

Competency-Based Blended Learning: Flipping Professional Practice Classes to Enhance Competence Development

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Abstract

In the past decade, health and human service educational programs have transitioned to competence-based outcomes to enhance the quality of graduating professionals. While such outcomes are a critical step in ensuring professional quality, they require curricular and pedagogical adjustments that do not fit easily within university environments. Technology has eased many problems of fit through the development of hybrid and flipped courses that allow on-campus time to be better focused on developing professional skills. This study explored the question: Can flipped delivery improve competence-based outcomes in social work practice classes? The study assessed pedagogical adjustments that integrated competence-based learning principles with flipped classroom delivery. Principles of organizing the class to maximize competence development are explored and illustrated. Improved competence development and student satisfaction were demonstrated in three flipped practice courses with a combined sample size of 269 Bachelor of Social Work (BSW) and Masters of Social Work (MSW) students. Researchers concluded that using flipped-classroom methods enhanced the students' capacity to apply concepts and develop skills. In particular, the ability to receive and process feedback on applied skills was improved.

Keywords: competence-based learning; professional education; flipped course delivery; hybrid learning.

Introduction

Education in health and social service professions has transitioned to competence-based outcomes (Berdrow & Evers, 2010; Bogo, Mishna, & Rehger, 2011; ten Cate & Billett, 2014). The impetus for competence-focused outcomes emerged in response to decades of societal pressure for medical and behavioral-focused professions to better control the quality of graduating students (Collins & Bogo, 1986; Gockel & Burton, 2014; Lester, 2014; Nelson, 2007). While developmental trajectories and language varied across nations and professional groups, the global demand for accountability in professional education spurred significant change in professional educational systems (Boateng & Sarpong, 2001; Lester, 2014; Wilson, 2013). The transition to competence-based outcomes presents challenges to educational programs because competence requires students to simultaneously think, perform, and act with integrity (Shulman, 2005). This is a more complex set of outcomes than acquiring knowledge through completing a set number of educational experiences. Almost every profession, in the transition to competence-based outcomes, discovered a need to retool the curriculum, organizing the educational sequence around developing and demonstrating cognitive and interactive skillsets (Albenese et al., 2010; Berdrow & Evers, 2010). Such retooling requires pedagogical adjustments to classroom activities to enable observed student skill performances and feedback (Carraccio, Wolfsthal, Englander, Ferentz, & Martin, 2002; Martinez, Phillips & Harris, 2014; Nathwani, Law, Witt, Ray, DiMarco, & Pugh, 2017).

Literature Review

While professional organizations initiate the transition to competence-based outcomes, universities are largely equipped for on-campus, face-to-face, knowledge-transfer activities (Robbins, 2013). Within this larger educational mission, universities have developed facilities and systems to maximize tuition-based income (Murray & Aymer, 2009; Regehr, 2013). Within the transition to competence outcomes, professional schools require unique learning environments for observing student performances, assessing competence and providing formative feedback, however, the larger systemic priorities are not structured for competence-related educational work (Belcher, Pecukonis & Knight, 2011; Murray & Aymer, 2009).

Concurrent with unique space requirements, competence-based teaching requires individualized faculty time with each student (Williams et al., 2014). A successful transition to competence-based outcomes consequently exerts demands beyond the traditional organizational and faculty commitments (Nissen, 2014). These shifting demands coincide with a larger social environment of revenue challenges that have shifted pressures onto faculty to teach larger classes, while simultaneously seeking funded projects (Anderson & Slade, 2015; Belcher, Pecukonis, & Knight, 2011). In the current academic environment, educators in professional programs lack time to work closely with students (Murray & Aymer, 2009; Prober & Heath, 2012; Strayer, 2012). There is a convergence of pressures for all university-based professional schools that are not easily resolved. Many competence-focused professional educators have responded to university-based challenges using hybrid learning technologies to free up instructor time for competency-focused teaching (Regehr, 2013; Gerbic, 2011; Salter, Pang & Sharma, 2009).

Flipped Course Delivery – A Solution to University Challenges

As professional schools consider the promise of online learning, findings on fully online teaching has raised doubts about the efficacy of developing practice competencies in a purely

virtual learning environment (Jones, 2015). Increasingly, however, hybrid and flipped approaches are showing promise for developing interpersonal professional skills (Bodie, Powers, & Fitch-Hauer, 2006; Bristol, 2014; Dimeff, Koerner, Woodcock, Beadnell, Brown, Skutch, & Harned, 2009; Pregot, 2013; Regehr, 2013). A recent survey of social work deans and directors found that most directors endorse hybrid professional practice courses as having a strong potential, providing that sufficient face-to-face time is focused on practice competence-development (East, LaMendola, & Alter, 2014).

The findings that hybrid course delivery can enhance interpersonal professional outcomes is promising given that traditional programs often struggle in developing specific interpersonal competencies in the fields of education (Jennings et al., 2017; Wahlgren, Mariager-Anderson & Sørensen, 2016), medicine (Ens, Janzen, & Palmert, 2017), evaluation (Galport & Azzam, 2017), social work (Sage & Sele, 2015), counseling (Moran & Milson, 2015), nursing (Ehrenberg, Gustavsson, Wallin, Boström, & Rudman, 2016), and medical care (Ehrenberg et al., 2016). As professional programs seek to develop broad competencies with integrated critical thinking, ethics, wisdom and interpersonal competencies (Levitt & Piazza-Bonin, 2017), alternative methods of teaching and learning are being adopted.

The hybrid educational model attracting current interest is the flipped-course. This hybrid-format advances competence development by requiring students to advance knowledge on their own time and perform specific skill-building activities in the online environment prior to attending the on-campus session (Dimeff et al., 2009; Sharma, 2013). Ideally, the online activities are applied, succinct and engaging (Khanova, Roth, Rodgers & McLaughlin, 2015; Nemtollahi, St. John, & Adamas-Rappaport, 2015). Such elements tend to enhance engagement and learner autonomy (Grossman, Grosseman, Azevedo, Figueiró-Filho, & McKinley, 2015; McGowan, Balmer, & Chappell, 2014; Muzyk, Fuller, Jiroutek, Grochowski, Butler, & May, 2015).

The pre-learning of critical content prior to attending the on-campus session allows for increased application of material in the on-campus elements of the course (Khanova et al., 2015). In most flipped classes, the on-campus session focuses on applying and integrating skills through applied simulations, coaching, and feedback (Gerbic, 2011; Salter, Pang & Sharma, 2009). Such shifts in time investment allow for more focused use of instructor time with smaller groups of students, since they are no longer required to attend class as a large group. The nature of a flipped course also allows for the broader distribution of learning materials increasing educational efficiency (Lockhart, Capurso, Chase, Arbuckle, Travis, Eisen, & Ross 2017).

While professional schools have readily embraced the flipped classroom (Rockich-Winston, Gillette, Koc, Wolcott, Blough, & Broedel-Zaugg, 2015; Tømte, Enochsson, Buskqvist & Kårstein, 2015), historically online learning has tended to be stronger at transferring knowledge than promoting competent practice (Ens, Janzen & Palmert, 2017). Consequently, some comparative findings indicate that there is no significant difference between the two conditions (Rockich-Winston et al., 2015). Some findings indicate that one problem is the creation of flipped courses in professional programs do not tend to pursue professional competence development, rather they tend to serve program stakeholders and other agendas (Kan, Harrison, Robinson, Barnes, Chisolm, & Conlan, 2015; Tømte et al., 2015).

Current competence-focused findings indicate that interactive, simulation-based learning activities can engage students and enhance competence development (Brubacher, Powell, Skouteris & Guadagno, 2015; Nathwani et al., 2017; Nuzhat, Salem, Al Shehri, & Al Hamdan,

2014). Students respond best when the online component uses authentic, emotionally evocative, and applied learning activities rather than simply providing information (Cooner & Hickman, 2008; McNaught, Lam, & Cheng, 2012; Neo, Neo & Tan, 2012). While student preferences have an evidentiary base, more research is needed to understand how to flip a course to maximize competence development.

This study explores an application of the current research to developing a competence-based flipped course covering interpersonal competency development in a social work program. The study is structured to track the transition from a competence-based, on-campus course to flipped course delivery. The transition retained all content and evaluation systems, allowing for a consistent competence-based assessment system across both conditions. It was anticipated that by transferring some learning activities to an online environment, time would be freed up for increased observation and feedback, strengthening the competence development due to an increased ability to engage in observation and feedback.

The Critical Presence Domains

The research on online delivery, competence-based learning and feedback provide guidance for developing a competence-focused flipped-course. The online literature identifies social presence, teaching presence and cognitive presence as critical course features (Anderson, Rourke, Garrison, & Archer, 2001; Anderson & Rourke, 2002; Hosler & Arend, 2012; Rourke, Anderson, Garrison, & Archer, 1999; Savvidou, 2013; Szeto, 2015). While these critical online domains emerged from text-based online challenges, the issue of presence remains a critical consideration in developing a constructive online learning environment. The importance of these domains expands with competence-based learning, as a learning alliance and competence-focus must accompany the social, teaching and cognitive presence (Albanese, Mejicano, Anderson, & Gruppen 2010; Myers, 2008).

A *social presence* refers to establishing the instructor and community of learners as people within the learning environment (Ke, 2010; Savvidou, 2013). Social presence emerges from facilitating genuine exchanges that reflect appropriate social interactions within the class (Rourke et al., 1999; Szeto, 2015). Sung and Mayer (2012) identified five factors associated with social presence: respect, sharing, acceptance, social identity and intimacy. With clear goals and expectations, it is possible to extend the social presence to create a learning community or work groups allowing students to learn from each other concurrent with instructor-focused facilitation (Akcaoglu & Lee, 2016; Hoffman, 2015; ten Cate, 2013; Topor, AhnAllen, Mulligan, & Dickey, 2017).

The *teaching presence* highlights the importance of active instruction and facilitation in the online condition (Anderson et al., 2001) and in the face-to-face course elements. This requires instructors to develop well-focused, organized and relevant online learning resources (Hosler & Arend, 2012). Activities should be engaging for individual students as they progress through relevant experiences and activities that cover and apply the course content (Szeto, 2015). Visually rich and engaging activities appear to be most effective for engaging the students (Chen & Wu, 2015; Ke, 2010; Szeto, 2015). The instructor must also facilitate learning by responding to student questions, concerns and resolving impediments (Hosler & Arend, 2012; Ke, 2010).

A *cognitive presence* is enhanced by keeping online activities focused, vital to learning, engaging, and well integrated with other activities (Katernyak & Laboda, 2016). Instructors

also develop material and engage students to help them apply learning concepts (Szeto, 2015). In the area of application, instructors often structure content to break-down concepts into applied skills (Grossman, Wouda, & van de Wiel, 2009). To prepare students for applying course concepts, it is helpful to provide prompts or springboard phrases that promote skill-level applications (Sleep & Boerst, 2012).

The *alliance presence* requires three elements in the learning environment: clear goals/outcomes, relevant course activities, and a facilitative instructor-learner relationship providing goal-directed feedback (Farrell, Bourgeois-Law, Ajjawi, & Regehr, 2016; Myers, 2008). Given that goals and relevant activities are part of the teaching presence, a facilitative relationship is critical to developing a learning alliance (Telio, Ajjawi, & Regehr, 2015). A facilitative relationship involves motivating students to identify with, and find relevance in, the learning outcomes (Kirby & Lawson, 2012). This requires instructors to monitor student progress and provide feedback while engaging students in application-based discussion (Ke, 2010; Szeto, 2015). In the online environment, the alliance requires timely responding and immediacy to ensure that students engage while the material is still fresh (Rogers, 2015; Szeto, 2015).

The *competence presence* structures the above elements so that students progressively transition from understanding professional roles and activities to applying skills in increasingly complex professional simulations (Albanese et al., 2010; Larsen, Sanders, Astray, & Hole, 2008). Feedback is provided after each student performance of these skills, allowing for integration, adjustment, and repetition (Hattie & Timperley, 2007; van de Ridder Stokking, McGaghie, & ten Cate, 2014; Shute, 2008; Stark, Kopp & Fischer, 2011). As such, feedback uses professional standards of performance contrasting the student's performance to this accepted standard (Carraccio, Wolfsthal, Englander, Ferentz, & Martin 2002; van de Ridder et al., 2008). Feedback should be timely so that students can understand the gaps between their performance and the standard and make rapid adjustment to the skills (Ke, 2010).

In online environments, exercises and simulations with decision trees and embedded feedback can help students begin mastering skills (Nathwani et al., 2017; Wilkening, Gannon, Ross, Brennan, Fabian, Marcsisin, & Benedict, 2017; Wojcikowski & Kirk, 2013). In face-to-face environments, practice simulations with individualized feedback can promote the development of interpersonal competencies (Albenese et al., 2010; Grossman, Compton, Igra, Ronfeldt, Shahan, & Williamson 2009; Wouda & van de Wiel, 2014). In the courses implemented as part of this research parallel, online cyber role-plays and on-campus role-plays were used. The cyber role-plays used branching and a cartoon supervisor to provide feedback based on 32 potential ending points. The on-campus simulations were based on the same case situations allowing for learning transfer across the two conditions.

Learning Scaffolds in the Competence-Focused Flipped Course

The critical presence domains identified in the literature require the creation and integration of learning activities in the online and face-to-face conditions in order to promote competence development. Online learning has long been associated with using case materials to help focus students (Rourke & Anderson, 2002). Flipped classroom technologies have expanded the early online pedagogy to included online lecture materials and using role-plays during on-campus learning (Hack, 2016). This course builds onto these principles by integrating feedback into the online condition concurrent with on-campus feedback sessions. Learning scaffolds refer to supports that are structured into the course that help students learn skills and advance their

competence (Woolfolk, 2007). Research on blended or flipped courses finds that learning scaffolds help integrate learning activities and promote skill development (Anghileri, 2006; Yeh, 2012). Effective scaffolds promote engagement, simplify learning, maintain clarity, and provide feedback to guide the next steps of learning (Hoffman, 2015). Scaffolds developed for the flipped practice classes are provided below (see Table 1). As the practice courses transitioned from face-to-face to flipped delivery, the above scaffolds were adapted to promote knowledge application, skill development and skill integration in the flipped delivery. This study tracked the transition of foundation-level group work practice classes and individual practice classes from an on-campus lecture/active-learning course to a flipped format. Initially the courses were scheduled as three-hour lecture blocks in rooms that accommodate 25 students.

While initially established as lecture and discussion-based courses, instructors inserted role-plays for observation and feedback. Role-plays were formalized through standardizing the role-plays and setting up a laboratory system. The goal of the labs was to ensure that each student would perform the same skill-sets and receive feedback. The group work skill-sets included: activating the group, scanning group interaction, using appropriate interactive skills, tuning into dynamics, focusing the group, timing interventions, responding to dynamics, and positively influencing the dynamics. The individual-focused skill sets included developing a working alliance, motivational enhancement, and changed-focused intervention skills. The labs involved groups of about 8 students engaging in videotaped role-plays of practice. Role-play content was structured to reflect stages of professional intervention: 1) starting the group/individual engagement, 2) activating mutual aid/working alliance, 3) managing tension/mistakes, 4) deepening relationships, and 5) promoting work/change-focused intervention. In the role-plays, each student was required to play the worker role for 5–7 minutes. After videotaping the role-plays, student performances were reviewed with feedback provided by the instructor. In the status quo condition, time only allowed for completion of about three taping and review sessions in the typical semester. Even with few feedback opportunities, the role-play-related feedback was consistently identified as a critical element of student learning in the student course evaluations. The transition to a blended learning platform was initiated to increase the number of taping and feedback sessions.

Methodology and Methods

This study involves a cross cohort comparison of three courses that had transitioned to flipped delivery. The study focused on Bachelor of Social Work (BSW) Group Work students at the senior level and a foundation Masters of Social Work (MSW) course focused on individual practice competencies. Both courses were a direct transfer of all course elements from face-to-face instruction with video labs and instructor feedback to flipped delivery using the scaffolds as described above. Each course had similar scaffolds adapted for the specific competence outcomes associated with the practice method.

Table 1: Scaffolds developed to structure in critical presences.

Critical Presence	Associated Learning Scaffolds
Social Presence	<p>Online</p> <ol style="list-style-type: none"> 1. Instructors share videotaped role-plays of themselves engaging in identical situations provided in student role-plays. 2. Instructors monitor student activity and reach out during periods of inactivity to provide support. <p>Face-to-Face</p> <ol style="list-style-type: none"> 1. Instructors share examples from their professional practice as exemplars of practice. 2. Full class debriefing sessions punctuate the transition from online work to applied face-to-face activities. 3. All application exercises involve a stable group of students with support-provision and mutual aid expectations.
Teaching Presence	<p>Online</p> <ol style="list-style-type: none"> 1. All content presented through interactive, structured and engaging (visual plus voice over) online presentations. 2. Use of case materials that thread through all learning modules. 3. Use of interactive applied exercises with immediate feedback. <p>Face-to-Face</p> <ol style="list-style-type: none"> 1. Conceptual debriefings provided after the online content provision and before applied simulations. 2. In role-play viewing/feedback cross-references back to the module content are used to highlight conceptual applications.
Cognitive Presence	<p>Online</p> <ol style="list-style-type: none"> 1. Online modules began with information provision, followed by examples and culminating with application. 2. Practice examples provide subtitles to help identify concepts in action. <p>Face-to-Face</p> <ol style="list-style-type: none"> 1. Students apply the concepts in videotaped role-plays which are later reviewed. 2. In review discussions the course concepts are applied to the practice experiences.
Alliance Presence	<p>Online</p> <ol style="list-style-type: none"> 1. Assertive outreach based on course analytics and student presence. <p>Face-to-Face</p> <ol style="list-style-type: none"> 1. Ongoing discussion of the instructor and student roles in the context of the identified outcomes and learning activities. 2. Applied working occurred in small groups.
Competence Presence	<p>Online</p> <ol style="list-style-type: none"> 1. Applied interactive activities with structured immediate feedback and opportunities to repeat the performance. <p>Face-to-Face</p> <ol style="list-style-type: none"> 1. Clearly articulated competence-outcomes with descriptions of socialized, beginning professional and advanced skills. 2. Simulated videotaped role-played simulations with individualized feedback.

Sample

The BSW group cohorts contained 47 students from the face-to-face condition and 159 students attending the flipped delivery courses. All students had the same instructor from both conditions. The MSW student sample included 42 students from the face-to-face condition and

23 from the flipped delivery classes. In the MSW cohort, 12 students had a new faculty member working closely with the instructor that taught all of the other students.

Measures

To assess the transition to flipped delivery, an evaluation of between condition differences was initiated. The main measure of competence was the feedback sheets used during the feedback sessions. Students turned in their best feedback sheet at the end of the course to include as part of their final grade. If students achieved the standard, they received 100 points. Failure to achieve the standard on each continuum resulted in point reductions. These feedback sheets were the core competence measure used in practice courses to assess competence development and program effectiveness. Forms were available covering about three semesters before the transition, and four semesters post-transition. The second measure was student evaluations that are distributed by the university for every course. The forms are uniform for all classes allowing for comparison of student satisfaction differences in the same time frame as the signature assignments. In addition to the standardized institutional evaluations, students who attended the flipped courses were invited to complete additional evaluation questions to get focused feedback on the flipped-course delivery. This was an anonymous online survey emailed to all students taking the course. The survey was linked to a second survey to capture identifying information because students received 5 extra credit points.

Results

The signature assignment grades were taken from the past grade books and compared using an independent t-test procedure to assess the mean grade differences across the cohorts. The descriptive results (see Table 2) indicated improvements between condition 1 and 2 in all courses. The t-test results indicated that these differences were significant in both the group and individual courses.

Table 2: Signature assignment differences between condition face-to-face (F2F) and flipped conditions.

	Cohort	Mean Score	Std. Deviation	T Value	2 tailed Sig
Group Practice	Condition 1 N=47	92.805	4.957	-5.125	.000
	Condition 2 N=159	96.495	4.805		
Individual Practice	Condition 1 N= 42	93.048	2.802	-2.205	.037
	Condition 2 N= 23	95.762	5.281		
Combined	Condition 1 N= 89	92.843	4.067	-6.940	.000
	Condition 2 N= 180	96.683	4.655		

Qualitative verbal feedback from the students illuminated these results. More than half of the students in the courses stated that they never bought the assigned textbooks for previous classes, and an additional 30% stated that they did not typically do all of their readings. Students

in the flipped courses stated that they felt compelled to cover the material because their progress was monitored automatically and points were added to their participation grades. There was consensus among the flipped course students that the course was more work for them because they felt accountable for covering the online material, whereas they were seldom held accountable for reading their texts or engaging in class discussions in previous face-to-face courses. The satisfaction differences were considered critical for students in the group work classes because they were not informed that their courses were flipped because of university policies about online percentages for hybrid and online course offerings. These were the only online designations allowed, so students were unaware of the online expectations until the first class meeting. Students were provided an option to change to a face-to-face section. In one semester, three students took the option and left the flipped course. The evaluation data from the group courses were entered into SPSS and subjected to an independent samples t-test analysis. The results indicated significant differences in all but one evaluation item (see Table 3).

Table 3: Flipped vs. face-to-face evaluation differences for the group course.

	Delivery Method	Pre-test Mean	Pre-test Stan. Dev	t- value	p
Overall rating of the teaching effectiveness.	F2F	4.29	.854	-2.954	.003
	Flip	4.58	.699		
Overall rating of this course	F2F	4.12	.927	-3.106	.002
	Flip	4.45	.747		
I understand easily what my instructor is saying	F2F	4.37	.891	-3.017	.003
	Flip	4.63	.567		
The instructor explains experiments/assignments clearly	F2F	4.23	.947	-2.502	.013
	Flip	4.48	.746		
The instructor seems well-prepared for class	F2F	4.46	.774	-3.211	.001
	Flip	4.70	.484		
Many methods are used to involve me in learning	F2F	4.39	.809	-2.883	.004
	Flip	4.65	.654		
The instructor returns papers quickly enough to benefit me	F2F	4.35	.910	-3.422	.001
	Flip	4.66	.580		
I understand what is expected of me in this course	F2F	4.30	.863	-3.509	.001
	Flip	4.62	.658		
The amount of material covered was reasonable	F2F	4.47	.703	-2.049	.042
	Flip	4.62	.509		
The instructor develops classroom discussion skillfully	F2F	4.43	.729	-3.341	.001
	Flip	4.71	.618		
Grades are an accurate assessment of my knowledge	F2F	4.42	.856	-2.635	.009
	Flip	4.65	.583		
Assignments are related to the goals of this course	F2F	4.58	.614	-2.089	.038
	Flip	4.72	.518		
The instructor respects students from diverse backgrounds	F2F	4.72	.485	-1.979	.049
	Flip	4.83	.379		
The instructor respects students regardless of sex, age or race	F2F	4.69	.580	-2.242	.026
	Flip	4.83	.381		

A review of Table 3 indicates that the evaluation scores; rated on a scale of 1 to 5 with five indicating the highest level of satisfaction, all reflected increased satisfaction in the flipped condition. No face-to-face mean scores fell below 4 points indicating a respectable level of

satisfaction; however, the consistently higher scores in the flipped condition indicate that students rated the course and the instructor at a higher level of satisfaction. While students at times expressed frustration with the online course shell functioning, items indicating clear understanding of expectations and satisfaction with communication all yielded significantly higher scores.

In the MSW individual practice course, only six items yielded significant differences (see Table 4). There are two themes evident in the significant differences. First, mean scores on items reflecting the instructor organization, respect, and clarity with students were all significantly higher in the flipped condition. The second pattern indicated that mean scores on items focused on the applicability of the assignments and variety of learning experiences were more satisfactory than the comparable mean scores in the face-to-face condition.

Table 4: Flipped vs. face-to-face evaluation differences for the MSW individual practice course.

	Delivery	Pre-test Mean	Pre-test Stan.Dev	t - value	p
The instructor displays a clear understanding of course topics.	F2F	4.37	1.098	-2.558	.012
	Flip	4.74	.449		
The instructor explains experiments/assignments clearly	F2F	4.22	1.069	-2.401	.019
	Flip	4.61	.583		
The amount of material covered was reasonable	F2F	4.05	1.242	-3.448	.001
	Flip	4.61	.499		
The assignments are related to the goals of this course	F2F	4.29	1.140	-2.698	.008
	Flip	4.70	.470		
The instructor respects students from diverse backgrounds	F2F	4.52	1.114	-2.223	.028
	Flip	4.83	.388		
The instructor respects students regardless of sex, age or race	F2F	4.56	1.104	-2.276	.025
	Flip	4.86	.351		

In addition to the institutional evaluations, students in the flipped condition were asked to complete additional feedback on which scaffolds contributed most to their learning and competence-development. Findings indicated that both online and face-to-face elements were identified as helpful. In the group work classes, the role-plays and feedback were most highly rated, with the video examples and enriched presentation materials also being highly rated. The MSW student feedback followed a similar pattern. Both cohorts identified working together as a group as least helpful (see Table 5).

Table 5: Student feedback on scaffold contributions to learning.

Item Content	Helped a Lot /Helped	Hindered a Lot /Hindered
Group Work Students N=96		
Doing the role-plays	99.0	1.0
Getting feedback on role-plays	98.9	1.1
Watching video practice examples	98.9	1.1
Using video-based presentations	94.7	5.4
Doing online exercises	87.5	12.5
Working in the small groups	87.4	12.2
Individual Practice N=23		
Doing the role-plays	100	0

Getting feedback on role-plays	100	0
Watching video practice examples	100	0
Using video-based presentations	100	0
Doing online exercises	100	0
Working in the small groups	87	12

Discussion

The findings indicate some improvement in the signature assignment grades. This was the program's measure of competence based on the highest grade on the videotape feedback. The mean score differences achieved significance, which may be due to the increased number of role-plays and feedback rather than the online content. The flipped condition permitted at least four feedback sessions, while the status quo condition tended to result in three feedback sessions.

In the flipped condition, the findings from the evaluation indicate that both face-to-face and the online scaffolds are experienced as useful by students. In particular, role-plays and feedback, the primary on-campus activities, were identified as the most useful elements in the course. Similarly, the availability of video examples prior to engaging in the role-plays was highly rated. These videos, while available in the traditional delivery course sections, were most often cut short due to limited time in the class.

The online delivery methods appear to contribute to satisfaction. In particular, the student feedback indicates that they appear to like the multimedia and engagement scaffolds that allow them to take time covering material. The material was also presented in a media-rich format that is also parceled out into 2-5 minute segments. The materials are organized into a logical order that can be repeated as needed. This is in contrast to the traditional course delivery which involved longer presentations interspersed with class discussions. While discussions are useful, they often acquire a life of their own and can interrupt a logically ordered presentation of material.

Within the transition to the flipped condition in the group class, handouts that supplemented the material replaced reading expectations. Students consequently used a series of brief handouts that supplemented the online presentations. Students reported that this was more useful than the traditional system of assigned reading. In this discussion, students further reported that they very seldom completed the required reading in traditional classes. It is likely, however, that there is great knowledge acquisition because the coverage of material is monitored in the online shell. Evaluation findings indicate that the organizational aspects of the flipped class, such as clear expectations, are more satisfying than reliance on verbal discussions. This may in part be due to verbal discussions about expectations and graded material, to generate multiple self-interested questions that cause discussions to diverge. In online communication, the combination of clearly written communications and individual emails may improve the clarity for students. A learning scaffold that was unique in the online environment was the immediate provision of feedback in the online application exercises. In the face-to-face condition, students were required to complete exercises prior to attending class. These exercises were then discussed as the foundation for lecture and discussions. In this condition, the feedback was embedded in the discussion, making it generalized rather than individualized. The online feedback was more immediate in response to decisions made in the exercises. Students also have opportunities to incorporate the feedback and repeat the actions.

Conclusions

While early in development, the move to flipped course delivery appears related to competence improvements in foundation-level students. Flipped delivery allowed for a larger range of formative feedback opportunities and more individualized, rather than general, feedback. By focusing the on-campus sessions on lab-based simulations, students were able to receive individualized feedback on their skill performances five times during the course. This reflects an increase from 2-3 feedback sessions in the lecture plus lab condition. Students identified the role-plays and feedback as providing the most benefit to their skill development, so it is probable that the increases are associated with this increase.

Based on the current data, it appears that shifting some course elements to a virtual learning environment may make it possible to better use on-campus time to employ competence-based teaching methods, without having to advocate for institutional changes to accommodate professional program requirements. As such, blended learning may allow for continuous assessment and formative feedback to be provided through multiple forms of feedback. Ongoing research will remain necessary to identify the components that best respond to the formative-feedback needs of professional students.

Moving forward, it will be important to continue testing competence-based flipped learning in professional contexts. With mounting pressure for professional programs to achieve an online presence, it is critical that programs do not forsake their commitment to competence-based outcomes. More testing is needed to identify which online and on-campus elements contribute to competence development.

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