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Understanding the Role of the Brick-and-Mortar Classroom in Course Design and Implementation of the "Flipped" Classroom: An Exploratory Case Study

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Abstract: This article presents the results of a 2-year exploratory case study on the impact of the "flipped" classroom design on generalist and advanced-practice social work skills in a large urban graduate university setting and looks at the role physical space plays in student perceptions of learning outcomes. Quantitative data were obtained with the Practice Skills Inventory (PSI) and the Play Therapy Attitudes, Knowledge and Skills Survey (PTAKSS). Participants provided qualitative data in the form of weekly reflection journals and evaluations of class activities. A mixed-methods analysis revealed statistically significant improvement in overall general practice skills and in specific play therapy clinical skills. Student-generated feedback on the physical learning environment as well as instructor workload and preparatory requirements are discussed.

Keywords: flipped classroom, active learning, social work, advanced practice skills

Introduction

This article presents the results of a 2-year exploratory case study on the impact of the "flipped" classroom design on generalist and advanced-practice social work skills in a large urban graduate university setting and looks at the role physical space plays in student perceptions of learning outcomes. A flipped classroom is one in which independent and autonomous learning by the student takes place outside the classroom, and group-focused experiential, inquiry-based or active learning takes place within live classroom sessions in the physical classroom (Abeysekara & Dawson, 2015; Bishop & Verleker, 2013; Brame, 2013; McNally et al., 2017). In an advanced clinical skills course, an active-learning strategy was employed through student-led engagement in expressive arts, group work, and play therapy in real time while readings and lectures took place outside of the classroom setting. For a mixed-methods analysis, quantitative data on both generalist and advanced clinical skills were obtained with the Practice Skills Inventory (PSI) and the Play Therapy Attitudes, Knowledge and Skills Survey (PTAKSS), respectively, before and after course execution. Qualitative data were obtained from students who completed weekly reflection journals and evaluations of class activities, which were assessed according to Council on Social Work Education Educational Policy and Accreditation Standards to measure learning outcomes. Students' feedback on the physical learning environment, instructor workload demands, and required preparatory work are also discussed. This study is the first to use the PTAKSS and PSI to measure the outcome of play therapy classes for master's of social work (MSW) students and to specifically measure the effectiveness of the flipped classroom model in teaching play therapy skills. Also examined are expected and unexpected limitations of the space, expansion of the classroom through digital platforms, inclusion of differently abled students in the flipped laboratory space, and recommendations for future research and iterations of the course. This

study shows promising outcomes for the use of the flipped model as a way of delivering practice content to students and explores the role and specific impact that weekly sessions in the physical learning environment have on student outcomes.

Literature Review

The Flipped Classroom

Research related to the impact the flipped classroom can have on student learning outcomes and student perceptions of learning is rapidly accumulating, but analysis of the physical space and of the active time spent learning in the classroom remains a significant gap. There is extremely limited research on the role that physical space plays in the learning experience and concrete skill development of students in higher education overall (Nordquist & Laing, 2014) and it is almost impossible to find studies that look at how combining physical and virtual spaces can enhance learning. As students move toward more virtually based classroom learning, questions arise about the role of brick-and-mortar learning spaces. This exploratory case study sought to reveal the skill development and experiences of students who moved from lecture-based learning in the classroom to virtual learning online while classroom time became dedicated to building action-based, experiential skills. Would active-learning strategies in a flipped classroom setting strengthen clinical skills if the theoretical learning was learned in an asynchronous virtual space? This study addressed the role that active learning in real time can play in students' clinical skill development and the impact that the way physical space is used, particularly in this type of learning, can have on the students' experience.

The genesis of this study was student feedback, as the first iteration of this course was taught in a traditional lecture format, with students sitting behind long tables, shaped in a U in front of a whiteboard. Informal evaluations distributed by the instructor and formal institutional course evaluations reflected themes of boredom with the lecture-based format and a lack of confidence in using skills in practice that students had only seen in a video or read about, as well as the universal request to build in time to learn the skills and activities in real time. The primary instructor began researching more action-oriented teaching methods and discovered flipped classroom pedagogy as a growing evidenced-based method to address such student concerns. The need to consider the role physical space plays in the flipped classroom quickly became apparent during the implementation of this study, a point supported by the study of Baepler, Walker, and Driessen (2014).

Within the context of the flipped classroom, the traditional lecture is moved into a technology-based realm and the physical classroom is used for student-led learning or action-based skills work. Typically, the flipped classroom is chosen as a pedagogical method (a) to improve student engagement with course materials and theories, and (b) to promote active learning (Bishop & Verleger, 2013; Blair, Maharaj, & Primus, 2016; McNally et al., 2017). While this model focuses on moving learning from a lecture-based to an asynchronous, student-driven method, there is an unspoken need to consider including in the instructional design a physical space in which the learning is active and skills based, to support the successful execution of the course.

Historically, the flipped classroom has been used in medical and nursing programs to deepen the students' learning experience with the course material (Gillette et al., 2018). Technology is always the core pedagogical focus, particularly as a method of delivering the majority of course content as lectures to be absorbed outside of class time, usually through a video recording posted on an online platform by the professor. The physical classroom space becomes focused on action-oriented engagement, often in the form of skills-based, lab-oriented activities. With the primary focus on "student-owned" learning, students log on during the week between course sessions to watch the video, view course readings, and, customarily, complete a quiz as a measure of their grasp of the week's

material (Hamden, McKnight, McKnight, & Arfstrom, 2013; Sengel, 2016). The student is responsible for grasping the theory presented in the lecture, while the instructor is responsible for building the action-oriented experiences that take place in the classroom. Heijstra and Siguroardottir (2018) found that the more frequently students actually watched the video-recorded lecture, the more likely they were to have higher grades and greater learning outcomes at the end of the semester.

The flexibility of learning offered by a flipped classroom is reportedly one of the method's strengths. Studies have found improved student-reported satisfaction regarding student-centered learning (Baepler et al., 2014; Hao, 2016) and increased student self-sufficiency and motivation (Aşiksoy & Özdamli, 2016). The role of the instructor in this setting becomes transformed from "expert teacher" to guide and facilitator of knowledge (Sun, 2017; Wilson, 2013).

The Role of the Physical Classroom in Flipped Learning

Historically, physical learning spaces have reflected how an institution expresses its values regarding learning and teaching (Nordquist & Laing, 2014; Oblinger, 2006). However, this has been drastically altered by the powerful role technology plays in today's classroom. Current trends in higher education indicate economic and enrollment challenges are making building space, classroom availability, and increased class size significant issues (Roach, 2014). There is a growing need to prepare students outside the physical classroom to function in a technology-mediated world (Baepler et al., 2014; Stockert & Stoica, 2018), but little research has been done on the role of the balance between virtual and on-site learning and the impact of the physical space on active learning.

Traditional classrooms, set in a lecture-based format, often require that students sit in their seats for the majority, if not the entirety of class time. Active-learning classrooms (ALCs), the hallmark of the flipped model with their focus on small-group work, have been found to increase peer collaboration and the efficient use of physical space, even when student–faculty contact is reduced. ALCs may find students moving around, sitting on the floor, or engaging in small-group breakouts for student-led learning (Sun, 2017). Even when actual classroom time is reduced, student learning outcomes have been found to be comparable to, or better than, outcomes in a traditional classroom format, and student perceptions of their learning experience significantly improved (Baepler et al., 2014).

We hypothesized that using the physical classroom as a place for students to move around as they fully participate in creative expressions and art therapy projects, engage in play therapy and activity-based therapeutic games, replicate child-oriented group therapy, and model family therapy sessions would deepen students' relationships with the material, resulting in both a greater understanding of the theory behind the clinical choices and an increased willingness to undertake these techniques with actual clients.

However, there are some clear drawbacks to this method of course delivery for both faculty and students. Faculty typically struggle to manage the technology needed to prepare for the course (Sengel, 2016) and with the amount of time required for a flipped class. In fact, ideally for this exploratory study, this class would have been concurrently compared with the same course taught by a different instructor in the same flipped format. However, no other instructors were willing to flip the classroom in this way, in part, because of the level of presemester and preclass session preparation required, and thus it is a significant limitation of this work. To accommodate this unexpected challenge, we adopted a case study format, and a mixed-methods approach was added to strengthen the validity and reliability of the results.

Research indicates that not only faculty but also students struggle with the considerable amount of outside classroom time and the changes in study habits required for classroom preparation (Chen, Wang, Kinshuk, & Chen, 2014; Gillette et al., 2018). Some students, with increased autonomy

and self-directed learning, have been found to spend less time reading the assigned textbook, or they report wanting more guidance from the instructor and less individual responsibility for learning (Sun, 2017). However, overall longitudinal outcomes regarding self-directed learning in the flipped classroom are only now appearing in current research literature.

Experiential Learning to Teach Generalist Practice and Advanced Play Therapy Skills

The field of social work typically relies on the field practicum model to teach generalist social work practice skills at the bachelor's and master's level, with skill review taking place during a weekly seminar class and feedback provided at the end of the semester through a supervisory evaluation. Historically, teaching play therapy skills, the advanced practice skills taught in this case study course, has included a strong focus on the experiential process, although little research has been conducted on what quantifies effective play therapy instruction, and none of these articles specifically focuses on the setting of the instruction (Lindo et al., 2016, Mullen, Luke, & Drewes, 2007). A limited number of graduate training programs concentrate exclusively on play therapy, but prior research has shown that general hands-on play therapy experience in the classroom can improve students' attitudes, skills, and knowledge about play therapy (Kao & Landreth, 2007; Periera & Smith-Adcock, 2015).

The PSI

The PSI was developed in response to the lack of psychometric instruments that could gather operationalized data on how to measure actual social work practice. "Social work practice skills" is used as an umbrella term to cover all intentional interaction or exchange between clients and clinicians that moves clients toward achieving their intervention goals (O'Hare, Tran & Collins, 2002). The PSI was developed specifically to examine the frequency with which certain intentional practice skills are used to help a client move toward growth and healing (O'Hare et al., 2002). O'Hare and Collins (1997) conducted an exploratory factor analysis with nearly 300 MSW students who were later compared with a cohort of experienced practicing social workers, revealing four factors: supportive, therapeutic, case management, and evaluation skills (O'Hare, Tran & Collins, 2002). The inventory, however, has not been widely tested within social work research settings. The PSI was chosen for this study to capture the experience of students who were in field work and using clinical practice skills but may not have been placed in settings where play therapy was appropriate. This is the first study in which the PSI was used to gain greater knowledge about the use of the flipped classroom.

The PTAKSS and Mixed-Methods Play Therapy

Research in the late 1990s demonstrated that most play therapy practitioners had little to no specific training in play therapy yet were referring to themselves as play therapists and engaging in direct play therapy practice (Kao & Landreth, 1997). As a result, Kao and Landreth (1997) developed a curriculum to train graduate counseling students in child-centered play therapy (CCPT) with a related measurement scale, the PTAKSS. The instrument was designed to measure the respondent's beliefs and patterns of interaction in CCPT and their knowledge of CCPT and to assess their confidence in their play therapy skills (Crane & Brown, 2003). After being used in Taiwan to study play therapy, the PTAKSS was updated in 2007, resulting in a reduced number of items to enhance construct clarity (Kao & Chang, 2007; Muro et al., 2015. This revision was shown to have high internal consistency (α = .95) and solid split-half reliability (r ¼ = .76), with three factors revealed in the factor analysis, accounting for 47.6% of variance of the scale scores (Kao & Landreth, 2007; Lindo et al., 2016.

The PTAKSS has been used to study play therapy coursework with both undergraduate and graduate counseling students (Carnes-Holt & Weatherford, 2013; Homeyer & Rae, 1998; Kagan & Landreth, 2009; Lindo et al., 2016 Pereira & Smith-Adcock, 2013). Past studies have examined short-term models, such as a single 12- to 15-hour training (Pereria & Smith-Adcock, 2013) and a 3-day workshop (Bratton, Landreth, & Homeyer, 1993), while others have looked at semester-long courses, such as Lindo et al. (2016), who used the PTAKSS to measure the impact of an introductory play therapy class for counseling master's students. Lindo et al. (2016) found that posttest scores were significantly higher on all three subscales of the measure and then used structured interviews to gain a qualitative understanding of the students' experience in the class. Muro et al. (2015) used the PTAKSS at intervals to track changes in counseling graduate students before and after a play therapy training class. Measurement points were once before the class (pretest), once after the class (first posttest), and once after an in vivo play therapy experience (second posttest). Students' scores were significantly different between the pretest and the first posttest in all three subscales. In the second posttest, there were significant changes in the students' scores in the knowledge and attitudes subscales (Muro et al., 2015).

While these studies have provided the play therapy training field with valuable information on different pedagogical methods for play therapy, there are still many gaps in the literature. This study is the first to use the PTAKSS to measure the outcome of play therapy classes for MSW students and to specifically measure the effectiveness of the flipped classroom model for teaching play therapy skills (Counselman-Carpenter, 2018).

Methods

Data Collection

This study was approved by the Columbia University's Institutional Review Board. A research assistant collected the participant consent forms and pre- and post-assessment instruments in order to protect participant confidentiality. Participants were assigned unique anonymous ID numbers that were created for the study. To prevent grade bias, participants were anonymous to the professor teaching the play therapy course. No incentives were provided to participants to fill out the quantitative measures. Journals were collected weekly, but in order to prevent grading bias, reflection journals, course evaluations, and email surveys were assessed after the conclusion of the course and the final submission of grades.

Participants and Sampling

Over a 2-year period, all students (n = 46) in a master's level advanced clinical social work course were invited to participate in this study. Purposive sampling was used to recruit participants with some interest in clinical practice and a particular curiosity about play therapy who were willing to receive the flipped classroom intervention. There were 32 participants who agreed to participate in the study over 2 years, although only 26 participants completed all required measures (15 participants in 2017 and 11 in 2018). Participants (25 female, 1 male) had an average age of 26.2 years, and just over 40% (n = 11) had previously taken at least one course in play therapy. The majority of participants (n = 24) were master's level students, and a majority (73%) had no professional clinical experience prior to taking this class.

Measures

Qualitative data was gathered through weekly reflection journals that were submitted through the course's learning management system (Canvas), through a pre-class email survey sent out at the conclusion of the first class and at the conclusion of the last class, and through the final course evaluation which is completed during the final class. The instructor also kept a reflexive journal throughout the semester, following every class, which indicated successes and challenges with the space, the student's level of engagement with the activity and responses to any media shared in class.

The PSI is a validated measure with 18 items for evaluating and assessing patterns of practice skill utilization (O'Hare, Collins, & Walsh, 1998). The PSI has four factors with good internal consistency: support skills (α = .86; 5 items), therapeutic skills (α = .81; 5 items), case management skills (α = .81; 5 items), and insight skills (α = .80; 4 items). For our sample, there was excellent internal consistency for the pretest (α = .94) and good internal consistency for the posttest (α = .88). Responses were made on a 5-point Likert scale of 0 (*no emphasis*) to 4 (*strong emphasis*) with a minimum score of 0 and maximum of 72.

The PTAKSS is a 63-item, self-administered scale with three factors and high internal consistency (α = .95; Kao & Landreth, 1997). The PTAKSS employs a 5-point Likert scale of 1 (*strongly disagree*) to 5 (*strongly agree*), producing a minimum score of 63 and a maximum score of 315. For our sample, there was excellent internal consistency for the pretest (α = .97) and posttest (α = .93). The attitude subscale (23 items) assesses essential beliefs and interaction patterns a child-centered play therapist should hold. The knowledge subscale (18 items) assesses knowledge of play therapy regarding specific terms, playroom processes, and types of play therapy. The skills subscale (22 items) assesses the degree of confidence or perception of skill when using play therapy (Kao & Landreth, 1997).

Intervention: The Flipped Classroom Course Design

Course Design

This particular elective course, Advanced Clinical Practice with Children and Families, is taken in the first semester of the master's student's second year. In the original version of this course, students indicated in discussion, course evaluations, and instructor feedback forms that they needed more time to practice actual clinical skills, as they felt they were not receiving this guidance in their field practicum and felt significant personal discomfort with trying a clinical intervention in a client session without having practiced it first. Students who took this course had the option of enrolling in one of three offered sections, of which one was the flipped classroom.

Before attending their weekly class in a brick-and-mortar setting, students were expected to watch the prerecorded lecture produced by the instructor in Camtasia (lecture-capture software), read assigned readings, and complete a quiz based on the content of both lecture and readings. Lectures and quizzes were recorded in various locations throughout the community, including play therapy spaces, music rooms, and traditional offices, and the videos were hosted on the class Canvas site (learning management system). The weekly in-class section of the course was 1 h, 50 min long and was devoted to a hands-on skills laboratory in which students practiced individual, group, and family play and expressive arts therapy skills as well as generalist group work skills. The Center for Teaching and Learning (supported by a Provost's grant for re-development of this course), was active in training and supporting the instructor's technology needs for executing the flipped aspect of the course.

To support the active learning classroom pedagogy, the instructor requested the following from the facilities team:

- A large room with tables on one side that were easy to move and open floor space on the other. The long tables were to be used for expressive arts techniques and board game play while the open space was to be used for team-building organizational exercises, group work, sand tray training, and kinesthetic group exercises.
- Free-standing chairs so that they could be stacked when the full space was needed and individual/group movement could be maximized. More space in the classroom was also intended to accommodate students with physical needs who used adaptive tools to enhance their movement.
- Closet space for easy transition from storage for laboratory-based supplies.

Data Analysis

Quantitative analysis. SPSS was used to complete descriptive statistics and quantitative analysis and compute Cronbach's alpha for internal consistency. A repeated-measures analysis of variance was completed to determine if there was a significant difference in participant knowledge prior to and after the course intervention for the total scale and the three subscales. Scatter plots and boxplots were used to check for outliers and regularity of the results.

Qualitative analysis. This analysis followed a two-stage approach. During the first stage, a general inductive approach (Thomas, 2006) was used to analyze data from course evaluations, pre- and postclass email surveys, and weekly reflection journals designed to connect the laboratory activity in the physical classroom to the Council on Social Work Education Educational Policy and Accreditation Standards. In this case, the general inductive approach was used to condense the raw data into a clear summary that connected the overarching goals of the project, allowing the findings to be summarized in a transparent manner (Miles & Huberman, 1994; Thomas, 2006). This mixed-method framework with a grounded theory approach (Strauss & Corbin, 1994) allowed us to look at themes crossing all points of data collection, particularly those related to the physical space in the classroom and learning outcomes promoted by the flipped classroom, and to compare pre- and posttest generalist and advanced play therapy skills.

The second stage utilized concurrent triangulation (Creswell & Plano-Clark, 2017), which explores qualitative and quantitative data equally and allows for a comparison of the two types of data once the quantitative data analysis is complete. Similarities and differences between the two types of data can then be identified (Creswell, 2013). This second stage involved remining the data and the themes to compare the qualitative themes with the outcome data that demonstrated statistical significance and the data that did not. To manage validity regarding replication of themes, a graduate student assistant who had not participated in the study also mined the data for themes, which were then compared to the themes identified by the research team.

Results

Quantitative Results

PSI. We found a statistically significant increase between pretest and posttest in the total PSI (Table 1) for both years combined, $F(1, 24) = 13.3$; $p < .001$, $n = 26$ (pretest: $M = 46.23$, $SD = 14.52$; posttest: $M = 54.69$, $SD = 9.60$), with a large effect size ($\eta^2 = .36$; power = .49). The interaction of PSI Total × Year was also significant, $F(1, 24) = 6.3$; $p < .019$, with a large effect size ($\eta^2 = .21$; power = .68; Table 1). Partial η^2 has a small effect size at .01, medium at .06, and large at .14.

Table 1. Factorial repeated-measures analysis of variance of the Practice Skills Inventory (PSI) total scale

Source	*MS*	*df*	*F*	*p*
PSI total	1,137.46	1	13.3	<.001
Year	304.27	1	1.56	.223
PSI Total × Year	541.76	1	6.3	.019
Error	7.77	24		

The PSI total score for the 2 years combined increased from pretest to posttest by 20% but the standard deviation was reduced by over 30% (Table 2). A reduction in standard deviation for the posttest can be interpreted to mean that the data are "tighter" or participant responses were more similar to each other than during the pretest. Upon completing the course, participants showed significant improvement and were more consistent with each other in practice skills when compared to their preclass assessments.

Table 2. Practice Skills Inventory total scale descriptive statistics

Year	Pretest			Posttest		
	N	*M*	*SD*	*N*	*M*	*SD*
2017	15	51.07	11.49	15	54.00	9.54
2018	11	39.64	16.10	11	55.64	10.07
Both years	26	46.23	14.52	26	54.69	9.60

The PSI subscales are support, insight, therapeutic, and case management skills and all showed significant gains after the course intervention. For the PSI support subscale (Table 3), we found a significant increase from pretest to posttest for both years combined, $F(1, 24) = 4.2$; $p = .05$, $n = 26$ (pretest: $M = 12.00$, $SD = 3.48$; posttest: $M = 13.50$, $SD = 2.08$), with a large effect size ($\eta^2 = .15$; power = .51). The interaction of PSI Support × Year was not significant. Unless noted, sphericity was met since the time factor was 2 years, so no adjustments for the *F* statistic were used.

Table 3. Factorial repeated-measures analysis of variance of the Practice Skills Inventory (PSI) support subscale

Source	*MS*	*df*	*F*	*p*
PSI support	32.616	1	4.196	.05
Year	0.020	1	0.002	.963
PSI Support × Year	5.692	1	0.732	.732
Error	7.73	24		

For the PSI insight subscale (Table 4), we found a statistically significant increase from pretest to posttest for both years combined, $F(1, 24) = 8.3$; $p = .008$, $n = 26$ (pretest: $M = 10.00$, $SD = 4.00$; posttest: $M = 12.23$, $SD = 2.58$) with a large effect size ($\eta^2 = .26$; power = .52). The interaction of PSI Insight × Year was not significant.

Table 4. Factorial repeated-measures analysis of variance of the Practice Skills Inventory (PSI) insight subscale

Source	*MS*	*df*	*F*	*p*
PSI insight	78.751	1	8.289	.008
Year	16.653	1	1.399	.248
PSI Insight × Year	36.290	1	3.820	.062
Error	9.501	24		

For the PSI therapeutic subscale (Table 5), we found a statistically significant increase from pretest to posttest for both years combined, $F(1, 24) = 10.8$; $p = .003$, $n = 26$ (pretest: $M = 11.65$, $SD = 5.26$; posttest: $M = 14.65$, $SD = 3.52$) with a large effect size ($\eta^2 = .31$; power = .51). The interaction of PSI Therapeutic × Year was also significant, $F(1, 24) = 4.1$; $p = .053$, with a large effect size ($\eta^2 = .15$; power = .52).

Table 5. Factorial repeated-measures analysis of variance of the Practice Skills Inventory (PSI) therapeutic subscale

Source	*MS*	*df*	*F*	*p*
PSI therapeutic	139.491	1	10.843	.003
Year	54.848	1	2.250	.147
PSI Therapeutic × Year	53.261	1	4.140	.053
Error	12.864	24		

For the PSI case management subscale (Table 6), we found a significant increase from pretest to posttest for both years combined, $F(1, 24) = 6.3$; $p = .019$, $n = 26$ (pretest: $M = 12.58$, $SD = 4.43$; posttest: $M = 14.31$, $SD = 4.55$), with a large effect size ($\eta^2 = .21$; power = .51). The interaction of PSI Case Management × Year was also significant, $F(1, 24) = 6.7$; $p = .016$, with a large effect size ($\eta^2 = .21$; power = .49). Participants did make significant gains in case management skills from pretest to posttest.

Table 6. Factorial repeated-measures analysis of variance of the Practice Skills Inventory (PSI) case management subscale

Source	*MS*	*df*	*F*	*p*
PSI case management	53.734	1	6.282	.019
Year	37.206	1	1.261	.273
PSI Case Management × Year	57.273	1	6.696	.016
Error	8.554	24		

PTAKSS. We found a statistically significant increase in the PTAKSS total score (Table 7) from pretest to posttest for both years combined, $F(1, 24) = 73.13$; $p < .001$, $n = 26$ (pretest: $M = 212.85$, $SD = 34.58$; posttest: $M = 264.54$, $SD = 18.24$) with a large effect size ($\eta^2 = .75$; power = .99). The interaction of PTAKSS × Year was not significant.

Table 7. Factorial repeated-measures analysis of variance of the Play Therapy Attitudes, Knowledge and Skills Survey (PTAKSS) total score

Source	*MS*	*df*	*F*	*p*
PTAKSS total	34,817.792	1	73.126	<.001
Year	211.156	1	0.192	.665
PTAKSS Total × Year	250.484	1	0.526	.475
Error	476.137	24		

The PTAKSS total scores for the 2 years combined increased from pretest to posttest by 25% but the standard deviation was reduced by 53% (Table 8). Participants had a statistically significant gain and were more consistent with each other in their PTAKSS total scores at posttest when compared to the pretest at the beginning of class.

Table 8. Play Therapy Attitudes, Knowledge and Skills Survey descriptive statistics

Year	Pretest			Posttest		
	N	*M*	*SD*	*N*	*M*	*SD*
2017	15	213.00	33.90	15	260.93	19.59
2018	11	212.64	37.16	11	269.45	15.77
Both years	26	212.85	34.58	26	264.54	18.24

For the PTAKSS attitude subscale (Table 9), there was no statistically significant increase from pretest to posttest for both years combined, $F(1, 24) = 3.6$; $p = .07$ $n = 26$ (pretest: $M = 98.77$, $SD = 6.17$; posttest: $M = 100.96$, $SD = 5.60$), and the interaction of PTAKSS Attitude × Year was not significant.

Table 9. Factorial repeated-measures analysis of variance of the Play Therapy Attitudes, Knowledge and Skills Survey (PTAKSS) attitude subscale

Source	*MS*	*df*	*F*	*p*
PTAKSS attitude	55.008	1	3.573	.071
Year	31.394	1	0.567	.459
PTAKSS Attitude × Year	6.547	1	6.547	.521
Error	15.395	24		

For the PTAKSS knowledge subscale (Table 10), we found a statistically significant increase from pretest to posttest for both years combined, $F(1, 24) = 76.10$; $p < .001$, $n = 26$ (pretest: $M = 50.81$, $SD = 14.91$; posttest: $M = 74.54$, $SD = 8.59$) with a large effect size ($\eta^2 = .76$; power = 1.00). The interaction of PTAKSS Knowledge × Year was not significant.

Table 10. Factorial repeated-measures analysis of variance of the Play Therapy Attitudes, Knowledge and Skills Survey (PTAKSS) knowledge subscale

Source	*MS*	*df*	*F*	*p*
PTAKSS knowledge	7375.527	1	76.101	<0.001
Year	50.003	1	50.003	0.627
PTAKSS Knowledge × Year	75.527	1	75.527	0.386

Source	*MS*	*df*	*F*	*p*
Error	96.918	24		

Finally, for the PTAKSS skills subscale (Table 11), we found a statistically significant increase from pretest to posttest for both years combined, $F(1, 24) = 66.1$; $p < .001$, $n = 26$ (pretest: $M = 55.12$, SD=14.60; posttest: $M = 76.81$, $SD = 6.74$) with a large effect size ($\eta^2 = .73$; power = .99). The interaction of PTAKSS Skills × Year was not significant.

Table 11. Factorial repeated-measures analysis of variance of the Play Therapy Attitudes, Knowledge and Skills Survey (PTAKSS) skills subscale

Source	*MS*	*df*	*F*	*p*
PTAKSS skills	6170.184	1	66.087	<.001
Year	6.166	1	0.036	.852
PTAKSS Skills × Year	68.030	1	0.729	.402
Error	93.364	24		

After the course intervention, participants made significant gains in total scores and in two of the three subscales: knowledge and skills but not attitude. Attitude had the smallest growth while knowledge had the most significant increase (Table 12).

Table 12. Play Therapy Attitudes, Knowledge and Skills Survey (PTAKSS) descriptive statistics for all subscales

Year	Pretest			Posttest		
	N	*M*	*SD*	*N*	*M*	*SD*
PTAKSS attitude						
2017	15	97.80	7.16	15	100.60	5.30
2018	11	100.09	4.46	11	101.45	6.22
Both years	26	98.77	6.17	26	100.96	5.60
PTAKSS knowledge						
2017	15	51.00	14.71	15	72.67	9.44
2018	11	50.55	15.91	11	77.09	6.86
Both years	26	50.81	14.91	26	74.54	8.59
PTAKSS skills						
2017	15	55.80	13.97	15	75.53	6.93
2018	11	54.18	16.06	11	78.55	3.78
Both years	26	55.12	14.60	26	76.81	6.74

Qualitative Findings

To maximize the number of responses and to control for the limited number of respondents, multiple qualitative data points were used to gather as much as possible of the students' feedback on their learning in the flipped classroom environment, with a specific focus on how they thought the physical space informed their learning and themes related to generalist practice skills, as measured in the PSI, and play therapy knowledge, attitudes, and skills, as measured in the PTAKSS. The three main themes generated from the data were (a) *classroom environment*, that is, the impact on the student of engaging with the materials in the physical classroom with active learning, (b) *generalist skills*, that is, perceptions of and reflections on generalist skills in the class and subsequently with clients, and (c) *play therapy skills*, that is, perceptions of and reflection on skills specific to play therapy, particularly with clients.

Classroom environment. All 26 respondents compared the physical space to the virtual classroom and considered the impact it had on their learning experience. Subthemes related to experiential learning included (a) heightened emotional reactivity to peers due to the intensity of the experiential tasks in the physical space, (b) reflections on group dynamics, particularly the need for more group discussion/process time in the physical space, and (c) increased awareness of the relationship between the space and students with different physical abilities.

General responses to experiential learning in the physical classroom. All 26 students (i.e., all participants across both years) reported higher levels of peer interaction across the semester, and all but one student commented on appreciating the experiential time in the space as a way of interacting more deeply with course material. The outlier missed having lectures in the classroom:

> ...since we as students have to watch modules and do part of the class outside of it I wish we had possibly gotten another [section] for this course...since I specifically did not sign up for an online course and that felt like what I got.

More positive responses to the flipped classroom model included, "I liked getting to practice the techniques we learned in class...[it] was extremely helpful in developing my skills" and:

> I really enjoyed the in class "lab" work we did. It was a really great learning experience and I feel more adept in actually using some of the intervention methods and practices we learned about and discussed in class because we also got to practice engaging in some of them with each other.

Another respondent stated "it is always difficult to imagine [the activity] so I really appreciate learning exactly what to do."

Heightened emotions. The physicality of trying all the interventions with the clinical tools and supplies had a clear impact on the participants. All respondents commented on the visceral reactions they had while trying the exercises, whether they were positive or negative. Students mostly shared this in their reflection journals, recording how particular feelings came up as they experienced each exercise in the physical classroom after reading about it. Typically these were identified as (a) feelings of frustration, (b) feelings of fear, or (c) feelings of surprise related to the intensity of their emotion. As students got more into the semester, active-learning activities were scaffolded, that is, they built on prior activities in terms of complexity, particularly therapeutic complexity, or in the types of coping skills that the activity was meant to address. As the weeks progressed, lab sessions got more physically and emotionally demanding and students reported deeper and stronger reactions to the exercises. For the more intimate activities, more than half the students reported fear of sharing

something personal with the class. In reaction to struggling with the clinical materials, a student said, "...I found [puppet play] to be particularly difficult. As a kid, I was creative, but as an adult, I notice I've lost those skills. I really had no idea how to play. I felt extremely uncomfortable." One student stated in response to a Week 13 activity entitled "Fear in a Bowl,"

> Not knowing whether the fears were going to be read aloud or not, I felt apprehensive about sharing something so personal about myself. I felt exposed, making an extra effort to ensure anonymity: I looked around to see how others were folding their pieces of paper, and made sure mine looked similar.

Another student shared:

> When I was the client, it was overwhelming to pick the miniatures. Everything was put away [by others] chaotically, so it makes me feel out of order, out of control and not so decent. The process of creating the scene was relaxing. I felt a bit sad when it was time to end the class and I had to put the miniatures back.

Group dynamics. Comments related to having to negotiate shared space with their peers also appears as a universal theme through both years, with a particular emphasis on the presence or absence of peer collaboration and how they were confronted with group dynamics because they had to negotiate the shared space. One particular activity, in which the students had to organize themselves in order throughout the room without speaking, provoked strong responses in two-thirds of the reflection journals:

> I had never engaged in an activity like the Zoom exercise, and while I enjoyed it, I also felt like it was fairly anxiety inducing in me at first. I enjoy doing group work and working together, and I think because I am someone who gets overwhelmed and anxious with activities like this, having the group as a support system was nice.

Creating masks also provoked a lot of responses. One respondent reflected, "while everyone was mostly focused on their own work, there were lots of conversations happening across the tables...comparing our work to each other's, exchanging ideas, doubts and insecurities. It was in a way validating."

Increased awareness of students with mobility differences. A few respondents shared how actual experiencing the activities made them aware of the students with mobility challenges as they had to negotiate the space in a different way. Nearly one-fourth of the responses reflected an increased awareness about the adaptability of exercises for those with different physical abilities. One student wrote, "The activity however, may have been restricting to people that have physical limitations that make it difficult to manage the room" while another student stated:

> I noticed one of our classmates had some physical challenges in finishing her paper chain by themselves due to their physical condition. It led me to wonder how children with disabilities would do in group therapy or with art therapy and I don't yet have an answer.

Generalist skills. Support, insight, therapeutic, and case management skills (PSI). The PSI is designed to measure the social worker's therapeutic support and case management skills. All of the action-based activities that took place in real time focused on teaching therapeutic and/or support

skills. Case management skills relating to play, group, and family therapy were mostly reviewed in the course readings and lecture videos and were touched upon in the classroom when reviewing the directives for the activity and through the adaptation of the exercises to various settings such as schools, homes, and hospitals. All respondents who completed the qualitative measures reported increased confidence with therapeutic interventions and both personal/client coping nearly every week, but case management skills were mentioned only minimally. One student commented on the emotional skills being strengthened: "...today's class showed the value in experiential learning. I connected with the activity in a different way than had...just been demonstrated. My understanding was deeper and I was able to come up with process questions." Another student commented on the concrete experience, "I think this exercise helped shape my practice because it helped me to tolerate some of the messiness that occurs in art and play therapy."

Over half the respondents across both years commented multiple times throughout the semester specifically on how the activity helped them cope with their own stress as well as how it might help a client cope better with challenges. Students particularly identified the drawing activities, which were embedded in over half of the experiential lab activities, as "cathartic," "soothing," and "peaceful."

Play therapy skills (PTAKSS). Qualitative themes supported the findings of improved skills in and knowledge of play therapy throughout this class. Students completed 9 weeks of experiential play therapy labs in this particular course, and respondents universally reported personal improvement with skills related to play therapy and improved confidence in using play therapy skills in practice. Over half reported trying at least one activity they had learned during the experiential class times and all but one reported success with trying it after the more in-depth training. One respondent wrote:

> This class is by far the best class I have taken... thus far—I have learnt so many applicable skills that I can use in practice, and I feel as if my social worker skills and therapist skills have developed greatly. I have a renewed sense of confidence in working with children and families, which is what I needed at this stage in my career.

Discussion

Quantitative Findings

Overall, students significantly increased in skills measured by the PSI and the PTAKSS, a finding that was additionally supported by the qualitative data from reflection journals, email interviews, and course evaluations. In the flipped classroom section, all participants demonstrated more consistent practice skills between participants and significant improvement in skills, particularly in specific clinical skills. All four PSI skill subscales (support, insight, therapeutic, and case management) significantly increased after the course intervention. Two of three PTAKSS subscales (knowledge and skills) significantly increased after the course intervention (attitude did not). It may be that students already had the appropriate attitude for play therapy, since the attitude score was very high to start. In addition, there may have been a selection bias: Given that all of the participants voluntarily selected a course that focused on play therapy, they may have been predisposed to have a positive attitude. A comparison group with students not taking a play therapy course would help reveal overall differences specific to students' attitudes.

Experience of the Instructor

Designing and implementing this course highlighted the importance of considering physical space when implementing active-learning courses, even those that have roots in the virtual realm. The instructor experienced two particular challenges: increased workload related to course preparation, particularly space preparation, and management issues related to the physical aspect of the space in the brick-and-mortar classroom. While students and faculty adjusted to the virtual learning within 2 weeks and students were regularly able to track due dates, download and watch videos, and complete quizzes and reflection journals, in the first year the brick-and-mortar classroom proved to be the biggest challenge. Although the instructor had requested tables for the lab portion of the class, which had a large amount of supplies and a high level of interactive activities, the classroom assigned possessed only individual desks, which made group lab work and the hands-on activities significantly more challenging. Other obstacles included lack of storage space and the weekly scheduling of a student-run lunchtime meeting in the same space that ran over anywhere from 5 to 20 min per week, making preclass preparation of the activities virtually impossible. Unexpectedly, in the first iteration of the course, it was the digital classroom that ran the most smoothly. The weekly difficulty of having a space that did not comfortably accommodate a group, was not available for sufficient preparation time, and did not have the right desks, tables, and chairs highlighted the critical importance physical space plays in the success of a flipped classroom. Without an appropriate physical space, it is difficult to fully engage in active learning, which can impair overall course outcomes. In the second iteration of the course, the assigned classroom was adjusted so that it included long tables, which suited the format in a greatly improved fashion. The change resulted in fewer comments critiquing the space in the journals and course evaluations.

There was also a learning curve in how to ground the time in the brick-and-mortar classroom so that there was enough time for activity directions, the activity itself, and post-activity discussion. Although this improved in the second iteration of the course, the ideal balance of this tripart experience was not yet achieved. This instructor's experience was also that the initial time invested in implementing the course in the flipped classroom was higher than in a traditional setting.

During the 2 years this section was taught, there were multiple students with identified physical and learning differences. Three students in particular indicated that the virtual classroom allowed them to access information in ways that supported their learning. One student appreciated the ability to create art and submit assignments online and to delay watching videos if her illness was active. Another student, who identified as deaf, appreciated having the videos captioned and having the option to engage with the materials in real time, making it possible to check for learning and synthesis of course materials with the instructor and peers during the exercises. The third student appreciated being able to work with the instructor to redesign the space weekly based on the experiential activity, which required preclass meetings and preparations in order for the actual class time to run smoothly and accommodate mobility needs. Further research into how physical space in flipped classrooms can support and strengthen students with identified disabilities and different learning needs is vital to fostering inclusive learning environments.

Limitations

Limitations of this case study include the lack of a control group or comparison class and the small sample size, which, due to low enrollments, is a common limitation when conducting applied research in clinical classrooms. The small sample size might also be attributable to the amount of work required for this course. This research would be significantly strengthened by using a comparison group or a control group class to explore several differences, such as between traditional and flipped classrooms

or the impact of different professors. The intervention might also be used to explore the knowledge level of students in a nonclinical course.

Conclusion

This study highlights that one of the key advantages of the flipped classroom, as evidenced by Sun (2017), is the "rich interaction" that occurs between students when they are in the physical classroom space. Our data support Sun's claim that this deepened interaction has valuable outcomes, strengthening both generalist and advanced clinical practice skills. This study also highlights the need to do a thorough analysis of the physical space available to assess how it may need to be adjusted and adapted and the importance of doing this in the planning and implementation phases of a flipped course. Working with the facilities team and classroom scheduling department to secure a brick-and-mortar classroom to support flipped classroom learning objectives of small-group learning, activity-based interaction, and actual "lab" work relevant to the course objectives is critical to the success of the class. This study also demonstrates support for the idea that the flipped classroom format can be highly effective for teaching advanced clinical skills but may not be as effective for teaching general "soft skills" or case management. Suggestions for further research include deepening the understanding of the relationship between physical and virtual space when a flipped classroom design is used; determining the optimal amount of time to spend in an active-learning classroom, with a focus on how this time will be most effectively used; and investigating the longitudinal outcomes for this type of learning versus fully online coursework. Recognizing that the lack of a comparison group was a limitation of this study, we recommend future studies that feature comparison groups and flipped classroom studies that focus exclusively on the relationship between physical space and the virtual learning environment.

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