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Implementing Learner-Centered Teaching Strategies in Family Science

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ABSTRACT. Learner-Centered Teaching (LCT), as opposed to teacher-centered practices, actively engages students in the learning process. In this paper, we discuss the importance of adopting LCT strategies in family science courses to improve student learning outcomes. Family science is particularly apt for LCT because of the interpersonal focus of the discipline. To help fill an important gap in the literature, seven LCT strategies are articulated within the specific context of family science. We highlight the following seven approaches: small group activities, questioning, think-pair-share discussions, gaming, in-class writing, low-stakes quizzes, and flipped classroom design. In addition to describing the approaches, we discuss class size, adapting the techniques for online courses, and working with students who require accommodations. Finally, we share evaluation data from students that speaks to four of the seven LCT strategies. Our hope is that this paper will offer ready-made ideas that family science instructors may adopt. To conclude, we discuss implications, challenges in implementing LCT, and areas of future research.

Keywords: Scholarship of Teaching and Learning (SoTL), Family Science, Learner-Centered Teaching, Active Learning

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Throughout the world of higher education, there is growing emphasis on the Scholarship of Teaching and Learning (SoTL) as a means to optimize student learning outcomes. Likewise, the field of family science has seen an emerging interest in effective teaching practices in response to the findings of SoTL research (Reinke et al., 2016). In particular, there is an increased focus on Learner-Centered Teaching (LCT) practices that shift the responsibility from the instructor to the student as the active learning agent in the classroom (Doyle, 2011). The purpose of this paper is to offer a set of engaging LCT practices in family science classrooms. These practices emerge from the body of SoTL research across disciplines and aim to engage students more actively in the family science classroom to maximize their learning.

Definitions and Conceptualizations

SoTL has been defined by Potter and Kustra (2011) as:

> The systematic study of teaching and learning, using established or validated criteria of scholarship, to understand how teaching (beliefs, behaviors, attitudes, and values) can maximize learning, and/or develop a more accurate understanding of learning, resulting in products that are publicly shared for critique and use by an appropriate community (p. 2).

As described in this definition, SoTL aims to understand how teaching can maximize learning. One attempt to maximize learning is through the use of LCT practices, which shift the emphasis from students as passive recipients of the instructor's expertise to active agents in their own learning. Learner-Centered Teaching (also known as "student-centered instruction") has been defined as "a broad teaching approach that includes substituting active learning for lectures, holding students responsible for their learning, and using self-paced and/or cooperative (team-based) learning" (Felder & Brent, 1996, p. 43). As described by Doyle (2011), the aim of LCT is to "create learning environments that optimize students' opportunities to pay attention and actively engage in authentic, meaningful, and useful learning" (p. 9). In this style of instruction, the students are responsible for learning through active engagement.

Impact of Learner-Centered Teaching

The impact of LCT practices in improving student engagement and learning outcomes is well documented in the literature. Students who participated in active learning tended to outperform those who participated in passive learning approaches (Qualters, 2001). Learner-centered practices also help expose students to differing viewpoints as they engage with other students from a diversity of backgrounds and experiences (Machemer & Crawford, 2007). Students reported an overall positive attitude towards active learning activities, perceiving that they enhanced their learning, improved metacognition, and increased their ability to work with others in a team environment (Machemer & Crawford, 2007; Qualters, 2001). Lastly, students reported finding that active learning in the classroom helped them not only better connect to the course material, but to their classmates and professor, resulting in a more collegial style of learning (Qualters, 2001).

Conversely, some students reported mixed feedback on learner-centered practices as they relate to their perceptions of learning outcomes (Qualters, 2001). For example, students reported concern about the amount of class time given for active learning, fear of missing out on important course material, and anxiety over participating in such activities. Students also reported finding value in traditional lectures since they expressed a desire to learn course-specific content (Qualters, 2001). To account for these

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concerns, Qualters recommended that students be educated about the value of active learning, helping them understand that "learning is not about 'covering material' or 'gathering facts'; learning is about integrating and using information in a meaningful way" (p. 58). Students have also appeared more open to active learning exercises when they understand the way that particular activity will help improve exam performance (Machemer & Crawford, 2007).

The Need for Public Dissemination

Another aspect unique to SoTL offered above by Potter and Kustra (2011) is the public dissemination of teaching practices to an appropriate community. There have been a number of useful publications over the years aimed at sharing innovative teaching practices in family sciences (e.g., Hamon & Bull, 2016; Langlais, 2016; Obasi & Hill, 2015), along with conferences such as the Teaching Family Science conference offered by the Family Science Association. However, there is still a need for public dissemination of additional LCT practices that emerge from the SoTL research, specifically as they relate to university-level family science classrooms.

This paper helps fill this gap in the literature by providing LCT approaches such as small group activities (Doyle, 2011; Vygotsky, 2005), questioning (Barton et al., n.d.; Doyle, 2011), think-pair-share discussions (Gunter et al., 1999; Lyman, 1981), gaming (Darling & Cassidy, 2014), in-class writing (Brown et al., 2014), low-stakes quizzes (Brown et al., 2014; Doyle, 2011), and flipped classroom design (Hamdan et al., 2013; Unal & Unal, 2017). These ideas are based on existing SoTL research and are strategies that each of the authors of this paper utilize in family science courses. We have found them to be effective in improving student engagement and learning. We include student feedback regarding these LCT strategies from our course evaluations. In this paper we describe specific LCT strategies, provide justification for the use of the teaching strategy, and include examples of LCT strategies in the context of family science courses. In addition, we discuss course structure and class format considerations.

Strategies That Transcend Class Size and Course Format

The authors of this paper are teaching faculty at a large, research-intensive public university in the Southeastern United States. The institution has nearly 40,000 students, with undergraduate class sizes in our department ranging from 19 to over 200. We offer courses in online, hybrid, and traditional face-to-face formats. Therefore, we have experience with implementing LCT practices in classes that range in size and delivery format.

Our hope is that this paper will offer ready-made ideas that can be implemented in family science courses regardless of class size. However, coming from the context of a large research institution, we also understand the unique challenges that come with teaching large university classes. Although large classes provide economic value to universities, they also present challenges with delivering high-quality education within this context. The challenges of teaching large classes are well documented, including poor student engagement, high absenteeism, low motivation, social isolation, passivity, lower student performance, and fewer assessments given (Arias & Walker, 2004; Gibbs et al., 1997; Mulryan-Kyne, 2010). Yet despite these challenges of teaching large classes, the majority of SoTL research in the U.S. has come from institutions classified as master's level or below, where class sizes are relatively low compared to larger research institutions (Maurer & Law, 2016). Therefore, we include in this paper suggestions for overcoming the challenges associated with teaching large classes. We provide LCT strategies that aim to increase student engagement and shift the focus to the student as the active learning agent in the classroom.

Learner-Centered Teaching Activities

Learner-Centered Teaching actively engages students in the classroom. In this paper, we introduce seven LCT approaches: small group activities, ask rather than tell: the power of questions, think-pair-share, educational games, write to learn, low stakes quizzes, and flipped classroom. We describe each approach and explain specific ways to implement these approaches in family science courses. We also present data collected from students enrolled in family science courses for four of the seven approaches.

Approach #1: Small Group Activities

Small group activities or tasks allow students the opportunity to share and evaluate different perspectives on problems and solutions. According to Doyle (2011), "having students do their work in groups, teams, triads, or pairs has its origins in human evolution" (p.18). Doyle further explained that it is through cooperation that humans have learned to survive, working together to identify and solve problems. This enhances possibility, creativity, and flexibility in student learning. Furthermore, group activities allow students to serve as both learners and teachers, as posited by Vygotsky (2005) in his concepts of scaffolding and the zone of proximal development (ZPD). With scaffolding, student-led group work can provide opportunities to support newly learned material until it is mastered. Additionally, according to Vygotsky's concept of ZPD, when students collaborate with more skilled or advanced peers in group learning activities, students can potentially grow beyond their existing knowledge and abilities. Such group activities can include laboratory experiences/experiments, quizzes, projects, writing activities, and discussions. When teaching is social in nature, allowing students to have the opportunities to relate materials to their own lives or shared experiences, it becomes more meaningful and memorable (Doyle, 2011). Not only do group activities facilitate learning, but they synchronously reinforce the processes of cooperation, communication, and celebrating diversity, which are foundational to studying and understanding families. Small group activities or tasks provide this unique social platform, regardless of class size.

Implementation in Family Science

In an intimate relationships course, students had weekly opportunities to participate in small group activities. First, students individually took a personality assessment to learn about their personality typology. This activity was assigned based upon the premises for the course that (a) personality may influence levels of openness, engagement, ways of processing information, and communication styles in personal relationships, and (b) attention to one's personality could foster further self-awareness in intimate relationship processes (Capsi & Roberts, 2001). The following week, students were divided into their respective Myers-Briggs typology groups (Myers-Briggs Foundation, 2020) to discuss perceptions of accuracy of the personality assessment and personality similarities they had within their group. Then, in the subsequent week, each typology group presented to the other groups in the entire class the "trademarks" of their personality type and what they truly wished for others to understand about them in an intimate relationship (given what they had learned). This multi-step group activity allowed students to become "masters" in knowledge of their own typology, reinforced by each other's personal experiences and anecdotes within their small group discussion. Additionally, as the other groups presented their own typology information, it was shared in a way that was generationally and culturally meaningful to the other students.

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Course Structure

These activities were completed in a traditional class that ranged in size from 60 to 90 students. While the small group discussions could be easily replicated in larger class sizes, some adjustments might need to be made (such as time) for the small groups to interact with the entire class. In online courses, students can be grouped by typology and prompted to discuss virtually (through video conferencing or a discussion board) and then "present" their knowledge to the online class through a recorded video presentation or class discussion board thread.

Approach # 2: Ask Rather Than Tell: The Power of Questions

One way that teachers can facilitate student learning is through discussion. However, teacher-involved discussion can easily evolve back into a lecture-mode of teaching instead of the intended student-driven learning activity. Therefore, Barton et al. (n.d.) advised that discussions function optimally when the teacher is in the background and students talking to students take center stage. Essentially, teachers must be comfortable in both asking or allowing questions, and then being quiet to shift the responsibility to the student. The power of questions can be practiced in unstructured ways, such as asking a compelling question during lecture and allowing students to brainstorm ideas. It can also be implemented in structured activities, such as guided discussion, debates, and role play (Doyle, 2011). The critical component is that after the teacher asks the question, the students do the work. When students know that they will not be given the answers by the teacher, they are more likely to use the discussion as a means to find the solutions (Doyle, 2011).

Implementation in Family Science

In a family relationships course, students were taught the basic definitions of negative communication patterns that can exist in family relationships. Then, two students were asked to volunteer to role play an argument between romantic partners. At that time, the remaining class members broke into small groups and were asked to watch the argument and answer the question, "What went wrong in this argument?" The groups then shared their observations of negative communication patterns, supported by details regarding communication elements such as word choice, body language, and voice intonation. Then, the couple role-played a more constructive version of their argument based upon their peers' feedback. At this point, the student observers were asked, "What went well here?" and again provided their observations of constructive communication. Because there was no one right answer, students heard multiple perspectives on what was negative and what could be done better. This experience, in particular, reinforces what we teach students about how differing perceptions and perspectives influence the communication process. At the end of the role-play and questions, students were asked one final question to discuss among their groups or journal individually: "Where do you see yourself in these examples of argument, and what would you want to do differently in your own communication?"

Another example of the power of questions is when students were tasked to "debate" the terms of a divorce in a family relationships course. Students were broken up into small groups, and each group was given a notecard denoting their family configuration (spouses, children, socioeconomic status, race/ethnicity, occupational status, religious background). A group was paired with another group with the same exact family configuration, with a spouse represented in each group. The overall question posed to the students was, "Based upon what we have learned about divorce, what divorce agreement/settlement would you arrange for your family?" Students were instructed to brainstorm

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details of a divorce agreement/settlement, and in addition, reflect on how family configuration variables influenced their decision-making.

With both examples provided, after the initial questions were posed by the instructor, the entire process was student-driven. Students were taught theories, concepts, and assumptions of various family phenomena. However, by asking a few open-ended questions and allowing for discussion in small groups, the students had the opportunity to brainstorm and learn application and analysis of the material.

Course Structure

These activities have been completed in classes that range in size from 90 to 200 students and could easily be replicated in smaller classes. Additionally, there is great opportunity for these activities to be achieved in online courses. For example, the instructor could provide pre-recorded video examples of communication and conflict and prompt student groups to address the questions in video conferences or discussion board format. Similarly, students can be assigned to virtual "family groups" where their family configurations (as explained above) serve as the context for debating and problem-solving for several key questions throughout the course in an online format.

Approach # 3: Think-Pair-Share

Think-pair-share is a collaborative learning strategy that encourages students to work together to solve a problem or answer a question. The strategy involves posing a question to the class, asking the students to take a few minutes to think about the question and their response, and then turning to a nearby student to share their thoughts (Lyman, 1981). Utilizing think-pair-share to engage students and foster collaborative learning is an increasingly common practice in higher education due to the benefits of engaging all learners. Many instructors have struggled with posing a question to the class and only receiving a few students' responses. As Williams (2011) points out, this can be undesirable for two reasons. First, the responsive students take on a disproportionate weight in the classroom conversation and second, students who do not have the opportunity to respond are allowed to remain passive with little external engagement. Think-pair-share encourages student participation from all students as well as promoting peer accountability (Gunter et al., 1999).

Think-pair-share is a fairly simple activity that can be included at any time in a lecture to ensure all students are actively engaged and understanding the material. Student misunderstandings about a topic can be revealed and resolved during discussions with student peers. The quality of student responses increases significantly when provided time to think about a topic or concept (Gunter et al., 1999).

Implementation in Family Science

The think-pair-share method in a family science course can be used multiple times during a lecture. For example, during a stress and resilience course lecture, the instructor handed out a list of life stressors and asked students to rank the stressors in order of "most stressful" to "least stressful." The items were events such as divorce, death of a loved one, job loss, and moving. Students were then split into groups of four and asked to discuss their rankings among their small groups. Students spent between 10 and 15 minutes on discussion within their groups prior to the instructor opening up the floor for groups to share with the entire class. This resulted in a larger class discussion with a variety of "most stressful event" answers and how students have experienced stressors. This activity, and many think-pair-share activities, allowed every student the opportunity to think something through and discuss their thoughts out loud.

In a family diversity course, an instructor asked the 30 students in the classroom to think about their most valued family traditions. The instructor gave the students three minutes to quietly think and then instructed the students to get into groups of 3 or 4 and share with each other their family traditions. Students spent approximately 30 minutes sharing, laughing, and making connections with their peers. At the end of the 30 minutes, the instructor asked the groups to share what they learned. Many students discovered interesting traditions and learned the history behind some long-standing traditions. This exercise fostered an environment where everyone was the teacher and the learner.

Course Structure

Think-pair-share activities can be effective with both large and small class sizes. It is best when the pair groups are small to allow all members to share. The instructor can ask for responses from some or all of the pair groups. It is an activity that can be done quickly as a short response to a prompt or can be used as an extended activity to allow students time for more thoughtful discussions. Think-pair-share is a versatile activity that can also be effective in online courses where students are placed into groups to discuss a topic. This activity can assess the students' understanding of the material.

Approach #4: Educational Games

Another way to engage family science students in active learning is through the use of games. Educational games are designed to teach or review concepts, learn a new skill, or introduce a new subject in an active and enjoyable manner (Darling & Cassidy, 2014). Students can also be given an assignment to create games, applying what they have learned into their game design. This type of assignment engages students in the highest level of the Revised Bloom's Taxonomy (Anderson & Krathwohl, 2001), "creating," as they are required to build on prior knowledge and produce something new. Applying elements of games to the instructional process has been shown to increase students' motivation to learn and likewise increase student effort in the learning process (Landers, 2014). Additionally, most of our current college students would be considered Millennials (born after 1980 to early 1990s) or Generation Z (born mid 1990s to early 2000s), who are known to be digital natives (Prensky, 2006). As such, they are comfortable with the use of technology, are highly connected in the digital world, are play-oriented, and respond better to graphics and visuals than to text (Pendergast, 2009). Effective teaching of these digital natives requires family science teachers to adapt learning to their needs. As stated by Darling and Cassidy (2014), "to better reach our participants, we need to know them and understand their needs, as well as their technological resources" (p. 76).

Implementation in Family Science

Educational games in family science classrooms can be implemented either as whole-class activities or in small groups to enhance collaborative learning and may or may not utilize technology. Darling and Cassidy (2014) describe a number of games that would be useful for teaching family-related courses, including modifying classic games such as Family Feud, Jeopardy, or Bingo to reinforce course content and facilitate collaborative learning. Other non-technology-based activities can include creating board games, card games, action games, or word and pencil games to actively engage students in the learning process while participating in a fun activity.

One example of a non-technology-based game was played in a university parenting class. After hearing a lecture on parenting styles, students were placed in small groups where they played Charades to act out various styles of parenting. This activity required the actors to determine the best way to depict their assigned style of parenting with their small group, while the rest of the class had to consider

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all possible styles and select the one being portrayed. All students had to participate, which guaranteed that the entire class was engaged in the activity.

Educational games may also include technology-based activities such as PowerPoint games, web-based games, or applications available through computers or other devices. For example, in a large course in adolescent development, students often participated in games utilizing a free web-based program called Kahoot (www.kahoot.com), which allowed for the teacher to either use existing games or create their own game. Students can play the games through a laptop, smart phone, or other device by entering a game code. Games can be played in team mode or player versus player with points being awarded for each correct answer. In this particular class, the instructor created Kahoot games to introduce new concepts and gauge students' preexisting knowledge on a subject. For example, the instructor created "Puberty Myth Busters" to initiate a unit on puberty. Kahoot was also used when teaching about adolescent moral development by having students play "What Would You Do," which posed a series of ethical dilemmas and invited students to answer how they would resolve the dilemma.

Students can also create their own games as part of a project assignment. For example, in a human sexuality education course, throughout the semester students worked in groups to create an educational game on one content area of Comprehensive Sexuality Education (National Guidelines Taskforce, 2004). Students created a variety of games, including board games, card games, and technology-based games such as Jeopardy. Once groups finished creating their game, the rest of the class rotated through game stations and took turns playing the games in small groups. Not only did this activity require the game creators to review and select relevant content, but it engaged the entire class in the process of reviewing the content, all while having fun.

Course Structure

Educational games can effectively be done in any class size, whether small or large, as the instructor could simply create as many groups as needed (typical group size is 3-4 students). Instructors can also set a limit on how many games each small group could play rather than having all groups play all other games. While educational games are perhaps done most effectively in traditional in-person classes, modifications can also be made for online classes. For example, students could be required to create technology-based games that could be played over a video conferencing platform such as Zoom. Students could then be placed into breakout rooms to take turns playing other groups' games. Again, this could be accomplished regardless of class size by simply adjusting the number of breakout rooms.

Student Feedback

At the conclusion of the game design project in the human sexuality education course, an anonymous survey was given to students to obtain feedback concerning the effectiveness of the game in improving student learning outcomes. Students were asked to rate the level of effectiveness the project had using adjectives from the Revised Bloom's Taxonomy (Anderson & Krathwohl, 2001) to gauge what level of learning students reported. Student feedback was overwhelmingly supportive of using the game design project in improving higher-order learning. As posited earlier, this assignment was designed to lead students to the highest level of Bloom's Taxonomy, "creating", and student feedback reported that it met that learning objective. When asked how effective the game design project was at helping them learn to create new human sexuality education materials, 83% reported "very effective" with another 10% reporting "effective." One student reported:

> It was a fun way to wrap up the semester! Playing everyone's games served as a review of everything we'd talked about and it was an enjoyable way to spend our last two days of class.

> Group projects are often unsuccessful in encouraging collaboration, but this one allowed us to work together to assemble what we'd learned into a format that could be a teaching tool for others.

Another student stated, “It was a unique, think-outside-of-the-box type of activity that allowed us to think critically about what we learned and how to impart that upon others. I enjoyed being creative with the course content.”

Approach # 5: Write to Learn

Though writing is not a new, innovative teaching strategy, this activity shifts the responsibility of learning from the instructor to the student. Brown et al. (2014) explain how the strategy of “write to learn” is used in education. The authors state that “students reflect on a recent class topic in a brief writing assignment, where they may express the main ideas in their own words and relate them to other concepts covered in class, or perhaps outside of class” (p.89). In other words, students are asked to consolidate learning through reflection and writing. In turn, this process generates learning because it activates several cognitive strategies (Brown et al., 2014). For example, students must recall information presented in the course, reflect on the material, and incorporate their own ideas and insights.

Implementation in Family Science

In an individual and family lifespan development course that covers physical, cognitive, and social/emotional development through the seven stages of life, students were provided a writing prompt. The instructor discussed the rise in gun-related deaths and presented a picture of an individual convicted for one of the many mass shooting events. Students were then asked to reflect on the physical, cognitive, and social/emotional aspects of development that would increase the likelihood of someone displaying this type of violence. Students had to incorporate course concepts and material learned to support their hypotheses.

Another way that students use writing is to reflect on their own learning processes. In an online family relationships course, students were required to participate in weekly discussion board reflections. During the last week of classes, students were asked to reflect on their semester in an effort to help students strengthen their learning skills. Students were given the following question prompts:

> Take some time to reflect on what went well this semester. What effective learning strategies did you utilize? What are you most proud of? When provided with feedback, how did you respond (e.g., were you open to feedback, and did you use this feedback to bring about positive change?)? If you were to take this course again, what would you do differently? Take some time to reflect on your growing edges. Where could you spend extra attention? Finally, how will you utilize what you learned from this course in your future career?

Typically, when writing prompts are assigned, the instructor spends time discussing the intention of the assignments and the potential benefits of the assignment. For example, the instructor may include the following statement when providing the journal prompts for the semester:

> Journaling helps students comprehend course material, extends thinking, and can improve writing skills. In addition to understanding the scientific study of families, I want you to reflect on your own experiences and make healthy decisions in your relationships. My hope, therefore, is that in addition to the academic benefits, these journals will help you gain insights and grow in your current and future relationships.

Course Structure

In courses that meet in-person, the instructor may assign and collect writing and journal assignments at the end of class. Often, the instructor uses these writing assignments as attendance for that day. If students require accommodations and need additional time, they can submit the writing assignment after class. In online courses, students complete writing assignments as a discussion board post or weekly journal entry.

Student Feedback

In the evaluations for an online course utilizing writing assignments, one student commented "discussion board posts allowed me to think more critically." In another course that assigned journals, a student stated "the journals were very helpful in understanding and using the course materials." Finally, another student spoke to the opportunity to reflect on one's own experiences in relating to course material. The student stated "I also thoroughly enjoyed the weekly journals as it allowed me to reflect on the course material and connect the material covered to my own personal opinions and experiences." Taken together, students see the benefit to writing as a way to think critically, understand material, and reflect on how their own experiences relate to the course content. One area where students have expressed frustration regarding the writing assignments is the grading. Often our online courses are large sections, and students are paired with different teaching assistants (TAs) who are responsible for the grading. It is not uncommon for instructors to hear complaints of TAs grading inconsistently.

Approach #6: Low Stakes Quizzes

Low stakes quizzes are designed to test students' understanding of course material and provide students with immediate feedback. These quizzes allow students to practice questions that are similar to those that will appear on future exams at a low cost to the student's grade. In their book, Make it Stick, Brown and colleagues discuss strategies to help students learn and remember, recommending low-stakes quizzing because retrieval strengthens memory (Brown et al., 2014). For instance, Brown et al. stated that "a single simple quiz after reading a text or hearing a lecture produces better learning and remembering than rereading the text or reviewing lecture notes" (p. 3). The authors posited that if students do not quiz themselves, they tend to overestimate how well they understand course material. Because quizzes provide immediate feedback (Doyle, 2011), quizzes present an opportunity for students to understand how well they grasp the material. The quiz results also provide information to the instructor regarding which areas students continue to struggle.

Implementation in Family Science

We have found that weekly, low-stakes quizzes provide students with consistent feedback and help students prepare for exams. For example, in an online individual and family lifespan development course, students took a weekly quiz on Canvas (our university's learning management platform) after reading the designated chapter from the textbook. Each quiz consisted of five multiple choice questions worth one point each. The quiz questions were extracted from a question bank, and therefore, each student enrolled in the online course was given a different set of questions to reduce the likelihood of collaboration. In addition to providing feedback and helping students prepare for exams, the weekly quizzes held students accountable for their weekly reading.

Further, it is easy to provide accommodations for students registered with the Office of Accessibility Services (OAS). Canvas allows instructors to moderate quizzes by allowing extra time to be added for specific students.

Course Structure

Low stakes quizzes work well in both small and large course sections, as well as online courses. In both online and in-person classes, we provide quizzes through our online learning management platform. This allows class time for in-person classes to be used for learning and other activities.

Student Feedback

Through course evaluations, students have provided positive feedback on the quizzes. One student commented, "I liked how we would have quizzes on the chapters; it helped test my knowledge and showed me that I accurately understood the material." Another student reflected, "I found the weekly quizzes to be helpful and a good way to review and check for understanding." In sum, students appreciated the quizzes and found the quizzes beneficial in providing feedback on their comprehension of course material.

Approach # 7: Flipped Classroom

In flipped classrooms, instructors "shift direct learning out of the large group learning space and move it into the individual learning space, with the help of one of several technologies" (Hamdan et al., 2013, p. 4). Learning takes place outside of the classroom and class time is utilized for practice-based learning (Unal & Unal, 2017). The flipped classroom design requires students to review course material via pre-recorded lectures, pre-readings, interactive videos, or case-based presentations (O'Flaherty & Phillips, 2015). The pre-learned material is then incorporated in various student activities (e.g., group activities, learning tasks, and student presentations.). The learning that occurs during class is intended to engage students. By being more active in this process, students learn through application of the course material. There is evidence that this form of instruction may improve academic performance (Akcayir & Akcayir, 2018; O'Flaherty & Phillips, 2015). While some studies show that student satisfaction increased through the flipped classroom design, other studies indicated that students held a negative attitude regarding the flipped classroom design (O'Flaherty & Phillips, 2015). For example, some students reported frustration with having to take responsibility for their own learning prior to coming to class. This criticism could be mitigated by introducing the flipped classroom approach earlier in their program of studies and educating students on the benefits of this approach (Mason et al., 2013).

Implementation in Family Science

A flipped classroom design was used to teach a Family Life Education (FLE) methodology class. Coursework completed outside of class consisted of assigned readings with guided reading questions and lectures delivered via PowerPoint embedded with voice-over lectures. Face-to-face class time was spent giving a brief (10-15 minute) review of key content, with the remaining time being spent on discussion and activities designed to reinforce the content and give students time to practice new methodologies. Students would also use class time to work with groups on preparation of an FLE workshop that they delivered in a community setting. This gave students the opportunity to apply FLE methodologies immediately after learning about them in meaningful ways. This flipped classroom design seemed to work exceptionally well in an FLE methodology course and could also be implemented in other family science courses.

Course Structure

A flipped classroom design typically includes a combination of asynchronous, pre-class learning along with face-to-face, synchronous learning activities. Therefore, this design implies that it is best implemented in traditional in-person or hybrid classes with a mix of online and in-person class periods.

However, if online courses included some synchronous learning environments, such as live video conferencing, then the flipped approach could be used to inform the activities that occurred during synchronous sessions. For example, mini recorded lectures could be presented online through the learning management system, followed by weekly web conferences with students for discussion and learning activities, either as a whole class or in breakout rooms, depending on class size.

Student Feedback

Based on end of course evaluations, students have given mixed reviews on the flipped course design. Some students reported frustrations with the amount of pre-class work required with this method. For example, one student stated, "I felt bogged down a lot with how much work there was every week in this course." However, others reported positive feedback, with one sharing:

> I really liked how different the course was compared to the usual lecture-heavy and only note-taking courses. I appreciated the weekly assignments, the projects, and the in-class activities. [The instructor] made me want to come to class because I looked forward to seeing what we would be doing in class that day.

Another student stated, "I loved this course and it was by far one of the best classes I have taken in college."

Discussion

Despite advancements in the science of teaching and learning, teacher-centered learning persists widely in higher education. Though teacher-centered learning is a pedagogy that instructors and students have accepted for years, the Scholarship of Teaching and Learning (SoTL) community suggests that we integrate active learning strategies to improve student learning outcomes. The argument is that for learning to occur "students must be paying attention and actively engaging their brains to process new sensory input" (Doyle, 2011, p.7). The growing evidence in support of student-center learning has led to an increasing push to migrate from passive learning to active learning communities.

Though SoTL is gaining widespread attention in higher education, there is relatively little literature regarding the SoTL specific to family science (Maurer & Law, 2016; Reinke et al., 2016). As Trigwell (2013) suggests, SoTL needs to be scholarly and evidence-based. Through this paper we hope to extend the strategies that are being discussed in the larger SoTL community to instruction in family science. The practices we recommend in this paper, however, need to be subjected to further empirical evaluation. One area of future research, in particular, is to better understand students' perception of these learner-centered practices in family sciences courses.

Though the literature suggests that students benefit from learner-centered practices, there are often barriers to implementing these strategies. For instance, the culture in higher education often expects the instructor to be the expert and responsible for learning, and students are often accustomed to this culture. Doyle (2011) explains that students will complain about the work required of them in learner-centered courses and may voice frustration that their instructor is not teaching the material. In our experience, students have provided feedback consistent with these claims in the literature. For example, in an evaluation of a family science course that asks students to speak to aspects of the course that could be improved, one student said the course "was just a lot of work to keep up with." And another claimed, "there is so much work required for this class."

As instructors, it is important, therefore, to not only understand students' perceptions but also devise ways of mitigating these barriers. One way that the literature suggests this can be done is through

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transparency in teaching. Machemer and Crawford (2007) found that students have appeared more open to active learning exercises when they understand the way a particular activity will help improve their performance. Instructors should explain their reasoning for providing these LCT activities and discuss how the strategies will benefit students. Though students may still acknowledge that the course required much effort, hopefully through transparency, they will understand the benefits of their efforts.

Sharing the existing research on the effectiveness of these activities can also help with student acceptance. For example, McKinney (2013) recommended that SoTL research should be shared with students in an effort to help them apply the findings and improve learning. We believe that it would be beneficial to evaluate the effectiveness of these LCT strategies within the specific contexts of family science courses and hope to engage our students in the findings of the research.

One concern expressed by instructors regarding the adoption of LCT strategies is the impact on promotion and tenure. Shifting the responsibility to students may negatively impact instructor evaluations, which are often considered in the promotion and tenure process. Further, instructors may be concerned about their colleagues' response to LCT. Doyle (2011) noted that colleagues may criticize the approach, as there are still academics who believe that effective teaching corresponds with lecturing. Reinke et al. (2016) found much variation in support for SoTL in family science. In their study:

> one-third of participants (38%) indicated SoTL was not explicitly mentioned as a rewarded activity in their department's evaluation guidelines, 29% reported SoTL is considered only as a teaching activity, while 3% reported SoTL is viewed as only a research activity, and 22% reported SoTL counts toward teaching and research activity requirements" (p. 26).

Our hope is that as LCT becomes the norm, students will come to expect this style of course design and we will see a culture shift in their response to this approach. Moreover, as we collect evidence that this approach enhances learning outcomes, the research can be used to inform our learner-centered practices.

Large class sizes can create additional challenges when adopting learner-centered strategies. Though some of the strategies that we propose in this paper transcend class size and format, there are learner-centered activities that require a great deal of oversight and attention by the instructor. In large classes, it can be difficult for an instructor to oversee individual and group activities. An important area of future research, therefore, is to better understand how to overcome the challenges associated with LCT in large classes. We, therefore, propose evaluating the effectiveness of the learner-centered practices while accounting for class size.

Despite these considerations, we believe that there is strong support for incorporating LCT strategies in family science courses. As our teaching faculty have made concerted efforts to enhance the LCT strategies in our department, we are seeing students appreciate this style of instruction and learning. For example, one student stated that a course based on LCT strategies "caters to different types of learning styles and the supplemental material is very hands-on."

Conclusion

In this paper, we situated SoTL and LCT within the specific context of family science. In an effort to incorporate more Learner-Centered Teaching in the field of family science, we presented specific LCT strategies which have high potential to improve learning outcomes. Specifically, we discussed small group activities, questioning, think-pair-share, gaming, in-class writing, low-stakes quizzes, and flipped classroom design. We described each strategy and provided specific examples of learner-centered activities in family science courses. We discuss how some of our strategies transcend class size and course format. This paper, therefore, offers ready-made ideas that family science

instructors may adopt. Finally, we presented implications of LCT, challenges in adopting these strategies, and areas of future SoTL research in the field of family science.

References

Akcayir, G., & Akcayir, M. (2018). The flipped classroom: A review of its advantages and challenges. *Computer and Education, 126*, 334-345. https://doi.org/10.1016/j.compedu.2018.07.021

Anderson, L. W., & Krathwohl, D. R. (Eds.). (2001). *A taxonomy for learning, teaching and assessing: A revision of Bloom's Taxonomy of educational objectives: Complete edition*. Longman.

Arias, J., & Walker, D. (2004). Additional evidence on the relationship between class size and student performance. *Journal of Economic Education, 4*(3), 311-329. https://doi.org/10.3200/jece.35.4.311-329

Barton, J., Heilker, P., & Rutkowkski, D. (n.d.). *Fostering effective classroom discussions*. Retrieved from https://web.archive.org/web/20160413104723/https://www.mhhe.com/socscience/english/tc/discussion.htm

Brown, P. C., Roediger, H. L., III, & McDaniel, M. A. (2014). *Make it stick: The science of successful learning*. The Belknap Press of Harvard University Press.

Caspi, A. & Roberts, B. (2001). Personality development across the life course: The argument for change and continuity. *Psychological Inquiry, 12*, 49-66. https://doi.org/10.1207/S15327965PLI1202_01

Darling, C. A., & Cassidy, D. (2014). *Family life education: Working with families across the life span* (3rd ed.). Waveland Press.

Doyle, T. (2011). *Learner-centered teaching: putting the research on learning into practice*. Stylus Pub.

Egan, K. (1989). *Teaching as story telling*. University of Chicago Press.

Felder, R. M., & Brent, R. (1996). Navigating the bumpy road to student-centered instruction. *College Teaching, 44*(2), 43-47. https://doi.org/10.1080/87567555.1996.9933425

Gibbs, G., Lucas, L. & Spouse, J. (1997) The effects of class size and form of assessment on nursing students' performance, approaches to study and course perceptions. *Nurse Education Today, 17*(4), 311–318. https://doi.org/10.1016/s0260-6917(97)80062-7

Gunter, M.A., Estes, T.H., & Schwab, J.H. (1999). *Instruction: A models approach* (3rd ed.). Allyn & Bacon.

Hamdan N., McKnight P., McKnight K., & Arfstrom K. M. (2013). *A review of flipped learning: Flipped learning network*. Pearson Education and George Mason University.

Hamon, R. R., & Bull, K. S. (2016). "What do you have to offer me?": A relationship building activity for demonstrating social exchange theory. *Family Science Review, 21*(1). https://doi.org/10.26536/fsr.2016.21.01.03

Landers, R. N. (2014). Developing a theory of gamified learning: Linking serious games and gamification of learning. *Simulation & Gaming, 45*(6), 752-768. https://doi.org/10.1177/1046878114563660

Langlais, M. (2016). Accommodating different learning styles using YouTube: An approach to helping students understand ecological systems theory. *Family Science Review, 21*(1). https://doi.org/10.26536/fsr.2016.21.01.01

Lyman, F. (1981). The responsive classroom discussion: The inclusion of all students. In A. Anderson (Ed.), *Mainstreaming Digest* (pp. 109-113). University of Maryland.

Machemer, P. L., & Crawford, P. (2007). Student perceptions of active learning in a large cross-disciplinary classroom. *Active Learning in Higher Education, 8*(1), 9-30. https://doi.org/10.1177/1469787407074008

Mason, G., Shuman, T., & Cook, K. (2013). Comparing the effectiveness of an inverted classroom to a traditional classroom in an upper-division engineering course. *IEEE Transactions on Education, 56*(4), 430-435. https://doi.org/10.1109/te.2013.2249066

Maurer, T., & Law, D. (2016). The scholarship of teaching and learning in family science. *Family Science Review, 21*(2). https://doi.org/10.26536/FSR.2016.21.02.01

McKinney, K. (2012). Increasing the impact of SoTL: Two sometimes neglected opportunities. *International Journal for the Scholarship of Teaching and Learning, 6*(1), Article 3. https://doi.org/10.20429/ijsotl.2012.060103

Mulryan-Kyne, C. (2010). Teaching large classes at college and university level: Challenges and opportunities. *Teaching in Higher Education, 15*(2), 175-185. https://doi.org/10.1080/13562511003620001

Myers-Briggs Foundation (2024). *Myers-Briggs overview*. https://www.myersbriggs.org/my-mbti-personality-type/mbti-basics/

National Guidelines Task Force. (2004). *Guidelines for comprehensive sexuality education: Kindergarten-12th grade* (3rd edition). Sex Information and Education Council of the U.S. http://siecus.org/wp-content/uploads/2018/07/Guidelines-CSE.pdf

Obasi, S., & Hill, T. (2015). By design: Using comics to teach ecological systems theory. *Family Science Review, 20*(3). https://doi.org/10.26536/FSR.2015.20.03.08

O'Flaherty, J., & Phillips, C. (2015). The use of flipped classrooms in higher education: A scoping review. *Internet and Higher Education, 27*, 85-95. https://doi.org/10.1016/j.iheduc.2015.02.002

Pendergast, D. (2009). Generational dynamics: Y it matters 2 u & me. *International Journal of Home Economics, 2*(2), 67-84.

Potter, M. K., & Kustra, E. (2011). The relationship between scholarly teaching and SoTL: Models, distinctions, and clarifications. *International Journal for the Scholarship of Teaching and Learning, 5*(1). https://doi.org/10.20429/ijsotl.2011.050123

Prensky, M. (2006). Listen to the natives. *Educational Leadership, 63*(4), 8-13.

Qualters, M. (2001) 'Do students want to be active?' *The Journal of Scholarship of Teaching and Learning, 2*(1), 51–60.

Reinke, J., Muraco, J., & Maurer, T. (2016). The state of the scholarship of teaching and learning in family science. *Family Science Review, 21*(2). https://doi.org/10.26536/FSR.2016.21.02.02

Trigwell, K. (2013). Evidence of the impact of scholarship of teaching and learning purposes. *Teaching & Learning Inquiry, 1*(1), 95-105. https://doi.org/10.2979/teachlearninqu.1.1.95

Unal, Z., & Unal, A. (2017). Comparison of student performance, students' perception, and teacher satisfaction with traditional versus flipped classroom models. *International Journal of Instruction, 10*(4), 145-164. https://doi.org/10.12973/iji.2017.1049a

Vygotsky, L. (2005). Interaction between learning and development. In M. Gauvain & M. Cole (Eds.), *Readings on the development of children* (pp. 34-41). Worth.

Williams, G. (2011, September 19). *The simplicity of think-pair-share*. The Chronicle of Higher Education. https://www.chronicle.com/blogs/profhacker/the-simplicity-of-think-pair-share