Going Hybrid: Traditional versus Hybrid Family Interaction Classes

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ABSTRACT. Hybrid teaching, also known as mixed-mode instruction, occurs when part of a campus-based course is moved online. There is limited research on hybrid courses in Human Development and Family Studies (HDFS). This study examines whether delivery mode impacts various student learner experiences and outcomes in an HDFS course and reports on students' experiences with hybrid learning. Results indicated no delivery mode differences related to perceived course knowledge, course-related self-efficacy, or student-to-student interaction. However, participants in the hybrid learning mode (n = 33) reported significantly worse experiences and outcomes on all other variables relative to students in the face-to-face section (n = 35). Due to significant baseline differences, more investigation is needed to explore selection effects versus experience effects. Themes related to most and least liked features of the hybrid course are reported and interpreted in light of quantitative findings.

Keywords: blended learning, family studies, hybrid learning

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Going Hybrid: Traditional versus Hybrid Family Interaction Classes

Hybrid teaching and learning, also known as blended or mixed-mode instruction, occurs when part of a campus-based course is moved online and when certain face-to-face (FTF) activities are replaced using asynchronous and/or synchronous online delivery methods. The concept of hybrid teaching and learning became increasingly popular following research conducted in the early 2000s by Carol Twigg and the National Center for Academic Transformation (NCAT). In partnership with 30 colleges and universities, NCAT demonstrated it was possible to improve quality and reduce costs by redesigning courses using various methods including "the replacement model" (Twigg, 2003, p. 33). This model reduced the numbers of in-class meetings, replacing some in-class time with online and interactive learning while making significant changes in the remaining in-class meetings. Hybrid and flipped courses both share the component of online lectures that students watch outside of class. However, a flipped course may still have the same number of FTF class sessions as its traditional counterpart, whereas a hybrid course typically reduces FTF time to accommodate online time.

Since the early 2000s the number of hybrid, flipped, and online modes of learning has increased rapidly. One-third of all post-secondary students in the United States took at least one online course during the 2016-2017 academic year and many more took at least one blended or hybrid course (Lederman, 2018). This rise in the numbers of students taking online courses may have come in response to higher enrollment rates and increased budget cuts that plague colleges and universities. According to Bowen, Chingos, Lack, and Nygren (2013), online learning modes such as hybrid courses can be beneficial in curbing educational cost increases and improving student retention rates. Online learning methods may also expand education to select students who are place-bound and unable or limited in their ability to attend traditional FTF courses. Bowen et al. (2013) suggested that hybrid courses require 67% to 75% less classroom use than traditional FTF classes. This decrease in occupancy can translate into significant cost savings of 36 to 57 percent. Faculty reported generally positive experiences with hybrid teaching; however, Mozelius and Rydell (2017) suggested faculty need training and more time to create and deliver an appropriate hybrid instructional design.

Research suggests there are enhanced student learner experiences and outcomes for students engaged in hybrid courses compared to those in traditional FTF courses in a variety of educational fields. However, research related to hybrid courses in Human Development and Family Studies (HDFS) and similar fields is limited, with some studies reporting no difference based on delivery mode (e.g., Forte & Root, 2011; York, 2008). Therefore, the purpose of this study is to (a) examine whether delivery mode (hybrid versus FTF) impacts knowledge, achievement, and various student learner experiences in an upper division Family Interaction course and (b) explore students' experiences with this approach to a family studies course.

Student Learner Outcomes

Potential advantages of hybrid delivery are not restricted simply to saving space and resources. Evidence shows that hybrid courses may offer the best of both worlds. For example, students reported that participating in FTF sessions along with online sessions provided opportunities to receive immediate guidance and feedback (Poon, 2012) while facilitating

interactions with fellow students in meaningful ways (Owston, York, & Murtha, 2013). Below is an overview of research findings related to instructional delivery mode and several key domains of students' experiences and outcomes.

Student achievement. Many studies report enhanced learning performance and course-related knowledge in hybrid or flipped delivery modes in which lectures are provided online outside class and where class time is used for discussion or exercises subsequent to lecture material. For example, Thai, DeWever, and Valcke (2017) found that students in their "flipped classroom" (p. 113) mode (consisting of web-based lectures prior to in-class exercises) outperformed students in their "blended classroom" (p. 113) mode (consisting of in-person lectures followed by out-of-class exercises). Owston and York (2018) reported that students in the medium online learning condition (36-40% of course online) and high online learning condition (50% or more of course online) performed significantly better than did those in the low condition (27-30% online). Even small changes toward a hybrid delivery may be effective. Borchardt and Bozer (2017) assigned students to either the traditional face-to-face mode or the "micro-flipped" (p. 1) mode in which some lecture material was moved online while other material was still delivered face-to-face. The micro-flipped mode freed up class time that was used for interactive discussions. These authors reported that students in the micro-flipped course demonstrated significantly higher exam performances than did those in the related traditional course. Using data from six blended courses across two universities, Manwaring, Larsen, Graham, Henrie, and Halverson (2017) reported that online activities were more cognitively engaging than face-to-face interaction was. Overall, in their review and meta-analysis, Spanjers et al. (2015) suggested that blended or hybrid learning is "somewhat more effective than traditional learning" (p. 59).

Some studies, however, find no differences in student achievement between delivery modes. Cathorall, Xin, Blankson, Kempland, and Schaefer (2018) compared students in two hybrid sections of a Personal Health course with students in two web-facilitated Personal Health courses taught FTF, but which "used technology to enhance the traditional classroom experience" (p. 12). They reported no significant differences in quiz scores or final grades by delivery mode. Similarly, Forte and Root (2011) reported no significant differences in term paper scores, knowledge improvement, or final grades between students in hybrid and FTF (web-enhanced) Human Behavior and the Social Environment students. For the two studies reviewed above, it may be that the web-enhanced FTF classes offered many of the advantages of hybrid courses, and that findings would have been different had the comparison category been traditional FTF classes. Lastly, York (2008) reported no differences in knowledge gain among students in traditional FTF, online, and hybrid sections, although small sample sizes would have made it difficult to detect differences in this study.

Course-related self-efficacy. Self-efficacy has been defined as belief about one's ability to perform a specific task or behavior (Bandura, 1986). Perceived self-efficacy in the classroom influenced the amount of effort students put into course related tasks, their perseverance in the face of obstacles (Wu, Tennyson, & Hsia, 2010), and their overall school achievement (Ramnarain & Ramaila, 2018), even beyond their cognitive abilities (Komarraju & Nadler, 2013). Moreover, Ardura and Galán (2019) reported that academic self-efficacy explained the relationship between intrinsic motivations and achievement. With regard to delivery mode

differences, Thai et al. (2017) reported that students learning in a flipped delivery mode (with web-based lectures prior to in-class exercises) reported higher self-efficacy beliefs and intrinsic motivation than did those in the traditional delivery mode.

Student satisfaction. Moore (2009) defined student satisfaction as the state in which "students are successful in learning online and are pleased with their experience" (p. 92). However, a recent review suggested student satisfaction is a subjective evaluation of the educational experience as well as the student's educational outcomes (Weerasinghe & Fernando, 2017). Despite diverging definitions of student satisfaction, the key component is the emphasis on the student's perception of the course. Over the last ten years, numerous studies have focused on students' satisfaction in hybrid courses, preference for certain aspects of the delivery mode, and achievement in hybrid courses. Overall, students report increased satisfaction with hybrid courses compared with both traditional FTF courses and fully online classes (Castle & McGuire, 2010; Owston et al., 2013). El Mansour and Mupinga (2007) indicated that students particularly enjoyed the flexibility and convenience afforded by the course's online portions. Student satisfaction is also important because it influences whether or not students will take additional courses in this mode of learning and if they will recruit other classmates and peers to take this mode of class (Naaj, Nachouki, & Ankit, 2012).

Quality of Student Interaction

The quality of interaction in the classroom has received much attention in the field of education. In considering challenges of distance learners, Moore (1989) stated that three types of interaction must be present for educational success: faculty-student, student-student, and student-content. All interactions are important to influencing student learner outcomes (Bernard et al., 2009). However, they are not distributed equally across all delivery modes. To illustrate, in a traditional classroom, faculty-student interaction is the dominant form of interaction, whereas in an online course student-content interaction tends to be dominant.

Faculty – student interaction. Faculty-student interaction may include the faculty member providing feedback, encouragement, answering questions, or simply delivering course materials (Moore, 1989). Lundberg and Schreiner (2004) investigated diverse student learner outcomes and interactions with faculty, reporting that the quality of faculty-student interaction was the only variable that significantly predicted learner outcomes across all races. Faculty-student interaction was also associated with student reports of effort across all racial groups, perhaps suggesting that students who experienced high levels of interaction worked harder to meet faculty expectations. Faculty-student interaction has also been investigated in the online course context. In a study of 30 fully online courses, faculty-student interaction quality (including encouragement, feedback, and respect) predicted student-perceived learning and was also related to students' reports of course satisfaction (Sher, 2009). Research on faculty-student interaction often focuses on frequency and type of communication rather than on the mode of information. This being the case, it is not only possible but perhaps important for high quality faculty-student interaction to occur in hybrid and even fully online courses.

Student – student interaction. Moore (1989) defined student-to-student interaction as an exchange of information and ideas between students via group projects or discussion. Since

student-to-student interaction tends to be the least dominant type of interaction across delivery modes (Murray, Pérez, Geist, & Hedrick, 2013), far less research has focused on the importance of this interaction. Nonetheless, limited research supports the relationship between student-to-student interaction and both course satisfaction and learning outcomes (Sher, 2009). Waha and Davis (2014) noted that "even students who prefer the online study mode indicated that face-to-face participation is effective in terms of facilitating interaction with teachers and their peers" (p. 9). It seems that FTF and online delivery modes both offer unique opportunities for students to interact with each other. Pinto and Moura (2010) reported that students in the online section appreciated the "almost permanent availability of teachers and students" (p. 551) afforded by that delivery mode. Therefore, it could be that the hybrid delivery system offers the best of both worlds with regard to quality interaction with peers and instructor.

Student – content interaction. Student content interaction is defined by Moore (1989) as students' interactions with course texts, videos, or online communications based on the instructor's goal of increasing understanding or changing perspective. One study found that students selectively accessed content, prioritizing their time by what they perceived might benefit their course grade (Murray et al., 2013). As online and hybrid courses are increasing in frequency on college campuses, the concept of student-content interaction has expanded to include student-technology interaction which focuses specifically on the technological platform in use for content delivery.

Hybrid Courses in Human Development and Family Studies

There is limited body of research on hybrid courses in human development and family studies (HDFS) and related fields (e.g., developmental psychology, social work, teacher education). For example, faculty in psychology endorse teaching non-clinical (but not clinical or methodological) content in a hybrid format (Mandernach, Mason, Forrest, & Hackathorn, 2012). Lin (2008) found that teacher licensure students reported high satisfaction with hybrid learning. With regard to student learning outcomes and perspectives, Forte and Root (2011) reported that delivery mode (hybrid versus FTF) did not differentially impact student learning outcomes among human behavior and the social environment students. Similarly, York (2008) reported no difference in knowledge gain, course content self-efficacy gain, or student satisfaction between social work graduate students in FTF, online, and hybrid formats. Therefore, it is important to investigate whether the reported benefits of hybrid instruction extend to the HDFS field.

Purpose and Research Questions

This study examined whether students' learning outcomes (perceived knowledge, perceived self-efficacy, and course performance), perceptions of course and instruction quality, and perceptions of quality of interaction differed by delivery mode (hybrid versus FTF) in an undergraduate family interaction course. By comparing and contrasting students' experiences, perceptions, and outcomes, we can begin to identify whether a cost-effective hybrid course can provide a learning experience equal to or better than a more cost-intensive FTF course. By investigating the various types of interaction quality, we also will be able to identify whether the hybrid format excels at some forms of interaction but not others. Specific research questions are as follows:

1. Are there baseline differences between the FTF and Hybrid conditions on demographic variables or course disposition variables?
2. Are there delivery mode differences related to student achievement (exam points and total points)?
3. Are there delivery mode differences related to follow-up measures of the following: perceived course-related knowledge, perceived course-related self-efficacy, course quality, instruction quality, faculty-student interaction quality, student-student interaction quality, or student-content interaction quality?
4. For hybrid students only, what is the quality of student-technology interaction?
5. For hybrid students only, what are the best-liked and least-liked features of the delivery method, specifically with respect to family studies content?

Methodology

Participants and Procedure

The sample for this study included undergraduate students enrolled in two sections of Child and Family Studies 320 (Family Interaction) during a recent semester (n = 35 FTF; n = 33 Hybrid) at a large southeastern university. This course emphasized dyadic parent-child relationships and interactions. The goals of the course were (a) to instill working knowledge of several child development theories and research-based parenting frameworks that provide a foundation for understanding what constitutes competent, positive parenting of children from birth through adolescence; (b) to improve students' applied parenting and general relationship skills by acquiring a toolbox of practical, positive, and effective techniques for interacting with children and understanding why/how these parental behaviors benefit children; and (c) to improve students' social scientific research skills (i.e., improve their understanding of how knowledge is generated in the parent-child field as well as how to access, interpret, and discuss that knowledge).

Students in the FTF section met every Tuesday and Thursday, with lecture, discussion, and activities interspersed throughout both class periods. Students in the hybrid section viewed a video lecture and completed a mandatory video lecture guide (structured note-taking aid) in lieu of each Tuesday class, for a total of 14 videos. These videos were pre-recorded using the same presentation slides, lecture notes, and white board information used for previous FTF classes. For the recordings, a pressure-sensitive mat was used such that the instructor and presentation slides were captured by one camera, and the video switched to a second camera that captured the presenter and the white board when she stood on the mat. Thus, the two delivery modes were based on very similar lecture information and style, but there were two key differences. First, in the hybrid section, one "class period" was all lecture, and one was all discussion/activity, but in the FTF section each class intentionally included lecture, discussion, and activity. Second, in the FTF section the instructor was able to respond to student questions and anecdotes that arose during lecture, sometimes adjusting the schedule and sometimes reducing planned discussions when productive impromptu discussions arose.

Demographic information pertaining to students in each section appears in Table 1. During the first class period of each section, the research project was introduced. Participants were offered 5 extra credit points and were entered into a drawing for four $25 gift cards.

Table 1

Demographics by Delivery Mode (n = 35 FTF; n = 33 Hybrid)

Variables	FTF Group		Hybrid Group	
Gender	*n*	Percent	*n*	Percent
Male	2	5.71	1	3.03
Female	33	94.29	32	96.97
Race/Ethnicity	*n*	Percent	*n*	Percent
Black	3	8.57	5	15.15
White	32	91.43	23	69.70
Other			4	12.12
Year in School	*n*	Percent	*n*	Percent
Sophomore	1	2.86		
Junior	15	42.86	15	45.45
Senior	19	54.29	18	54.55
Major	*n*	Percent	*n*	Percent
Child and Family Studies (CFS)	15	43.86	13	39.39
Psychology	14	40	14	42.42
Other	6	17.14	6	18.18
Reason for Course	*n*	Percent	*n*	Percent
Counts towards CFS Major	18	51.43	13	39.39
Counts towards CFS Minor	13	37.14	12	36.36

Fulfills an Elective	4	11.43	6	18.18
Other			2	6.06

Interested students signed a statement of informed consent and completed the initial survey, which assessed (a) demographic data (gender, age, race, year in school, major, parental status, prior experience with children), (b) course disposition variables (reason for taking course, initial delivery mode preference, interest in course), and (c) initial assessments of course-related knowledge and course-related self-efficacy.

In the final week of the course, a follow-up survey was administered in class to participating students. The survey again assessed course-related knowledge and course-related self-efficacy, along with course quality, instruction quality, and quality of each of three forms of interaction: student-faculty, student-student, and student-content. The follow-up survey for the hybrid section also measured quality of student-technology interaction and provided an opportunity to respond to these open-ended questions:

1. What did you like best about the hybrid format for learning about family interaction?
2. What did you like least about the hybrid format for learning about family interaction?

Measures

Course related knowledge. Perceived course related knowledge was assessed with five items. Sample items included "I have a working knowledge of the major child development theories that provide a foundation for understanding what constitutes competent, positive parenting," and "I have a working knowledge of the major research-based parenting frameworks that provide a foundation for understanding what constitutes competent, positive parenting." Agreement with items was measured on a five-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Cronbach's alpha for the constructed scale was .82.

Course related self-efficacy. The three questions used to assess course related self-efficacy were adapted from York's (2008) measure. Questions asked students to rate how confident they felt about their ability to navigate, translate, and understand parenting related materials. One question asked: "How confident are you that, right now, you could locate, access, read, and understand scholarship related to parenting?" All responses were rated on a scale of four-point scale ranging from 1 (*not at all confident*) to 4 (*highly confident*). Cronbach's alpha for the constructed scale was .84.

Course quality. Perceived course quality was assessed using Abdous and Yen's (2010) eight-item measure of student satisfaction. Students rated their level of agreement with items such as: "Taking this course has been a valuable experience for me," and "The course has provided me with knowledge to work more effectively." Agreement with items was rated on a five-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Cronbach's alpha for the constructed scale was .96.

Instruction quality. Instruction quality was measured using nine items taken from the university's course evaluation system. Students were asked to rate the instructor's qualities such as "Effectiveness in teaching material," and "Capability as a discussion leader." Items were measured on a scale ranging from 0 (*poor*) to 5 (*excellent*). Cronbach's alpha for the constructed scale was .93.

Interaction quality. Quality of *faculty-student interaction* was assessed using six items adapted from Mullen and Tallent-Runnels' (2006) measure. Items asked students to report their agreement with statements such as: "The instructor of this course listens to students' viewpoints during discussions," and "The instructor of this course will answer or discuss students' questions about things other than class work." Agreement with items was rated on a five-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Cronbach's alpha for the constructed scale was .87.

Quality of *student-student interaction* was assessed using seven items adapted from Arbaugh's (2000) measure of learner perceived interaction with others. Items asked students to report their agreement with statements such as: "I learned more from my fellow students in this class than in other courses," and "Interacting with other students and the instructor became more natural as the course progressed." Agreement with items was rated on a five-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Cronbach's alpha for the constructed scale was .87.

Quality of *student-content interaction* was assessed using five items developed by the authors to be reflective of the content and structure of this course. Items asked students to report their agreement with statements such as "In this class, the lecture guides contributed to my skills and knowledge," and "In this class, assigned readings contributed to my skills and knowledge." Agreement with items was rated on a five-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Cronbach's alpha for the constructed scale was .76.

Students in the hybrid section also completed an eight-item measure of *student-technology interaction* adapted from Arbaugh's (2000) measure of learner-interface interaction. Sample items include "I am satisfied with my decision to take the hybrid section of this course," and "I found it easy to get the web-based learning system to do what I wanted it to do." Agreement was reported on a five-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Cronbach's alpha for the constructed scale was .87.

Student achievement. Student achievement was measured by (a) total course points and (b) total exam points. Course points consisted of three exams (65%), 14 reading reflections (25%), and two empirical article summaries and small-group presentations (10%).

Analyses

Factor analyses were performed to explore factor structure and to aid in scale construction of all multi-item constructs. Cross tabulations and t-tests were performed to (a) test for baseline differences for research question 1 and (b) compare student learner outcomes between hybrid and FTF class sections for research questions 2 and 3. To address research

question 4, descriptive statistics on hybrid students' perceived quality of student-technology interaction were provided. To address research question 5 the first author engaged in open coding (Moghaddam, 2006; Strauss & Corbin, 1998) of the qualitative responses, followed by axial coding "to reduce the number of codes and to collect them together in a way that shows a relationship among them" (Moghaddam).

Results

Results of factor analyses indicated that all proposed constructed scales were unidimensional (one Eigen value over 1.0), with all items demonstrating loadings over .40 and no cross-loadings over .30. With regard to baseline differences, hybrid and FTF groups did not differ significantly on gender, year in school, major, reason for taking course, initial delivery mode preference (hybrid versus FTF), parental status, prior experience with children, interest in course, initial perceived course-related knowledge, or initial perceived course-related self-efficacy. However, these groups significantly differed in race and ethnicity ($X^2(2, N = 68) = 5.19$, $p < .05$), GPA ($t(68) = 2.48$, $p < .05$), and age ($t(68) = 2.82$, $p < .05$), with the hybrid section reporting lower overall GPAs and consisting of older students and more students of color.

Results of the analyses to investigate delivery mode differences on student learner experiences and outcomes (research questions 2 and 3) are summarized in Table 2. Where significant delivery mode differences were found (course quality, instruction quality, course points, exam points, and both student-student and faculty-student interaction quality), they favored the FTF section. With regard to research question 4, hybrid students reported relatively high levels of satisfaction with the quality of interaction with the online interface (M = 4.02/5.00, SD = .85).

For research question 5, three themes emerged related to best-liked qualities of the hybrid delivery mode for studying family interactions: *work-life balance, structure and clarity,* and *time to reflect*. With regard to *work-life balance*, students mentioned, "It was nice that didn't need to work out babysitting for every class," "I didn't have to drive to campus for just one class," and I could fit my class time around the other things I needed to do." Students' comments also suggested they enjoyed the *structure and clarity* of the course: "It was nice to know that every time we had an in-person class it would be discussion and group work. In a regular class, you don't really know what you're going to do each day, but in this class, every Thursday was discussion day." Another student mentioned, "Everything was laid out with really clear deadlines and instructions. I mean, I suppose a regular class could be that way too, but when big parts are online, it really has to be that way, and I liked that." Lastly, many students indicated they preferred to have time to form their ideas before sharing them (*time to reflect*): "When I had to submit my reflection in writing, I had a chance to think things through. Sometimes when I say things in class, it's just the first thing that pops into my head and not what I really think. But being at home while posting my reflection, I found myself thinking about things more." Another student explained, "I don't participate much in regular classes because I can't think of what to say. I liked being able to pause the video and then have time to do things my way."

Students in the hybrid section also reported their least-liked features of that delivery mode. Three themes emerged following coding: *technology problems*, *multi-tasking*, and *having to wait*. Several student comments were related to *problems with technology* including, "I couldn't watch any of the videos from my apartment wifi," "It was hard to figure things out on Canvas [the university's learning management system]," and "Sometimes the videos didn't buffer right." Students also indicated that the ability to *multi-task* was both a blessing and a curse: "Well, I was my own worst enemy in this class. I know I should have just paid attention to the videos, but I did other things too, and then ended up thinking, 'what is she talking about?'"

Another student stated, "It's impossible to sit at home and pay attention to the video without doing other things. I think I would have paid more attention if I was in class." Lastly, students indicated they wanted to ask questions or offer comments or examples during the online classes and didn't like *having to wait* until the next in-person class session. One student explained, "I know we were supposed to write down questions and ask them later, but I never did that. If I were in class, I would have just asked." Another student stated, "I'd rather discuss as we go. During lecture I wanted to be able to ask the professor about things going on in my family, but by the discussion class period it didn't seem important and I didn't ask." Another wrote, "Sometimes in a discussion class, we had to go over everything again so we could remember what we are discussing."

Table 2

Student Learner Experiences and Outcomes by Delivery Mode (n = 35 FTF; n = 33 Hybrid)

	FTF Group		Hybrid Group			
Variables	*M*	*SD*	M	SD	*t(67)*	*p*
Perceived Course Knowledge	4.54	.08	4.53	.07	.07	NS
Course Self-Efficacy	3.38	.08	3.26	.09	.97	NS
Course Quality	4.57	.60	3.97	.94	3.10	< .05
Instruction Quality	5.63	.50	4.94	.95	3.73	< .001
Quality of Interaction: Student-Student	4.00	.45	3.68	.87	1.94	.10
Quality of Interaction: Faculty-Student	4.46	.46	3.94	.80	3.25	< .05
Quality of Interaction: Student-Content	4.34	.45	3.85	.80	3.04	< .05
Total Course Points	389.12	34.26	365.82	34.66	2.77	< .05
Total Exam Points	251.56	30.43	230.42	35.73	2.61	< .05

Discussion

Our goal was to explore student learner outcomes and experiences in family interaction classes delivered via two modes – hybrid and face-to-face (FTF). Although perceived knowledge, perceived course-related self-efficacy, and student-student interaction did not differ significantly between the two conditions, participants in the hybrid learning mode reported significantly worse experiences and outcomes relative to FTF participants on all other variables considered. This result, especially as it pertains to the achievement variables, is contrary to some past research (c.f. Borchard & Bozer, 2017; Owston & York, 2018) but in keeping with other findings (c.f. Cathorall et al., 2018). These findings may indicate that the hybrid approach is not as effective as FTF with this particular content. However, baseline differences (GPA, age, and minority status) between the two learning modes may be relevant in understanding the results. It could be that the findings related to student academic performance can be attributed to selection effect. This selection effect posits that students who are academically stronger are more likely to enroll in FTF courses than online or hybrid courses. Olson (2002) discussed this selection effect by saying that students who prefer online courses tend to perform more poorly in courses regardless of the modality of the class. It is also possible that the hybrid course was appealing to non-traditional (older) students due to reduced scheduling demands (Artino, 2010) and that these students may perform worse on average than traditional students do, given competing demands for their time.

Other possibilities, in addition to or instead of a selection effect, also exist. Considering qualitative and quantitative results together, some interesting patterns and possibilities emerge. It could be that the reduced achievement of the hybrid section students can be explained partly by their reported tendency to multi-task. Qualitative data suggest an interesting paradox related to this point. Students reported enjoying the enhanced flexibility and work-life balance opportunities provided by the hybrid delivery mode. This theme is similar to other reports of online course elements providing convenience and flexibility (El Mansour & Mupinga, 2007). However, students also reported their own inability to manage the responsibility that accompanied enhanced flexibility. One hybrid student's comment summed this up: "I didn't always really pay attention to the lectures like I should, but it was great!" Thus, one issue at the core of the success of hybrid and online courses, and the achievement of the enrolled students, may be students' abilities to be self-directed rather than other-directed learners.

It could also be that the technological challenges students reported contributed to their reduced performance in the hybrid section vis-à-vis the FTF section. Others have also reported on technological barriers to success in hybrid and online delivery modes (c.f. Vanhorn, Pearson, & Child, 2008). Many student comments seem rather minor on the surface (e.g., "Sometimes the videos didn't buffer right"), but other comments lend insight into feelings of frustration that may have been generated by technological difficulties occurring amidst students' otherwise busy lives. For example, one student stated, "It's nice that I didn't have to come to class all the time, but sometimes I would get home and think, Uggg … I don't want to have to figure out Canvas and YouTube access all over again." Although the actual course content was the same for both the hybrid and FTF sections, it is also possible that when students consider and report on their attitudes toward that content, they are considering the process through which they received the

content and technological challenges inherent in the process. This mechanism might explain the significantly lower student – content interaction scores for students in the hybrid section.

Students' reports of the quality of student – student interaction did not vary between hybrid and FTF course delivery modes. Perhaps students do not have a preference between interacting with each other several times across two class periods (in the FTF section) compared to interacting for most of one class period per week. Perhaps both options adequately meet students' needs. Additionally, while many hybrid courses offer opportunities for students to interact online (discussion boards, reflections based on prompts), this particular hybrid course did not offer such interaction. It may be that adding those interaction opportunities to the hybrid course would result in students giving that delivery mode an overall higher rating for student-to-student interaction than the FTF course.

Hybrid students rated the quality of faculty – student interaction lower in the hybrid section than in the FTF section. This may be driven by dosage, whereby simply spending more-time in-person with students yields more of a sense of availability and quality interaction with the instructor than being "present" in an online fashion does. However, Shea, Li, Swan, and Pickett (2005) discussed the construct of "teaching presence" (p. 59) and reviewed ways to infuse even the asynchronous aspects of a course with the presence of the instructor (e.g., facilitating discourse, summarizing, injecting knowledge from a variety of sources). The hybrid course reported on in this study did not focus on these aspects of teaching presence, but that is a recommendation for future courses. Also, students who provided qualitative comments that were coded as *having to wait* were likely dissatisfied with the lack of immediacy in their interaction with the instructor. Thus, instructors of hybrid courses may wish to build in opportunities for students to post questions and discuss issues with the instructor between FTF classes rather than only during the FTF class periods. It could be that requiring students to post online and interact with students and the instructor would, in the end, promote a more positive interaction experience.

Another interesting paradox stems from students' reports that they enjoyed having time to think things through and reflect, yet didn't want to have to wait to discuss things. Although it was not part of our coding plan, we responded to this paradox by revisiting the data and determined that no student made comments that received both codes. Students either commented that they liked having time to reflect before speaking or writing, or reported that they didn't like having to wait to talk (or neither). This could reflect differing personalities and/or learning styles. A hybrid course can accommodate both approaches by offering planned live chat sessions, by offering opportunities to reflect and then post comments, and also by offering in-class discussion after the related lecture.

Based on past research and results of the present study, we can offer preliminary recommendations for instructors who are moving family studies content online. First, develop a highly structured, well organized course shell on the online learning platform and do everything possible to provide easy access and clear guidance about technology. It may be helpful to develop practice modules designed solely to acquaint students with the technological aspects and requirements of the course. Second, recognize that a selection effect may mean that students who

enroll in an online class have even more competing demands than does the average student. Given this, it may be important to build in accountability elements so students must attend to the asynchronous course elements. These might include completion of mandatory lecture guides (structured note-taking aids) and slides that occasionally indicate key test information only visually (perhaps in a different color font) so students are rewarded for watching as well as listening consistently. Third, provide opportunities for various interactions (e.g., student – student, student – faculty) to foster relationships and community development. For example, incorporate a live chat element so students can contribute during or after video lecture; build in checking for understanding elements so the teaching presence can be preserved in the online setting. Establishing an online Student Q&A Board may also provide opportunities for students to interact with each other and for the instructor to address concerns and provide encouragement. Having students post reflections and comment on their peers' reflections may also enhance course interactions and contribute to development of new perspectives and learning.

Although hybrid courses offer flexibility, more research is needed to distinguish between potential selection effects and experience effects due to mode of course delivery. Future research should delve deeper into mechanisms that may be responsible for any delivery mode effect. With more information, we can begin to formulate a remediation plan including specific online teaching and learning elements that may mitigate potential mode of delivery experience and outcome differences for certain populations and allow institutional benefits of hybrid courses to be realized without sacrificing student learning or experience. It is also important to continue investigating course delivery options in the field of human development and family studies, since the interdisciplinary, highly applied nature of the material may pose challenges for online course delivery.

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