

The instructors’ role in the course was to facilitate the learning process and ensure that the materials presented by students were factual and evidence-based. Evidence-based practice (EBP) is defined as an approach to medicine, education, and other disciplines that incorporates the most current and valid research results (Free Dictionary, n.d.). According to Thomas et al. (2011), all health care professionals and educators should work within an EBP context. They state that along with other professionals, occupational therapists use a systematic approach based on evidence, professional reasoning, and client preferences to help individuals improve their function in the occupations of life. During each session, instructors documented all students’ contributions to the discussion to ensure that the material was evidence-based rather than the students’ personal opinions.

Students assumed various roles during each assignment. During the discussion, the role of group leaders was to introduce the topic by providing an evidence-based definition of the topic. They were also responsible for providing an evidence-based history and background of the topic, including why the topic was a population health or education issue and discussing ethical and practical considerations of the issue. Throughout the discussion, team leaders ensured conversational flow, maintained the topic of conversation, redirected group members who strayed from the topic, and prompted continued conversation by incorporating guiding questions as needed. The role of the group members (students not leading the group discussion) was to make scholarly, evidence-based contributions to the discussion. Students were responsible for following the discussion and deciding where in the conversation their evidence-based contribution was relevant and appropriate. If student contributions were not relevant, the group leaders were responsible for restoring the conversational thread.

Students met with the instructor before their teaching module to ensure that the material would be covered adequately and to discuss the teaching methods they would use. During the group teaching module, group teachers used guiding questions to teach their peers about a population health or educational topic. Students were responsible for:

- Defining and describing the issue
- Discussing the background of the issue
- Detailing why the topic was an issue both nationally and internationally
- Detailing the relevance of the issue to OT or special education
- Discussing current professional involvement in the issue
- Specifying assessments and interventions practitioners currently use to address the issue of recommending relevant assessments and interventions
- Discussing policies, regulatory issues, and compliance standards that impact occupational therapy or educational involvement in the issue
- Discussing strategies that will enable occupational therapy or education to respond to society's changing needs regarding this issue

The role of the group members (students not teaching the module) was to participate by finding one scholarly article that addressed the topic and asking at least one question during the question/answer period. Scholarly contributions were to be from peer-reviewed journals within the past five years, and students were to state the author’s name or the title of the article and the year of publication during each scholarly contribution. Points were not given if students did not follow the established format. If an opinion was offered without supporting evidence, the instructor would request the evidence but would not count the response if evidence was not provided. To receive the highest scores, students were made five (5) scholarly contributions to the peer-led
discussion and one (1) scholarly contribution during the teaching module question/answer period. Point distributions were outlined in the assignment rubrics and were based on participation and students’ ability to address all relevant points. During each session, instructors recorded the number of responses for each student to ensure that points were assigned fairly. At the end of each session, the instructor documented the percentage of student responses established in the rubric and the percentage of responses above of the number of responses established in the rubric.

| Session | Teaching Method | # of Students (Not including group leaders) | Responses Established in Rubric (per student) | # of Actual Responses (Not including group leaders) | # and % Over Responses established in Rubric |
|---------|-----------------|---------------------------------------------|---------------------------------------------|-------------------------------------------------|---------------------------------------------|
|         | Class Discussion | Peer Teaching                               |                                             |                                                 |                                             |
| 1       | X               | 24                                          | 5 (120)                                     | 132*                                            | 12/10%                                      |
| 1       | X               | 24                                          | 1 (24)                                      | 24                                              | 0/0%                                        |
| 2       | X               | 24                                          | 5 (120)                                     | 124                                             | 4/3%                                        |
| 2       | X               | 24                                          | 1 (24)                                      | 24                                              | 0%                                          |
| 3       | X               | 24                                          | 5 (120)                                     | 136*                                            | 16/13.9%                                    |
| 3       | X               | 24                                          | 1 (24)                                      | 27                                              | 3/12.5%                                     |
| 4       | X               | 23                                          | 5 (115)                                     | 123                                             | 8/6.9%                                      |
| 4       | X               | 23                                          | 1 (23)                                      | 27                                              | 4/17.39%                                    |
| 5       | X               | 24                                          | 5 (120)                                     | 135*                                            | 15/12.5%                                    |
| 5       | X               | 23                                          | 1 (23)                                      | 27                                              | 4/17.39%                                    |
| 6       | X               | 23                                          | 5 (115)                                     | 124                                             | 9/7.8%                                      |
| 6       | X               | 24                                          | 1 (24)                                      | 24                                              | 0/0%                                        |
| 7       | X               | 23                                          | 5 (115)                                     | 124                                             | 9/7.8%                                      |
| 7       | X               | 23                                          | 1 (23)                                      | 28*                                             | 5/21.7 %                                    |
| 8       | X               | 22                                          | 5 (110)                                     | 111                                             | 1/0.09%                                     |
| 8       | X               | 22                                          | 1 (22)                                      | 28                                              | 6/27.27%                                    |

*denotes that the instructor had to restrict student contributions due to the significant number of contributions students were making and time constraints for class

Documented Student Responses—Special Education

| Session | Teaching Method | # of Students (Not including group leaders) | Responses Established in Rubric (per student) | # of Actual Responses (Not including group leaders) | # and % Over Responses established in Rubric |
|---------|-----------------|---------------------------------------------|---------------------------------------------|-------------------------------------------------|---------------------------------------------|
|         | Class Discussion | Peer Teaching                               |                                             |                                                 |                                             |
| 1       | X               | 6                                           | 5 (30)                                      | 48                                              | 18/60%                                      |
| 1       | X               | 6                                           | 1 (6)                                       | 12                                              | 6/100%                                      |
| 2       | X               | 6                                           | 5 (30)                                      | 51                                              | 21/70%                                      |
| 2       | X               | 6                                           | 1 (6)                                       | 14                                              | 8/16.66%                                    |
| 3       | X               | 6                                           | 5 (30)                                      | 45                                              | 15/50%                                      |
| 3       | X               | 6                                           | 1 (6)                                       | 10                                              | 4/66.66%                                    |
| 4       | X               | 6                                           | 5 (30)                                      | 49                                              | 19/63%                                      |
| 4       | X               | 6                                           | 1 (6)                                       | 14                                              | 8/133%                                      |
| 5       | X               | 6                                           | 5 (30)                                      | 50                                              | 20/66.66%                                   |
| 5       | X               | 6                                           | 1 (6)                                       | 16                                              | 10/166%                                     |
| 6       | X               | 6                                           | 5 (30)                                      | 51                                              | 21/70%                                      |
| 6       | X               | 6                                           | 1 (6)                                       | 12                                              | 6/100%                                      |
3. Results and summary of findings

Based on instructor documentation, student responses exceeded expectations during all weekly discussions and teaching modules in both the occupational therapy and special education courses. The percentages of actual responses over the number of required responses ranged from 0.09% to 13.9% for the discussion module and from 0% to 27.27% for the teaching module (OT) and 50% to 70% for the discussion module and 16.66% to 166% for the teaching module (SPED) (see Table 1). The percentage of actual responses indicated that the students’ participation consistently exceeded the expectations that were outlined in the rubric.

The student response rate suggested that student engagement, participation, and ultimately, learning are impacted when students are given the responsibility to actively construct knowledge and practice using guided questions to acquire a deeper understanding of course content. Students demonstrated enthusiasm and interest in the topics discussed in class although the instructors assigned all topics except for topics for the Pecha Kucha presentations. The quality of the scholarly contributions made by the students during group discussions was noteworthy, and most of the students came prepared with two or three peer peer-reviewed journal articles each session although only one was required. This indicates that students spent time (engagement and participation) outside of class researching articles on the topics to ensure that they were prepared for the discussions. The instructors would only insert comments to facilitate the discussions if the conversation lagged longer than ten seconds. Throughout the courses, the instructors only had to insert comments on two occasions indicating active student engagement and student participation in the discussions. During several sessions, the instructors had to restrict student contributions due to the significant number of contributions being made. The experiences of instructors in both curriculums indicate that student engagement and participation were positively impacted using this hybrid curriculum model and the active learning strategies of discussion and peer instruction that were a part of the models.

The focus groups were used to explore student perceptions of the hybrid curriculum. The themes identified in the focus group data helped the researchers to understand the students’ perceptions of how the combined round-table discussion and flipped-type classroom curriculum model impacted their engagement in the learning process. Several themes emerged from the OT and Special Education focus groups that were organized around ten focus group questions (see Table 2).

Focus group question one addressed the educational/learning techniques instructors used in the past to increase student engagement. The primary themes related to this question were (a) learning through discussion, (b) experiential learning (c) guest speakers, and (d) lecture.

3.1. Educational/learning techniques

The OT focus group students reported that this was their first learning through discussion (LTD) experience which focused on getting the student engaged in the instruction process. Fifty-seven percent of participants stated they had experienced LTD while 42% stated they did not experience LTD classrooms until their doctoral courses. One participant identified experiential learning as other learning strategies they experienced before LTD. Experiential learning is the process of learning through experience and is more specifically defined as learning through reflection on doing (Cherry, 2019). Two participants identified guest speakers as a strategy used in previous courses to help keep students engaged. Finally, one student stated that “an interactive lecture can still elicit strong student engagement if the lecturer is also engaging.”

Eighty percent of students in the SPED focus group reported that this course was their first experience using a combination of LTD and flipped classroom instruction. Two students reported experience with open or non-structured discussion. One student stated that in previous classes, “the discussion consisted of instructors answering questions or talking to the student in the front of the class, but never a class like this.”
| Question # | Question                                                                                                                                                                                                 | Themes and Sub-themes                                                                                                                                 |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| 1          | What educational/learning techniques have your instructors used in the past to increase student engagement? Prompt: Have you experienced learning through discussion (LTD) in the past? Have you experienced any other active learning strategies in the past? If so, what were they? | Educational/Learning techniques (a) learning through discussion (b) experiential learning (c) guest speakers (d) lecture.                                     |
| 2          | How would you describe the Roundtable Discussion and Flipped Classroom Curriculum Model that was used in this classroom?                                                                                      | Description of roundtable and flipped classroom (a) Gained confidence to develop voice (b) format helped learn the information more in-depth (c)Everyone brought something to the table (d) got more information from different sources (e) able to hear and explore each other's perspectives |
| 3          | Have you experienced this curriculum model in the past? If so, in what capacity?                                                                                                                          | Previous experience with model (a) modified version of the curriculum (b) prior coursework was not as intense                                           |
| 4          | How would you compare this curriculum to other active learning strategies that you have experienced?                                                                                                        | Curriculum compared to other active learning (a) more engaged (b) forced to follow the conversation (c) learned concepts in the flipped classroom that are committed to long-term memory and applied in real-world settings (d) equal participation |
| 5          | How did this curriculum impact your participation? Be specific                                                                                                                                              | Curriculum impact on participation (a) part of the grade, so forced to participate and (b) would not have participated as much if not required.         |
| 6          | How did this curriculum impact your engagement? Be specific                                                                                                                                                 | Curriculum impact on engagement (a)the ability to share ideas freely encouraged participants to try new things, pushed them out of their comfort zone, and helped them grow |
| 7          | Do you feel that you would have participated as much if the rubrics had not required a set number of responses?                                                                                           | Rubrics impact on the number of responses (a) not as much participation                                                                                 |
| 8          | How often did you exceed the set number of responses set forth in the course rubric?                                                                                                                     | Times students exceeded the set number of responses (a) exceeded the set number of responses a few times but agreed that once they hit their required number they would “step back” and let others get their required amount of responses (b) did not feel that they counted the number of responses |

(Continued)
Focus group question two addressed how students described the Roundtable Discussion and Flipped Classroom Curriculum Model that was used in the courses. The primary themes related to this question were (a) gives more confidence (b) develops their voice before graduation and (c) a better understanding of course content.

### 3.2. Description of roundtable discussion and flipped classroom

Approximately 70% of the OT focus group participants stated that they gained the confidence to develop their voice through the discussions in the course. They reported that confidence had a direct effect on their level of student engagement. The participants agreed that this confidence was valuable as they were completing their doctoral degrees and going into the real world to practice. One participant stated the course format helped him to learn the information more in-depth. He stated that he “always felt prepared because the format forced him to constantly stay engaged.”

Students in the SPED focus group described the curriculum as having “less structure instructor wise.” They stated that the students learned a lot because they all brought something to the table and were able to clarify points with each other during the discussion that they did not fully understand before class. Students reported that they learned more because they got more information from different sources and because they were able to hear and explore each other’s perspectives. One student stated, “bringing in articles and being able to weigh in on the discussion helped me to learn better and was more beneficial than just listening to the instructor.”

Focus group question three addressed whether students had experienced this curriculum model in the past. The primary themes related to this question were (a) modified version of the curriculum and (b) prior coursework was not as intense.

### 3.3. Previous experience with model

Approximately 50% of the OT focus group participants stated they completed a course that was a modified version of this model. The prior course did not require them to completely take control of the class as this model did. The previous course required them to engage in a 30-minute discussion instead of conducting the entire lecture/discussion. Another common theme of the group was that many of the participants had encountered pieces of the model in a previous course but not as intense as this course. The participants also reported their engagement increased and they retained more of what they learned when using this curriculum model.
As stated previously, 80% of students in the SPED focus group reported that this course was their first experience using a combination of LTD and flipped classroom instruction. The students stated that they felt this curriculum gave them experience in teaching a subject to others which they perceived as “practice for the actual classroom setting.”

Focus group question four addressed how students compared this curriculum to other active learning strategies that they had experienced. The primary themes related to this question were (a) more engaged (b) forced to follow the conversation (c) learned concepts in the flipped classroom that are committed to long-term memory and applied in real-world settings and (d) equal participation.

3.4. Curriculum compared to other active learning strategies
Approximately 90% of the OT focus group participants stated that the hybrid curriculum was far more engaging than traditional courses. Two participants stated the requirements of the curriculum forced them to follow the conversation. They reported having to focus on all parts of the conversation to know where to interject or know when they had to make another point after their original point was stated by someone else. This required them to prepare more thoroughly before class each week. One participant stated that “the flipped classroom helps with long term memory and helps to generalize learning to real-world situations.” Finally, a participant stated it “allowed everyone to be equal participants in the classroom discussion with not one or two people dominating the discussion.”

All students in the SPED focus group reported that they received more benefit from the hybrid curriculum than from other classes. Two students stated that they retained more information than in other classes or instructional methods. One student compared the hybrid curriculum to lecture presentation and stated, “Although lecture presentation works, it is not my preferred method, this would be my preferred method—I didn’t know it existed, but I prefer it to other strategies some of our teachers have used.” Another student stated, “Being able to communicate is going to be a part of our careers. What better way to have communication and collaboration than everyone working together?” A third student added, “for collaboration, this particular curriculum is awesome.”

Focus group question five addressed how this curriculum impacted student participation. The primary themes related to this question were (a) part of the grade, so forced to participate and (b) would not have participated as much if not required.

3.5. Curriculum’s impact on participation
One hundred percent of the OT focus group participants stated that they participated more due to participation being a requirement of their grade. The participants all agreed that it assisted students who usually did not participate to participate much more. They stated that although it was a requirement, the participation helped them to be more confident and more willing to engage in meaningful conversation.

One hundred percent of the SPED students responded that they participated more in this curriculum than they would have in others. One student reported that having to find articles made her participate more because she was excited to share the articles she found. She reported that this excitement positively impacted her participation. Another student responded that the curriculum “pushed the students to get out of their comfort zone.” Initially, she reported not knowing how to start the conversation but once it was started, “everyone was more comfortable sharing their information.”

Focus group question six addressed how this curriculum impacted student engagement. The two primary themes related to this question were (a) had to be engaged to contribute to the discussion (b) had not always paid attention previously, and (c) built relationships.
3.6. Curriculum’s impact on engagement

Thirty percent of the OT focus group participants stated that they were engaged throughout the entire class because they had to listen to make sure they contributed to the conversation. The participants could not communicate the same information their classmates contributed, therefore, they had to make sure they were fully engaged to avoid redundancy. Another 30% of participants stated that while they paid attention, they often did not focus on the correct things. They were more focused on meeting the requirements than listening to the discussion. Finally, one participant stated that engagement “helped build a relationship with their peers which made it comfortable to share ideas.” Per the students, the ability to share ideas freely encouraged participants to try new things, pushed them out of their comfort zone, and helped them grow.

SPED students’ responses were similar to OT student responses. They reported that presenting information made them more accountable, so they felt the need to ensure they knew what they were talking about before they presented it to others or felt comfortable presenting it to others. One student reported that she “enjoyed discussing the articles and learning from others.” Another student responded that having to bring her information made her “excited to share it.” She stated that being able to get resources from others made her “want to engage more.” A third student stated that hearing about others’ experiences and the resources they presented was “helpful and would be helpful in the future.”

Focus group question seven addressed whether students felt they would have participated as much if the rubrics had not required a set number of responses. The one primary theme related to this question was, not as much participation.

3.7. Rubrics impact on the number of responses

OT participants unanimously stated that they would not have participated as much if the requirements for participation was not clearly defined in the rubric. They had other classes together with the same instructor using the traditional teaching model and did not believe the level of participation was on the same level as the current course. One participant stated he would have thought before this course that making that many comments would be viewed as him “taking over the class.”

SPED students unanimously stated that they would have still participated as much but that they would probably not have been as aware of their participation as this curriculum required them to be. These students felt that enjoyment of the subject matter and the fact that they were expected to talk, positively impacted their participation and engagement. One student stated that “the feeling of getting knowledge piqued my interest, my engagement, and my participation.”

Focus group question eight addressed how often students exceeded the number of responses outlined in the course rubric. The primary theme related to this question was that whether they exceeded the set number of responses depended on the circumstances.

3.8. Times students exceeded the established number of responses

OT participants stated that they exceeded the established number of responses a few times but agreed that once they hit their required number they would “step back” and let others get their required amount of responses. The number of responses also depended on how much time each group had left for questions and answers. They were conscious of the time left, who still needed to respond, and how many comments they had already made. They stated these variables all worked together to ensure that they rarely exceed the set number of responses.

SPED students did not feel that they counted the number of responses. Because they were a smaller group, they felt that the information and conversation flowed more easily. They did report knowing that they had to engage and participate to keep the conversation going so they all came prepared to do that. They reported feeling that they got more out of the discussion than they would if it had just been an “assignment type” class. One student stated, “I didn’t see it as a rubric and never considered how many times I participated, I just joined in the discussion.”
In focus group question nine, students were asked to describe the course assignments and their impact on course participation and engagement. The primary theme related to this question was that course assignments had a positive impact on participation and engagement.

3.9. Course assignments impact on participation and engagement
The participants stated that all activities for the course promoted engagement and participation. For example, they had to teach an entire lesson. Every project was based on presenting or bringing materials to class to present to their peers. The main purpose of each assignment was to engage the class in relevant scientific discussions. Students reported that the assignments gave structure to the class and prepared them for the future, whether that would be in a classroom or a clinic.

In focus group question ten, students were asked to discuss the grade they felt they would receive in the course and whether they felt they would have received the same grade if instructors had not used the detailed rubrics. The primary theme related to this question was that students felt that knowing the course expectations through the use of rubrics impacted their final grades.

3.10. Knowing course expectations impact on the grade
The participants stated that they did not believe they would have made the same grade because there would have been much less participation. They reported that the rubrics provided more detail and eliminated any gray areas. They also reported that the rubrics provided clarification and helped the flow of conversation. All SPED students felt that their grades would be an A. They reported enjoying the discussion and flipped classroom format and suggested that “all of their classes should be delivered in this format.”

4. Discussion
When only traditional or passive learning strategies are used, students are not actively engaged in the learning process and have difficulty applying the knowledge learned in the classroom to real-world situations. Disengaged students also do not display the critical thinking skills necessary for creating occupation-based interventions or stimulating learning. Cassum et al. (2017) suggested that when educators provide active learning opportunities in the classroom, the activities should foster communication, student engagement, creativity, self-directedness, and critical thinking. The experiences of students in both courses indicated that student engagement and participation were positively impacted using this hybrid curriculum model. The active learning strategies the flipped classroom, peer instruction and classroom discussion were important to the success of the model. The results of this research study aligned with the advantages of the flipped classroom and class discussion.

4.1. Promotes peer interaction and collaboration
The results of the study demonstrate that students felt peer interaction and collaboration were positively impacted by the flipped classroom model. It helped to build a relationship with their peers that was missing in other lecture courses. This can be directly correlated to the increased number of times they were expected to provide content to the class. In the beginning, the rubric outlining the number of responses prompted more interaction and collaboration but as the course progressed, the participants’ number of student responses exceeded the professor’s expectation. Student response rates indicate that student engagement and participation were positively impacted when employing the principle of the hybrid model. Gomez-Lanier’s (2018) findings suggested that by the end of the semester there was a significant preference apparent in terms of wanting to be in a flipped classroom because of course material variety, a greater understanding of the material through collaboration, and more productive classroom time. The study’s findings suggest that student perception in team collaboration within a flipped classroom became more positive over time due in part to the variety of class activities, the greater interaction between classmates, and the social aspect of getting to know teammates.
4.2. *Encourages higher student engagement*

Overall, this hybrid model had a positive impact on encouraging higher student engagement. The curriculum required interaction which helped the students get to know each other better, build a bond, and help each other become successful. The students realized the more engaged they were the easier it was for them and their peers to be successful. The participants stated they started to feel empathy for each other which gave them the incentive to stay engaged. They stated that once they became more engaged, they realized they were learning more and enjoying the lesson content more. Another benefit of this level of engagement and collaboration was a positive impact on overall grades. They had other classes together with the same instructor using the traditional teaching model and did not believe the level of participation was on the same level as the current course. This aligns with Steen-Utheim and Foldnes (2018) findings that students report a more positive learning experience and higher engagement in the flipped classroom. They suggested that the affective dimension of student engagement is salient when students reflect upon learning that takes place in the flipped classroom. Steen-Utheim and Foldnes (2018) also revealed seven categories that the students’ highlight as especially conducive to their learning, commitment to peers, being recognized, feeling safe, instructor relationship, physical learning environment, learning with peers and using videos to learn new content. This aligns with the finding of the current study as students reported feeling safe and excited to learn from and share information with their peers.

4.3. *Makes learning central, rather than teaching*

Learning through discussion (LTD) was identified as the central learning theme in the study. Students thought this technique was much more valuable than traditional lecture courses. It allowed students to express their views and opinions and build confidence while learning from their peers. The first technique they experienced focused on getting the student engaged in the instruction. The participants also identified experiential learning as a valuable instructional strategy. Experiential learning is the process of learning through experience and is more specifically defined as learning through reflection and doing (Cherry, 2019). This aligns with Smallhorn’s (2017) findings where students commented that the flipped classroom encouraged them to apply what they had learned, challenged their understanding of the material, and gave them a forum to ask questions both of peers and educators.

4.4. *Fosters independent learning*

According to Ryan and Reid (2016), the goal of the flipped classroom is to increase student engagement and ownership of their learning. The participants in the current study felt that the course was more student-focused. However, the students reported learning from each other and from completing research outside of class. They were able to work together and independently outside of class to clarify points they did not fully understand. Students reported that they learned more because they got more information from different sources and from the ability to hear and explore each other’s perspectives. Researching articles on the week’s topic outside of class helped the participants have a better understanding of the lesson content. This aligns with findings from Goedhart et al. (2019) that the pre-classroom preparation allowed students to self-regulate the learning process to their personal needs and learning styles which could optimize their focus, increase the time spent on each task, and improve the quality of their study. Ryan and Reid (2016) also found that pacing and attention span were considerations in the flipped classroom. They found that most students in the flipped section responded positively about the flexibility of on-demand access to lecture content that allowed lectures to be viewed at student’s choosing and pace. Danker (2015) also found that the flipped classroom model creatively helped students to manage their learning. She found that students showed that they actively sought to transform their learning from understanding to a higher level of thinking when they engaged in applying and connecting the lesson to their projects and interests.

4.5. *Provides increased individualized attention*

Using the flipped classroom model helped to provide students more individualized time. Students who normally would not participate felt more encouraged to speak. This allowed the instructor to assess students who might be struggling under the traditional classroom model and otherwise
may not have been noticed. This aligns with the findings of Danker (2015) that working in small groups helped students to feel less intimidated to ask questions and express their opinions.

Students perceived that the combined round-table discussion and flipped-type classroom curriculum model positively impacted their student engagement. Students in both groups had some experience with flipped classrooms but for the majority, this hybrid model was a new instructional strategy. Students reported that their enthusiasm for and interest in the topic increased, which led to a better quality of scholarly contributions and deeper learning of the concepts. Again, this aligns with the findings of Danker (2015) that students recognized the benefits of active participation in class as they participated in activities they found interesting, gained new knowledge, and shared knowledge. Overall, students in the current study felt that the hybrid curriculum helped increase their learning by increasing their engagement and participation in the learning process.

4.6. Limitations
There were limitations in the current study. First, the population included students on both the doctoral and undergraduate levels. While the responses were consistent at both levels, the fact that they were on two ends of the education spectrum could have impacted their experiences and levels of engagement. The second limitation of the study was the fact that the researchers were the professors for the courses taught. This could have biased the results. Efforts were made to avoid bias including having the special education and OT professor conduct the others’ focus groups. The researcher used purposive sampling to identify the participants for the study. This rendered a small sample size for both populations. Although small sample sizes, both were good representations of the overall sample. The seven special education majors were 100% of the course population, and six students from occupational therapy constituted 22% of the course population. A third limitation was the fact that only one university was represented. The university is mid-sized and located in the southern area of the United States. The findings may not generalize to larger, more urban universities or smaller, more rural universities. Possibly the most impactful limitation was having to finish both courses and data collection via distance learning due to the Covid-19 pandemic. While the course and research goals were accomplished, researchers felt that it was a significant adjustment going from face-to-face to completely online delivery. Zoom and Covid-19 may have impacted participation in the focus groups.

5. Conclusions
Participants in the current study felt that the hybrid curriculum helped increase their learning by increasing their engagement and participation in the learning process. Although the study had limitations, the findings indicate that the combined roundtable discussion and flipped classroom curriculum model has the potential to impact student learning, engagement, and participation in the learning process. Further research is recommended to identify whether the use of this curriculum is feasible on a larger scale and with other disciplines. Instructor perspectives of this hybrid model should be explored to determine if instructors agree with students regarding the effectiveness of the hybrid curriculum. Comparative studies may also be needed to determine if this curriculum is as effective or more effective than other active learning strategies in increasing student engagement and participation. Quantitative studies that can identify whether grades and/or engagement increase and to what degree may also help instructors determine the educational impact of this curriculum as compared to other curriculums designed to increase student learning and engagement.

Funding
The authors received no direct funding for this research.

Author details
Pamela Lewis-Kipkulei¹
E-mail: plevis@astate.edu
Jacques Singleton¹
E-mail: jsingleton@astate.edu
ORCID ID: http://orcid.org/0000-0003-2286-7951
Topeka Small Singleton¹

Citation information
Cite this article as: Increasing student engagement via a combined roundtable discussion and flipped classroom curriculum model in an OT and special education
classroom, Pamela Lewis-Kipkulei, Jacques Singleton, Topeka Small Singleton & Kimberley Davis, Cogent Education (2021), 8: 1911284.

References
Bergman, J., & Sams, A. (2012). Flip your classroom: Reach every student in every class every day. ISTE.
Bodensteiner, K. J. (2012). Emergency contraception and RU-486 (Mifepristone): Do bioethical discussions improve learning and retention? Advances in Physiology Education, 36(1), 34–41. https://doi.org/10.1152/advan.00122.2011
Bonwell, C. C., & Eison, J. A. (1991). Active learning: Creating excitement in the classroom. ERIC Digest. George Washington University: School of Education and Human Development. https://files.eric.ed.gov/fulltext/ED340272.pdf
Borg, M. O., & Shapiro, S. L. (1996). Personality type and student performance in principles of economics. The Journal of Economic Education, 27(1), 3–25. https://doi.org/10.1080/0022048.1996.10844890
Bosworth, K., & Hamilton, S. J. (Eds.). (1994). Collaborative learning: Underlying processes and effective techniques: New directions for teaching and learning. Jossey-Bass, Inc.
Braine, C. (2013). Flipping the classroom. Science and Education Publishing. http://cft.vanderbilt.edu/guides-sub-pages/flipping-the-classroom
Brookfield, S. D., & Preskill, S. (2005). Discussion as a way of teaching: Tools and techniques for democratic classrooms. Jossey-Bass.
Butt, A. (2014). Student views on the use of a flipped classroom approach: Evidence from Australia. Business Education & Accreditation, 6(1), 33. https://www.theibfr.com/download/BEA/2014-bea/bea-v6n1/2014/BEA-V6N1-2014.pdf&page=35
Cassum, S. C., Hussein, S., & Gul, R. B. (2017). Creating enabling environment for student engagement: Faculty practices of critical thinking. International Journal of Higher Education, 6(1), 101. https://doi.org/10.5430/ijhe.v6n1p101
Cherry, K. (2019, January). Experiential learning theory of David Kolb. VeryWellMind. https://www.verywellmind.com/experiential-learning-2795154
Chickering, A. W., & Gamson, Z. F. (1987). Seven principles for good practice in undergraduate education. AAHE Bulletin, 3, 7. Routledge Publishing. https://files.eric.ed.gov/fulltext/ED282491.pdf
Cohen, L., & Strauss, A. (2007). Basics of qualitative research: Techniques and procedures for developing grounded theory (3rd ed.). Sage.
Cresswell, J. W., & Poth, C. N. (2017). Qualitative inquiry and research design: Choosing among five approaches. Sage Publications.
Danker, B. (2013). Using flipped classroom approach to explore deep learning in large classrooms. JAFOR Journal of Education, 3(1), 171–186. ERIC. https://eric.ed.gov/?id=EJ100618
Findlay-Thompson, S., & Mombourquette, P. (2014). Evaluation of a flipped classroom in an undergraduate business course. Business Education & Accreditation, 6(1), 63–71. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2331035
Free Dictionary. (n.d.). Evidence-based practice. freedictionary.com. dictionary. Merriam-Webster. Retrieved July 30, 2019, from https://encyclopedia.thefreedictionary.com/evidence-based+practice
Gilroy, M. B., Heinrichs, S., & Pozzaglia, G. (2015). Enhancing student engagement using the flipped classroom. Journal of Nutrition Education and Behavior, 47(1), 109–114. https://doi.org/10.1016/j.jneb.2014.08.008
Goedhart, N. S., Blignaut-van Westhenen, N., Moser, C., & Zweekhorst, M. B. M. (2019). The flipped classroom: Supporting a diverse group of students in their learning. Learning Environments Research, 22(2), 297–310. https://doi.org/10.1080/10986-019-09281-2
Gomez-Lonier, L. (2018). Building collaboration in the flipped classroom: A case study. International Journal for the Scholarship of Teaching and Learning, 12(2), (2). https://doi.org/10.20462/ijsotl.2018.120207
Hartley, J., & Cameron, A. (1967). Some observations on the efficacy of lecturing. Education Review, 20(1), 30–37. https://doi.org/10.1007/BF03191670200103
Hattie, J. (2008). Visible learning: A synthesis of over 800 meta-analyses relating to achievement. Routledge.
Howard, J. R. (2015). Discussion in the college classroom: Getting your students engaged and participating in person and online. John Wiley & Sons, Incorporated. https://ebookcentral.proquest.com/lib/waldenu/detail.action?docID=1895497
Huberman, A. M., & Miles, M. B. (1994). Data management and analysis methods. In N. K. Denzin & Y. S. Lincoln (Eds.), Handbook of qualitative research (pp. 28–49). Sage Publications.
Lage, M. J., Platt, G. J., & Treglia, M. (2000). Inverting the classroom: A gateway to creating an inclusive learning environment. The Journal of Economic Education, 31(1), 30–43. https://doi.org/10.1080/00220480009596759
Lim, W. N. (2017, April). Improving student engagement in higher education through mobile-based interactive teaching model using socrative. 2017 IEEE Global Engineering Education Conference (EDUCON) (pp. 404–412). IEEE. https://doi.org/10.1109/EDUCON.2017.7942879
Loes, C. N., Culver, K. C., & Trolian, T. L. (2018). How collaborative learning enhances students’ openness to diversity. Journal of Higher Education, 89(6), 935–960. https://digi.org.epzproxy.library.ostate.edu/10.1080/00221546.2018.1442638
Lujan, H. L., & DiCarlo, S. E. (2006). Too much teaching, not enough learning: What is the solution? Advances in Physiology Education, 30(1), 17–22. https://doi.org/10.1115/advan.0006.2005
MacManaway, L. A. (1970). Teaching methods in higher education—Innovation and research. Higher Education Quarterly, 24(3), 321–329. https://doi.org/10.1111/j.1468-2273.1970.tb00346.x
Marwell, K. J. (2010). Introduction to the Socratic method and its effect on critical thinking. Socratic Method Research Portal. Sage Publishing. http://www.socraticmethod.net
Merriam, S. B. (2009). Qualitative research: A guide to design and implementation. Jossey-Bass.
Misseyann, A., Lytras, M. D., Papadopoulou, P., & Maroulis, C. (Eds.). (2018). Active learning strategies in higher education: Teaching for leadership, innovation, and creativity. Emerald Publishing Limited.
Mok, H. N. (2016). Teaching tip: The flipped classroom. Journal of Information Systems Education, 25(1), 7. https://ink.library.smu.edu.sg/cgi/viewcontent.cgi?referer=https://scholar.google.com/&httpsredirect=1&article=3363303&context=sis_research
Muraki, E., Hombo, C. M., & Lee, Y. W. (2000). Equating and linking of performance assessments. Applied Psychological Measurement, 24(4), 325–337. https://doi.org/10.1177%2F014662100220131787
Patton, M. Q. (2002). Two decades of developments in qualitative inquiry: A personal, experiential perspective. Qualitative Social Work, 1(3), 261–283. https://doi.org/10.1177%2F147332500200103636
Prashar, A. (2015). Assessing the flipped classroom in operations management: A pilot study. Journal of Education for Business, 90(3), 126–138. https://doi.org/10.1080/08832323.2015.1007904

Prober, C. G., & Heath, C. (2012). Lecture halls without lectures—a proposal for medical education. New England Journal of Medicine, 366(18), 1657–1659. https://www.medicina.ulisboa.pt/pub/2018/NOTICIASPEDAGOGICO/prober2012.pdf

Punch, K. (2005). Introduction to social research: Quantitative and qualitative approaches (2nd ed.). Sage.

Ryan, M. D., & Reid, S. A. (2016). Impact of the flipped classroom on student performance and retention: A parallel controlled study in general chemistry. Journal of Chemical Education, 93(1), 13–23. https://doi.org/10.1021/acs.jchemed.5b00717

Schwerdt, G., & Wupperman, A. C. (2010). Is traditional teaching really all that bad? A within-student between-subjects approach. Economic Education Review, 30(2), 365–379. https://doi.org/10.1016/j.econedurev.2010.11.005

Smallhorn, M. (2017). The flipped classroom: A learning model to increase student engagement not academic achievement. Student Success, 8(12), 43–53. https://doi.org/10.5204/sss.v8i12.381

Stake, R. E. (2013). Multiple case study analysis. Guilford Press.

Steen-Utheim, A. T., & Foldnes, N. (2018). A qualitative investigation of student engagement in a flipped classroom. Teaching in Higher Education, 23(3), 307–324. https://doi.org/10.1080/13562517.2017.1379481

Strother, J. F. (2012). How learning in an inverted classroom influences cooperation, innovation, and task orientation. Learning Environment Research, 15(2), 171–193. https://doi.org/10.1007/s10984-012-9108-4

Thomas, A., Saroyan, A., & Dauphinee, W. D. (2011). Evidence-based practice: A review of theoretical assumptions and effectiveness of teaching and assessment interventions in health professions. Advances in Health Sciences Education, 16(2), 253–276. https://doi.org/10.1007/s10459-010-9251-6

Toledo, C. A. (2015). Dog bites reflections—Socratic questioning revisited. International Journal of Teaching and Learning in Higher Education, 27(2), 275–279. https://scholarworks.waldenu.edu/cgi/viewcontent.cgi?article=1088&context=cel_pubs

Toqeer, R. (2013). Flipped classroom concept application to management and leadership course for maximizing the learning opportunities. The Business & Management Review, 3(4), 137. http://eddatax.fed.cuhk.edu.hk/wp-content/uploads/2016/06/Flipped-classroom-concept-application-to-management-and-Leadership-course-for-maxi.pdf

Wasserman, S. (2010). Effective classroom discussions. Educational Leadership, 67(5). Oxford University Press. http://www.ascd.org/publications/educational-leadership/feb2010/vol67/num05/Effective-Classroom-Discussions.aspx

Wiggins, G. (1998). Eudcative assessment: Designing assessments to inform and improve student performance. Jossey-Bass Publishers.

Yee, A. (2016). The unwritten rules of engagement: Social class differences in undergraduates’ academic strategies. Journal of Higher Education, 87(6), 831–858. https://doi.org/10.1080/08832323.2015.1007904

Yin, R. K. (2009). Case study research: Design and methods. SAGE.
