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Implementing a Flipped Classroom Approach in an Introductory Family Science Course

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ABSTRACT. This paper details the redesign and implementation of an introductory Family Science and Human Development (FSDH) undergraduate course. The redesign implemented a flipped classroom approach, grounded in constructivist theory and active learning methods. A flipped classroom approach shifts traditional lecture-based classwork to an application-focused, interactive curriculum. More specifically, it shifts students from being passive learners to active, co-constructors of knowledge. Doing so deepens learning through the centering of students, along with their peers, through meaningful exchanges that help prepare them to work in the field with diverse people and families. While flipped classrooms are becoming increasingly popular, given their link to improved learning outcomes, here we seek to address a gap in the literature concerning its application within FSDH, which is well-suited for such an adaptive, flexible, and dynamic pedagogical approach. We particularly highlight our development and use of podcasts and fact sheets to replace textbooks and in-class activities that promote not only the application of content but also skill development.

Keywords: constructivism, Family Science, flipped classroom, pedagogy, podcasts

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Implementing a Flipped Classroom Approach in an Introductory Family Science Course

Flipped classrooms are a pedagogical approach that inverses the traditional educational model of students reading prior to class, instructors lecturing during class, and the application of knowledge following the class (e.g., homework; McLaughlin et al., 2014; Ottusch, 2022). Flipped classrooms have students engage with course material more meaningfully and in various formats (e.g., pre-recorded “lecture” videos or podcasts, worksheets, or quizzes) prepared by the instructor prior to attending an in-person class session (Burden et al., 2015; Vaterlaus & Asay, 2016). Doing so allows instructors to utilize in-person class time to help students gain a deeper understanding of the content and practices through applied activities (Abeysekera & Dawson, 2015; Ottusch, 2022; Shen & Chang, 2023). Students also take greater responsibility for learning (Bernstein, 2018) rather than keeping a passive position in the classroom (Arthurs & Kreager, 2017). This pedagogical approach, rooted in a constructivist theoretical framework and active learning methodological applications, offers many benefits, including fostering higher-level thinking abilities, such as applied learning and critical thinking and problem-solving skills (Arthurs & Kreager, 2017; Chen et al., 2018; Muehlenkamp et al., 2015; Richmond & Hagan, 2011) and the development of professional practice skills (Vaterlaus & Asay, 2016). It also offers a forum for generating new ideas, meanings, and understanding (i.e., creating new knowledge; Holt-Reynolds, 2000; Mapp, 2022). Importantly, the flipped classroom approach is well suited as an inclusive teaching practice strongly able to attend to diversity and equity and create a safe class environment and sense of belonging, characteristics also linked to deeper learning (Goering et al., 2022).

Instructors in higher education, particularly those in the social sciences (Roehling et al., 2017) and helping professions (Chung et al., 2019; Holmes et al., 2015; Mapp, 2022) have started examining flipped classroom methods. However, there is less literature available related to its emerging use in general family science courses (Ottusch, 2022) as well as in Certified Family Life Education methodology courses (Vaterlaus & Asay, 2016). Pedagogical methods that provide for greater opportunity to apply and practice concepts, compared to hearing about them through more passive learning techniques, can be critical for student preparation to work with people and families in the field during internships and/or post-graduation. Accordingly, there is potential benefit in sharing how instructors of family science, a largely applied discipline, are flipping their classes as a way to provide suggestions and ideas others can use to flip their classes, or, even more simply, to add some active learning moments to existing lecture courses. As such, this paper focuses on how we redesigned and implemented a flipped undergraduate Introduction to Family Science and Human Development (FSHD) class. We articulate the conceptual tenets of constructivism and active learning that guided the course redesign. Finally, we discuss some adaptations made since the initial implementation for us across a variety of modalities and class sizes.

Connecting Constructivism, Active Learning, and a Flipped Classroom Approach

A constructivist paradigm posits knowledge is actively co-constructed in groups (of students and instructors), which leads to the creation of shared meaning (Richardson, 2003). Specific to constructivist-grounded pedagogy, learning outcomes are improved through greater attention to collaboration and inclusivity (Felix, 2005), which encourages student participation and group discussion, and helps emphasize to students that their own knowledge is valued (Sullivan, 2011). As a result, students are empowered to challenge traditional and established assumptions and power relations related to classrooms and learning (Howard & Michelle, 2005). Moreover, increased metacognition through the acquisition of basic information is further enhanced as students learn to apply existing knowledge to other areas and reach levels of deeper learning (Richardson, 2003).

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Active learning methods offer highly effective means to implement the central facet of constructivism by shifting the role of students from passive receivers of knowledge to active builders of knowledge. The employment of active learning methods is linked to deeper learning (Bernstein, 2018). In fact, this is well documented in multiple studies (e.g., Mapp, 2022; Shen & Chang, 2023), including meta-analyses (e.g., Chen et al., 2018). Through active learning, instructors account for varied learning styles and interactively engage students through activities that help connect theory and practice, thereby deepening their learning as they examine their own and others' relatable real-world experiences (Kinnucan-Welsch & Jenlink, 1998; Vaterlaus & Asay, 2016). Flipped classrooms are rooted in constructivism and facilitated using student-centered, active learning instructional methods (DeLozier & Rhodes, 2017). The core of constructivist pedagogy suggests instructors attend to active learning guided by four core tenets: teacher as facilitator, exchanging information and ideas, creating a safe classroom environment, and exposing students to multiple approaches (Slavin, 2003). We describe each of these tenets in conjunction with active learning strategies as part of our flipped classroom redesign. Table 1 lists each of the constructivist tenets, how those tenets are interpreted to guide an active learning approach, and how they can be enacted in a flipped classroom.

Table 1

A summary of the connection between constructivism, active learning, and flipped classrooms.

Constructivism	Active Learning	Flipped Classrooms
Teacher as Facilitator	Teachers provide opportunities for students to engage with course material rather than passively receiving the information in traditional lecture format.	Students are expected to have a basic understanding of the course material prior to coming to class. During in-person class time, teachers may facilitate group discussions, think-pair shares, jigsaw teaching, small group activities, and presentations on topics, in which students take the lead.
Exchanging Information and Ideas	Students generate knowledge and enhance depth of understanding among themselves through interactions with one another and with the teacher.	Students engage in group work, where they generate their own ideas, provide critical feedback to their peers. Students are able to contribute their own understanding and perspective of the course material to their peers, engage in knowledge generation, and then share their findings with the larger group. Additionally, students have the opportunity to work directly with their teachers to ask questions for clarification.

Constructivism	Active Learning	Flipped Classrooms
Creating a Safe Classroom Environment	Teachers must stress the importance of creating a space within the classroom. In order to freely exchange ideas to foster more depth of understanding, students should feel that they are safe to do so. Teachers must set the expectations of how topics will be discussed in a respectful way.	To ensure students feel safe expressing their perspectives, particularly with sensitive topics, facilitating activities that provide some anonymity may be useful. For example, creating anonymous polls or engaging in role-play activities where students have to argue for a perspective. Teachers should take an accepting and empathetic approach to discussion, even when challenging perspectives.
Exposing Students to Multiple Approaches	Exposing students to different information sources, approaches, perspectives, and media provides diverse and comprehensive opportunities for knowledge acquisition and development.	Before class, teachers may use technology such as podcasts, readings, and videos from diverse perspectives, scholars, and approaches. In class, teachers can use clickers for polls, online discussions, students become the expert on a topic and teach it to the class, role-playing scenarios, case studies. Generally, fostering opportunities for students to collaborate together using multiple approaches is important to learning.

Teacher as Facilitator

Constructivism is grounded in the premise that knowledge is co-created (Kinnucan-Welsch & Jenlink, 1998). As such, constructivism within educational contexts prompts an important shift in the role of teachers; instead of proprietors of knowledge, the instructor and the student are partners in the learning process. This positions the teacher as a guide (Arthurs & Kreager, 2017; Long et al., 2017). Active learning methods support this concept by offering instructors practices that center students (Mapp, 2022; Nichol et al., 2018) by providing practical activities and the ability to make decisions through engaging in their own learning (Holmes, 2019; Tenenbaum et al., 2001). Accordingly, it is important for instructors to create opportunities for engagement. Extending this to a flipped classroom, there is an assumption that students come to class with some basic understanding of core concepts, and the class focuses on actively applying the concepts through a variety of activities.

To illustrate, in a classroom that has not been flipped, instructional information is presented in a lecture format, leaving little time for interactive discussion and deeper learning (Shen & Chang, 2023). In flipped classrooms, class time centers around activities (Mapp, 2022). Students are expected to have engaged with any material needed to form the foundation of their knowledge prior to attending class (Abeysekera & Dawson, 2015); materials are offered in various formats, including videos, podcasts, and reading assignments (Burden et al., 2015; Jensen et al., 2018; Gilboy et al., 2015; McLaughlin et al., 2013; Ottusch, 2022). Thus, even outside the classroom, students are still actively learning as they work with the material at their own pace, such as by pausing and rewinding information (Karabulut-Ilgu et al.,

2018) or responding to questions embedded in the videos (Ottusch, 2022). When in the classroom, students participate and lead activities that take many forms, such as think-pair-shares, small group activities, and student presentations (Arthurs & Kreager, 2017; Gilboy et al., 2015; McLaughlin et al., 2013). Although instructors design these activities, provide guidance, advice, and clarification, students are charged with leading these activities for themselves and their groups while drawing on their own knowledge stemming from the materials they engaged with prior to attending class (Adams & Dove, 2018; Karabulut-Ilgu et al., 2018). Thus, when we flipped our class, we ensured our roles would be that of a facilitator, we would create opportunities for engagement and student leadership of their own learning, and pre-class materials were engaging and accessible.

Exchanging of Information and Ideas

Another central feature of constructivism is discussion and the exchange of information and ideas. Such exchanges entail two integrated processes of knowledge construction. One is internal, where the student takes in information and makes meaning based on their own experiences. The other process is external, as the student absorbs information from social interactions, collective processes, and cultural context (Felix, 2005; Tenenbaum et al., 2001). These coupled processes, which reinforce each other as knowledge is constructed, promote learning and growth (Sullivan, 2011) that is more impactful and develops critical thinking (Chandler, & Teckchandani, 2015). Through such exchanges, students also create new meanings through their respective interpretations of the ideas exchanged, thereby collectively constructing new knowledge (von Glaserfeld, 2005).

In applying this constructivist principle through active learning methods, instructors can better facilitate exchanges of information and novel ideas by preparing course materials and discussion prompts that draw on students' personal and professional lives (Holmes et al., 2015; Li, 2015; Loeb, 2015) and are relevant (Kromka et al., 2020). Doing so can make the topics feel more real and memorable (Loeb, 2015), and enables students to offer their own understanding of the information, thus constructing richer knowledge (Stayer, 2012) and deeper learning (Holmes et al., 2015; Shen & Chang, 2023). Another application of active learning is through group work, which offers students an especially effective way to share their understanding and perspective on course material with peers (Karabulut-Ilgu et al., 2018; Mapp, 2022; Strayer, 2012) and support each other on in-class work (Adams & Dove, 2018). Although students might engage in pre-class material individually, which can better equip them to articulate and express information they have internalized (Karabulut-Ilgu et al., 2018; McLaughlin et al., 2013), group work in small and larger groups enables them to provide a deeper, more applied sense of the course material (Holmes et al., 2015) as part of knowledge co-construction (Long et al., 2017). With instructors positioned as facilitators and students as leaders of their learning, it makes it easier to employ this second tenet focused on creating opportunities to share information, perspectives, and experiences.

Creating a Safe Classroom Environment

Creating a safe classroom environment of exchanges, nurturance, and support is critical to enabling constructivist learning processes (Kroll, 2004; Goering et al., 2022). Chandler and Teckchandani (2015) point out that a new classroom begins as a group of strangers whose initial common ground is the course content. Building knowledge through constantly considering new realities shared by others offers a more beneficial approach to learning (Tenenbaum et al., 2001) as students grow into a community with a distinct group culture based on input from diverse individuals (Kinnucan-Welsch & Jenlink, 1998). However, due to the interactive nature of flipped classrooms facilitated through active learning methods, instructors must also ensure that students feel safe. Further,

given that this pedagogical approach draws on both students' and instructors' personal contexts (Deng, 2019), and that topics covered in family science classrooms can be sensitive (e.g., divorce, family violence, sexuality) and culturally diverse (e.g., queer families, racially minoritized families), students' voiced perspectives and experiences should be broached with respect (Li, 2015). Though students' diverse families and contexts offer the advantage of rich and varied perspectives (Niehuis & Thomas-Jackson, 2019), it is critical to equip family science students to be culturally responsive when working with families (Long et al., 2018).

Active learning applications within a flipped classroom setting can offer an interactive yet safe and respectful environment, which also boosts critical thinking skills (Karabulut-Ilgu et al., 2018) and teaches students to challenge pre-existing assumptions. First, instructors should encourage participation while remaining sensitive to and not forcing students who feel uncomfortable to do so. They can also set expectations on the way discussions are held and not discourage or shame students who give what some might perceive as "incorrect" responses, instead promoting insight into the plurality of thought as a critical thinking skill (Sawatsky et al., 2015). Instructors might also facilitate large-group activities where students respond to questions electronically (e.g., through clickers, online polling; Holmes et al., 2015; McLaughlin et al., 2014) so that students can critically analyze the ideas in the activity anonymously until they are comfortable sharing their thoughts openly. Furthermore, students tend to feel safe when their instructor is accepting and empathetic, even when challenging students' worldviews (Niehuis & Thomas-Jackson, 2019). In fact, Gilboy and colleagues (2015) found that the majority of students felt more connected to their instructor in a flipped, rather than lecture, classroom. Another opportunity to create a safe classroom environment is with the use of some personal disclosure by instructors and students (Goering et al., 2022; Kromka et al., 2020). Accordingly, our redesign ensured opportunities to get to know each other as whole people, and guidelines for interacting respectfully were emphasized and discussed regularly. In fact, the class co-developed ground rules for discussions and interactions as one example of how we implemented the tenet of creating safe learning environments.

Exposing Students to Multiple Approaches

Critical thinking and reflexivity, facilitated through constructivism, encourages students to look at problems from a plurality of perspectives and approaches and to respond by adapting ideas to solve problems as they absorb new information (Chandler & Teckchandani, 2015). A constructivist approach also facilitates the co-learning of subjects that are contested, ambiguous, or where there is no singular "right" approach, such as methodology (Mapp, 2022; Vertaluas & Asay, 2016). Implementing this constructivist tenet through active learning methods entails using multiple teaching strategies and mediums of information, which supports a wide variety of diverse learners and people (Li, 2015). Doing so allows instructors to try different methods that work best for a particular group of students and topics, which they can adapt over time as needed (Bernstein, 2018). This enables students to appreciate that learning is not a static but dynamic, evolving process (Howard & Michelle, 2005). Further, and relevant to family science courses, drawing on a range of student-centered activities can help students apply the material and better prepare for their future jobs (Li, 2015).

A frequently cited approach in active learning classrooms is the use of technology (Burden et al., 2015; Holmes et al., 2015; Nicol et al., 2018; Shen & Chang, 2023), which is also often a core component of flipped classrooms as it can be used in many different ways. As students in flipped classes are to engage with course material prior to coming to class, technology offers new formats to deliver required instructional content, such as videos and/or podcasts (Adams & Dove, 2018; Awidi & Paynter, 2019; Ottusch, 2022). Additionally, technology can facilitate active learning during in-class activities. For example, clickers allow students to respond to questions and instructors to provide feedback in

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real-time (Holmes et al., 2015; McLaughlin et al., 2014). Students might also post to online discussion boards or word clouds that enable instructors to track progress and provide support during smaller group work activities (Golboy et al., 2015).

There are many other helpful methods which are not necessarily technology-based and which cater to different learning styles. As mentioned, group activities challenge students to apply concepts and problem-solve together (Adams & Dove, 2018; Karabulut-Ilgu et al., 2018). Students may also learn the material by teaching it to their peers through student-led presentations or small group discussions (Adams & Dove, 2018). Role-playing and case study activities during in-class sessions (Burden et al., 2015; Holmes et al., 2015) can be particularly useful in a family science classroom for learning relevant applied skills. However, in using multiple approaches that foster interpersonal collaboration, it is also important to sometimes allow students to engage in individual assignments that promote their ability to independently problem-solve (Karabulut-Ilgu et al., 2018). Learning assessment quizzes, either in-person or online, offer students the opportunity to learn alone, and provide instructors with the ability to target potential knowledge gaps (McLaughlin et al., 2013). As we redesigned our class, we were careful to vary sources of information and the types of activities employed in terms of structure (listening, reading, discussing, answering), function (e.g., creating, critiquing, applying), and type of interaction (individual, small group, large group).

Taken together, these four tenets of constructivist pedagogy, which guide active learning methods, offer a useful framework that supports a flipped classroom approach for family science courses. Below, we describe the course we flipped within our specific university context, the co-facilitation model we chose, the redesign of off-loaded content that students were provided with prior to each class, and in-class activities to engage students. We also share subsequent adaptations made to the course to accommodate larger class sizes and to transitioning to an all-virtual format in the wake of the COVID-19 pandemic. Lastly, we end with a discussion on lessons learned and additional insights gained.

Our Process for Flipping an Introductory FSHD Class

Overview of the Class

Redesign of the Family Science and Human Development (FSHD) class began in late spring of 2018 and continued throughout the summer months. The initial implementation of the flipped class occurred in the Fall 2018 semester and was continued each semester thereafter. The class we flipped was an Introduction to Family Science and Human Development class, a course that presents basic theories, concepts, and empirical issues relevant to understanding contemporary family life. It is offered at a university in a more urban area of the Northeast. At the time this course redesign was implemented, the University enrolled approximately 21,000 students. Additionally, the university is a Carnegie-classified Doctoral Research University with High Research Activity and holds a Hispanic Serving Institute (HSI) designation. Over half of students are part of historically minoritized racial and or ethnic groups, with 41% identifying as White, and 4.1% listed as unknown races or ethnicities. About 60% of students are female. The course is housed in an FSHD Department, which has close to 1,000 majors and minors.

The course is required for all FSHD majors and minors. Non-majors also enroll in the course, though it is not a General Education course for the university, so most students likely have some direct interest in FSHD. Most students take it in their first or second year. Broad course objectives include: to demonstrate an understanding of key concepts, theories, and issues in contemporary families; to be able to apply theory and research to examine families; and to examine how contextual factors (e.g., race/ethnicity, social class, gender, sexual identity, and history) influence families and development.

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Finally, the development of basic skills for using APA style is a course objective, and the course serves as the first of three sequential writing requirement courses in the major.

Historically, course enrollment is capped at 25 students, and the department runs approximately four sections per semester and one to two in the summer. With rare exceptions, all sections historically have been delivered using an in-person modality. Since first preparing this piece, the flipped version of the course has continued to be offered in at least one section per regular semester using various modalities (in person, online [synchronously and asynchronously], in a condensed 8-week format) by at least one of the co-authors and/or by additional faculty with whom access to all materials and processes were shared. Last, the flipped version of this course has been used by individual instructors without co-instructors/doctoral student assistants as well as small groups of co-instructors. Sections were capped at either 25 or 30 except one that we offered experimentally, which was capped at 100. This larger section was offered in Fall 2019 and included all new freshman and transfer FSHD majors and minors, with a couple of undeclared students interested in exploring the major. We note that most of the diversification of delivery modalities was related to the COVID-19 pandemic. Later, we provide some brief reflections on how the course transitioned across modalities and other course contexts, but focus the core of this piece on the initial course development and the first few semesters all authors co-facilitated the course.

Course Design Process and Elements

As stated above, we used a co-facilitation model during the initial design and implementation of the flipped class. The co-facilitation model consisted of a teaching team that included the lead instructor, a full professor, and four family science doctoral students/candidates. By using a co-facilitation approach from the outset, the teaching team designed and implemented each aspect of the flipped course using a constructivist approach. However, one different member of the teaching team was designated as the lead developer and facilitator for each topic, albeit with support from the rest of the team. This aspect not only allowed for a quicker design process but it easily embedded multiple perspectives into all parts of the course, allowed everyone to use their strengths, and created a context for deep mentoring.

Initially, the teaching team met to develop goals and objectives for implementing a flipped class and to collaborate on a plan and timeline moving forward. We consulted and discussed pedagogical literature during this phase and identified strengths we each could contribute and those we could develop by working as a team. During these discussions and after reviewing the literature, we decided on a design in which we would provide content knowledge to students prior to class meetings via podcasts that we would develop and record along with “fact sheets,” rather than having students read a text. We then planned for students to complete a 15-item, multiple choice weekly learning assessment prior to class based on (and to reinforce material covered in) the podcasts and fact sheets. We then determined that each class would have time dedicated to some discussion, but most of the class time would be dedicated to activities that helped students apply core concepts and theories as well as make connections across the material. We wanted activities to be directly applicable to their careers. Accordingly, activities often were parts of sessions directly from family life education programs given in the community, materials used in organization training, activities in which professionals in the field engage, and the like.

After developing a shared understanding of the basic course structure and overall weekly broad topics (see Table 2), we planned recurring meetings to collaboratively develop and revise materials. This approach allowed the team to break down tasks into manageable sections and create the course content and activities in a timely manner. Specific to facilitating actual classes, we decided one of us would serve as lead facilitator each week, with the rest of the team as co-facilitators.

Table 2

Alignment of content topics, assigned podcasts, and activity examples.

Topic	Podcasts	Activity Examples
Family Theories	Ep 1: FSHD as a Discipline Ep 2: Family History Ep 3: Family Theories	In small groups, share examples of family rituals; brainstorm unique family rituals that facilitate bonding; complete Relationship Involvement and Attitudes toward Marriage Scales; Apply theories to explain movie clips
Gender	Ep 4: Gender and Biology Ep. 5: Gender and Nurture	BEM Sex Role activity: In small groups identify what BEM Sex scale and subscales measure; complete BEM individually; Gender implicit bias tests; genderbread person activity (Killermann, n.d.)
Sexuality	Ep 6: Sexuality and Sex Education Ep 7: Sexual Interactions	In small groups, find and summarize research articles related to a prepared scenario; role play being a practitioner working with a couple and use research to guide assessment questions they could ask and interventions they might use.
Mate Selection and Singlehood	Ep 8: Hooking Up E 9: Mate Selection	Small groups: identify 3 mate selection research studies/scientific journal articles; write short summary; create evidence-based dating app.
Communication	Ep 10: Emotional Intelligence and Communication	Students take part in a relationship education session based on Gottman's Horsemen; practice effective communication strategies.
Family Violence	Ep 11: Types and Cycles of Violence Ep 12: Intimate Partner Violence and Queer Couples	Small group IPV survivor role play using myApp; students share and reflect with the class.
Cohabitation and Marriage	Ep 13: Cohabitation – Sliding vs. Deciding Ep 14: Marital success	In small groups, students identify popular media advice on an assigned topic; then create an advice blog post derived from 3 topically relevant journal articles.

Topic	Podcasts	Activity Examples
Family Diversity; Families of Color	Ep 15: Contextual Influences Ep 16: Unique strengths and resilience	Students identify and reflect on their cultural heritage; then conduct case study in small groups; implicit bias assessments, videos on systemic racism; Killing Me Softly online game about microaggressions.
Family Diversity; Queer Families	Ep 17: Contextual Influences Ep 18: Unique strengths and resilience	Students take part in an example Safe Zone training.
Parenting	Ep 19: Trends and pathways to parenthood Ep 20: Parenting styles	Students break off into groups; each group is assigned a child-rearing theory. Students watch short videos about the theory and create/perform short skits that represent theory and parenting techniques consistent with it.
Work & Family	Ep 21: Poverty and policy Ep 22: Spillover and buffering strategies	Students provided with a family scenario, given a budget planning sheet from a family financial planner, have to research costs and develop a monthly budget.
Divorce	Ep 23: Divorce policy, programming and mediation Ep 24: Experiences of divorce	Students read factual background of an adversarial child custody case. Students then choose whether to role-play judge or mediator to craft resolution. Class discusses differences in process and outcome.
Remarriage and Stepfamily Life	Ep 25: Stepfamily policy and stereotypes Ep 26: Stepfamily life	Students complete modules from Smart Steps Online Training: Understanding Stepfamilies or example sessions from Smart Step FLE Program.

Out-of-Class Content

The flipped class approach reverses the format of a standard classroom lecture followed by homework to reinforce learning (McLaughlin et al., 2014; Ottusch, 2022). As such, course material that is typically presented in class via lecture is instead provided to students prior to class utilizing various mediums. It is essential that students engage with and develop at least a basic understanding of the out-of-class course content so that in-class learning can be pushed deeper and critical thinking skills are engaged (Shen & Chang, 2023). Accordingly, the co-authors were intentional when developing materials to ensure they were accessible engaging, and helped students identify which information was most important. Out-of-class content consisted of podcasts, assignments, and fact sheets.

Podcast Development. In-class lectures were replaced with a series of two or three short (ranging from 15-32 minutes each) podcast episodes recorded by the co-authors for each weekly topic (see Table 2), thereby making them free and accessible compared to the use of most texts. Transcriptions

were produced within Panopto as another way to enhance accessibility. Panopto was used to help edit podcasts and host them before linking them to the Canvas course site. Using a series of shorter podcasts with a conversational tone was meant to keep the material focused and more easily engaged. In many ways, we thought of it in terms of Gottman and Silver's (2015) mainstream work demonstrating the importance of speaking in short chunks as a key characteristic of effective communication. Prior to podcast recording meetings, the lead facilitator created an outline that included a broad overview of the intended episode structure, the core concept(s) focused on in each episode as well as key points of information and discussion prompts. Importantly, all authors identified stories they could share related to each episode, given the positive links between storytelling, memory, and learning (Kromka et al., 2020). Often, stories were personal or prior work experiences in the field that explicitly demonstrated a concept and offered potential points of connection to students. This practice is consistent with research linking enhanced learning and inclusive teaching through a sense of belonging in a class (Goering et al., 2022).

Podcast episodes were created with the intent that they would be reused in future semesters as well—foundational, introductory content changes less frequently, so we wanted to maximize the use of our episodes over time. Accordingly, we decided not to use or reference current events, examples, or other speech that would date the episodes. Instead, contemporary examples would be used during class discussions.

Fact Sheet Development. The teaching team also developed fact sheets to replace the previously assigned textbook. The co-authors developed a standard format for the fact sheets and aimed to limit them to a length of about two single-spaced pages. Each evidence-based fact sheet listed (a) names of some of the most published historical and contemporary scholars in the field, paying particular attention to ensuring diversity among the scholars listed, (b) some brief demographic information related to that week's topic (e.g., cohabitation rates, generally and by various demographics), (c) important concepts and theories along with brief explanations of each, (d) key research findings, (e) key findings related specifically to diversity, (f) emerging findings/areas of exploration, and (g) a couple of resources. Recognizing that many students do not read assigned textbooks for various reasons (e.g., difficulty understanding how to sort through the density and academic nature of the texts; less engaging), we hoped the design of the short fact sheets would help students overcome some of these challenges (Gorzycki et al. 2022) as well as enhance participation and learning given the visibility of explicit diversity (Goering et al., 2022).

Assignment Development. Weekly learning assessments were implemented with the goal of providing students with practice, feedback, and accountability. Prior to class, students completed web-based Weekly Learning Assessments (WLAs) in Canvas, which consisted of 15 multiple-choice or true/false questions derived from the assigned podcasts and fact sheets. These were used in place of mid-term and final exams as activities took on the primary evaluation of learning. This also served as an inclusive pedagogy strategy in that there are multiple low-stakes opportunities to learn and receive grades compared to one or two high-stakes opportunities. As mentioned earlier, this course also meets one of the writing requirements for the family science major. That writing assignment is more prescribed and not altered much for the flipped classroom, so we do not detail it here.

In-Class Application and Learning

Each class followed a similar structure to aid the application of material and facilitate deeper learning. We also include which constructivist tenet was employed as another example of how they are embedded across the course. After initial informal check-ins, we first started by asking students what stood out and what they found interesting about the podcasts and fact sheets (Teacher as Facilitator).

These discussions occurred in small and/or large groups. When smaller groups were used, one facilitator worked directly with one small group such that each group had an instructor to help facilitate discussion. We would facilitate these discussions to help ensure a strong level of basic understanding of key concepts and then push these discussions to take on a more critical view in which we solicited a plurality of perspectives about the concepts (Engaging Information and Ideas). As part of this, we encouraged the use of contemporary events and other examples to help students more deeply connect ideas to their own lived experiences (Creating a Safe Classroom Environment). Next, we would engage students in one or more activities that took most of the class time (Exposing Students to Multiple Approaches). We would end with final reflections and a quick introduction to the next topic.

Application Activities. For each class, application activities were developed by the respective lead team member for that week's topic, and then the group collaborated on ideas for potential improvement. Application activities focused on linking out-of-class course content to its use in the "field," which we broadly defined as uses in Family Life Education or other psychoeducational programming. Various approaches were intentionally utilized for in-class application activities (see Table 2 for some examples) to expose diverse learners to multiple approaches. We did have a strong preference to expose students to various family life education (FLE) programs facilitated with families in the community as much as possible. To do so, we often would role-play a session in which one of the instructors acted as the facilitator of the program, and students pretended to be participants. This helped students better understand how research findings were incorporated into the development and provision of FLE with families. We also processed information related to facilitating programs and facilitation skills, so additional skill development occurred.

Although we do not have the space to explain all activities, we thought it helpful to briefly present a few different types of activities. During the cohabitation and marriage week, we facilitated a session from an evidence-based relationship education program, specifically a session on communication. One of the podcasts and parts of the fact sheet that week presented information about Gottman's work (e.g., Gottman & Silver, 2015), including the Four Horsemen. During the activity, based on an actual FLE program, students got to practice identifying the four horsemen and then role-played in pairs to practice effective communication skills. Research has been found to be helpful in general communications as well as during conflict discussions. During the week on family violence, students worked in small groups to learn about the process of preparing to leave a relationship in which violence is occurring. We had the students use the app (myPlan) developed by Dr. Glass (<https://myplanapp.org/>) to help guide survivors of intimate partner violence in developing safety and leaving plans. One final example comes from the main activity used for the week on mate selection and partnering. For this week, we had students work in reverse and use it to help them develop skills related to consuming research. First, we provided each small group with a different scenario of a person who wanted to partner. The intersectional location of the person varied across scenarios, as did the type of partnering they wanted to pursue (e.g., hookup, casual dating, long-term partnering). Each group had to identify multiple research articles that fit their scenario and translate the findings into usable information to inform the development of a partnering app. They then worked to articulate how their app would work to match people and identify features for safety and app uniqueness. Each group presented their concepts to the class and engaged in a question and answer session. Taken together, in-class activities and learning might best be considered the practice of various translation science processes in which students are learning about the connections between and among research and practice.

Course Adaptations

As noted earlier, we made adaptations to the flipped course multiple times since its initial implementation: once, to expand the offering to a large section format; another due to the COVID-19 pandemic, which entailed moving the course to an entirely online format; and others to condense the weeks in which it was offered as well as to develop it for an asynchronous modality. Here, we briefly share and reflect on some of the adaptations made. It is important to note our overall experience with all of these adaptations is that they were virtually seamless, and we have not experienced any change in feedback, including end-of-course evaluations and informal responses from students each semester.

Large-Class Adaptations. Specific to the large section offering, there were four overarching adaptations. First, to bolster a stronger sense of community in a large class, we intentionally led small group activities that prompted students to alternate seating arrangements, work in pairs or small groups, and work with different peers throughout the semester. This helped build community and promoted exposure to multiple perspectives and diverse peers (e.g., Goering, et al. 2022). Relatedly, we allowed more time at the beginning of activities for group members to introduce themselves. We often did this by providing specific prompts that could be used beyond sharing basic information such as names, student classification, etc. For example, we asked students to share favorite family rituals, something about their cultural heritage, dream careers, etc. Third, when small activity groups were presented to the entire class, we often asked them to come to the front of the class to help ensure everyone could see and hear them, as microphone access was limited to the lectern. However, we realized early on that the extra time it took for students to move back and forth between their seats and the lectern took too much time away from learning opportunities. Accordingly, we altered this practice by having groups project information onto the screens in the classroom. We did this in two ways. First, we would create discussion boards and have groups post the main points from their discussions, and we would project them to the screen. We then used the posted main points to facilitate discussion. Second, we incorporated additional interactive technologies well-suited for larger classes (e.g., polling, word clouds; Hyndman et al., 2016; Ottusch, 2022). These allowed students to get a sense of everyone's thoughts across the class at individual and aggregate levels and in real-time. Finally, we projected directions for most activities onto the screen and made them available in Canvas. We did this to minimize the potential number of questions from a greater number of small groups compared to that of lower-enrolled course sections and smaller capped classes. Together, these strategies helped ensure that everyone had access to materials and resources shared through the activities, which was an added benefit. Otherwise, the class was organized and facilitated the same as the lower-enrolled course sections and smaller capped classes. We do note that having a teaching team made it easier to move around among all the small groups without any one group needing to wait long for a facilitator to come and help, check-in, or answer any questions. The feasibility of this approach for high-enrolled courses may be limited if the team resource is not available.

Transition to an Online Format. The next set of adaptations was made when the course needed to transition to an online format due to the COVID-19 pandemic. Although more was done than can be articulated here, we will highlight the overarching adaptations to assist instructors who might wish to offer a flipped course online. First, the course became asynchronous, and students were permitted to self-pace when they were able to submit assignments. We learned, through a brief class survey, that some students did not have reliable internet access and that the pandemic impacted others in ways that precluded them from maintaining a weekly assignment schedule. Second, we recorded multiple short videos to maintain a sense of connection and community and created a discussion board for written or video posts solely for the purpose of social interactions and social support.

Given the flipped nature of the class, which is focused on adaptability, the switch from in-person to online was, from an instructor's perspective, relatively seamless. Because we already had written out more explicit directions for activities due to teaching a large class, it was easy to cut and paste those onto activity pages in Canvas. However, some activities necessitated minor adaptations so they could be completed individually as opposed to in small groups. For example, we articulated how much students should write when reflecting on takeaways and learning from an activity, as we did not want the switch to create more work for students or instructors who need to review all assignments. We also needed to switch some of the role-play activities to make them individual-based or ask students to role-play with a friend or family member. These adaptations were fairly easy to do, although this eliminated students' ability to hear perspectives from fellow classmates. In the context of a pandemic, we believed this to be a good trade-off, although the instructors tried to make more comments on the written work to mitigate this loss. Since then, we have offered the course in a synchronous modality as well and went back to original small group activities and used break-out rooms as part of that adaptation. Taken together, we found that our flipped classroom was easily and quickly adaptable to a variety of modalities largely because there was no need to record lectures (we already had the podcasts and fact sheets in place), and the interactive nature of activity-based learning works well keeping students engaged and learning in person and online.

Discussion

Although it is likely that there are family science instructors who are flipping their classrooms, to our knowledge there are few examples in academic journals on how to do so (Ottusch, 2022). However, recommendations for flipped courses in related fields, such as social work (Holmes et al., 2015), mental health (Burden et al., 2015), and nursing (Chung et al., 2019) suggest its usefulness in family science. To advance family science pedagogy, this paper presented how we flipped an introductory FSHD class and grounded our process in constructivism tenets and active learning. From our perspective as instructors, as well as student feedback, including course evaluations, the flipped class was received well by students and us, appeared to deepen learning and critical thinking skills, and was easily adaptable across modalities.

Family Science and Human Development (FSHD) courses are designed to fulfill the overlapping, yet distinct, objectives of delivering field-specific course content and creating opportunities for skill development and application. The educational and practice-oriented goals of the FSHD discipline (e.g., Vaterlaus & Asay, 2016) are well-suited for incorporation into a flipped classroom. Our design and implementation of the introductory FSHD class drew from constructivist principles that promote deeper learning (Felix, 2005; Shen & Chang, 2023) through the co-construction of knowledge (Richardson, 2003). We also employed active learning strategies and methods to effectively center students (Nicol et al., 2018; Ottusch, 2022) and provide them greater opportunity to be more active and responsible in their learning (Tenenbauma et al., 2001). The flipped class, which straddles this paired theoretical and methodological approach, supports the shift from traditional, lecture-focused classrooms to a flexible space where students can learn through exchanges of ideas and experiences, and the application and adaptation of new concepts (Bonwell et al., 1991; Mapp, 2022).

Active learning principles guided the development of all course materials and application activities to promote student engagement, content application, and development of foundational family science knowledge, which supports higher order reasoning and critical thinking processes (McElwain, 2019; Shen & Chang, 2023), as well as preparation for potential fieldwork with diverse families (Goering et al., 2022). Furthermore, both off-loaded content and application activities promoted and contributed to student satisfaction and learning experience (O'Flaherty & Phillips, 2015; Ottusch, 2022).

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Using more informal and accessible formats such as podcasts and fact sheets helped engage students more effectively and make their learning more practical and memorable (e.g., Gorzycki, et al., 2020). With respect to in-class activities, individual and group learning approaches enabled students to share their own experiences and mutually discover how contextual factors (e.g., race/ethnicity, social class, sexuality) impacted the broad content areas (Fisher & Frey, 2008; Kromka et al., 2020). The students were engaged in discussions and provided thoughtful and meaningful feedback. Group activities likewise produced creative results that also evidenced a high level of understanding about the relevant topic.

Lessons Learned and Recommendations

Our experiences implementing the flipped class have provided a few key takeaways and insights. Across multiple years of implementing the FSHD flipped class, the teaching team maintained a favorable view of the approach as well as the materials and strategies that we initially developed. Below, we list a few key reflections and recommendations for faculty considering flipping their family science courses.

The use of podcasts was incredibly effective and received well by students and appeared to be a strong and more accessible replacement for textbooks. In fact, every class had multiple students comment on the convenience of podcasts (e.g., ability to listen while working out at the gym), whereas other students shared that they listened to their podcasts with family and/or friends. Thus, potential learning had a wider reach beyond students enrolled in the class. This is also consistent with research findings that listening to podcasts is effective for learning among students (Kelly et al., 2022) and lends itself well to informal learning outside of school settings (Shamburg et al., 2023). Podcasts are also easy to produce and convenient for listening and access. Based on our experience, we suggest using multiple, narrowly-focused, short (15-20 minutes) podcast episodes that incorporate storytelling (narratives) for each class session.

For faculty without access to graduate students to form teaching teams, we offer a couple of recommendations. First, if multiple faculty in the same department teach a course you can co-develop the materials (e.g., podcasts) but still individually facilitate your own sections. If there is only one faculty member that regularly teaches a course, consider identifying faculty in other universities that teach a similar course with whom to partner. A third option might be to collaborate with undergraduate students who have been through most of their major FSHD coursework and provide them the opportunity to flip the class with you as part of an independent study elective focused on teaching, an internship/practicum, or something similar. This option provides an easy opportunity to engage in relevant storytelling and deepen learning (Kromka et al., 2020). Regardless of any of these options, we suggest that you consider the diversity of people and perspectives for any teaching team, as well as ensure all materials co-developed are equally shared for future use by members of the teaching team.

As one final suggestion, we recommend leaning into constructivism, authenticity, and relationships. We found that keeping focus on the core tenets of constructivism (see Table 1) was really about being present in the moment such that we were flexible and able to adapt in ways that allowed for the co-construction of knowledge. As facilitators, student ideas and interests around core topics were always centralized, and our facilitator roles focused on supporting and nurturing those ideas and interests. To do so, we prioritized ensuring a strong and inclusive classroom environment that promoted the diversity of people and ideas and used multiple types of activities and ways to exchange and create knowledge. We needed to be willing and open to trying new ways of doing things and letting go of any traditional notions of teacher-student positionalities tied to hierarchical relationships. We were all

learning with one another and we all were responsible for each other's learning. We found and suggested that authenticity and establishing professional relationships were critical. We shared about ourselves openly and relevantly and demonstrated a genuine interest in getting to know the students as whole people. This also was true for the teaching team - we spent time getting to know each other as whole people. Students often commented on this both in terms of how it made the classroom environment open, enjoyable, and safe as well as how much more engaging it made listening to the podcasts because they could tell we were having fun, were passionate about the conversations, and had a good connection with one another. Accordingly, we recommend dedicating time to finding comfort with being authentic and establishing strong relationships among the teaching team and class.

To that end, the second listed co-author's reflection captures what is shared across the co-authors:

In reflecting on my experience in flipping the classroom with my co-authors, I cannot help but compare it to that of more traditional classes I have taught. In planning a standard lecture, I primarily referred to the text(s) that were part of the approved syllabus and allowed them to guide my talking points, class prompts, and assessments. Whereas crafting discussion questions to guide a podcast with my colleagues or coming up with interactive group projects offered me more interesting challenges. There were so many possibilities as to how to go about these tasks, which necessitated a more thoughtful, introspective, intentional, and creative approach. Additionally, in the classroom, my own understanding and outlook were broadened when teaching in the flipped format compared to when delivering lectures. This was likely due to how much more attentive and forthcoming students tended to be in sharing perspectives and lived experience, and the sense of community garnered within the classroom. Simply put, drawing on the flipped classroom method with the aim of a better learning experience for students resulted in a more profound, rewarding, dynamic, and memorable experience for me as an instructor as well.

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