

The Efficacy of Team-Based Learning in Social Work Education: A Multi-Year, Cross-Sectional Study

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Abstract: *This article details the findings of a multi-year (2019-2022), cross-sectional study that examined the utility of using Team-Based Learning as an instructional pedagogy in social work courses. The study was conducted from August 2019 to December 2022 and was composed of surveys of 166 students from 15 individual bachelor and masters-level social work courses at a medium-sized university in East-Central Indiana. Demographic data including race, gender, age, course number, and program level were collected for each student participant, with the purpose of the study centering on 1. Identifying whether student participants preferred Team-Based Learning or a different teaching pedagogy, and 2. Assessing how well the students comprehended the course content delivered via Team-Based Learning. The results of the study showed that 81% of the surveyed students preferred Team-Based Learning to other teaching pedagogies, and that there were no significant differences in responses based on any of the demographic data collected. Students also performed exceptionally well in the courses where Team-Based Learning was implemented, as demonstrated by the 95% cumulative course average for all participating students. Students additionally rated the courses highly (4.5/5 average) in anonymous course evaluations performed at the end of each semester.*

Keywords: *Education; team-based learning; teaching; pedagogy; social work*

Over the past 25 years, the field of social work education has experienced significant changes related to cultural shifts among scholars, changing needs in the populations served by the profession, and due to environmental challenges such as the Covid-19 pandemic (Wallengren Lynch et al., 2023). Notable changes such as the 2008 shift from curriculum content to competency-based accreditation standards by the Council on Social Work Education (CSWE) serve to highlight the dynamic nature of social work's educational system (Apgar, 2019; Larrison & Korr, 2013). However, despite these changes and the subsequent research generated by them, one issue that remains less explored is the issue of teaching pedagogies among social work educators.

Currently, there are a myriad of ways that educational content can be delivered to students. Instructors often use strategies such as traditional lectures and exams, and/or opt for more contemporary modalities such as immersive or experiential learning. Given the constantly shifting academic landscape in social work and its reliance on instructors outside of the university system to provide critical training and knowledge to students via field placements, it is of significant importance that social work educators utilize teaching strategies that are grounded in evidence and that are adaptable to the needs of modern students. One pedagogy that meets this criteria is a teaching strategy called Team-Based

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Learning (TBL; Robinson et al., 2013). TBL is a teaching pedagogy that emphasizes teamwork and collaborative learning as its principal approach for delivering content to students. To explore the utility of using TBL in social work education, a multi-year, cross-sectional survey that included a mix of 166 BSW and MSW students attending a university in East Central Indiana, was conducted. The purpose of the study was to assess whether TBL is a suitable teaching strategy for social work students, and to identify whether the students preferred TBL to other teaching pedagogies that they had experienced during their academic careers.

Team-Based Learning

TBL is a teaching pedagogy that is rooted in a constructivist educational theory that suggests that students should be active and collaborative participants in the learning process rather than passively absorbing information (Hrynchak & Batty, 2012; Sisk, 2011; Ültanır, 2012). A typical classroom experience for TBL occurs in four stages: (1) pre-class reading, (2) readiness assurance tests (RATS) that are composed of individual readiness assessment tests (IRATS) and team readiness assessment tests (TRATS), (3) a mini-lecture, and (4) a practical application lab (Robinson et al., 2013; Vanderbilt Center for Teaching, 2023). Pre-class reading assignments can consist of anything from journal articles and textbook chapters to Ted Talks or YouTube videos, and RATS usually consist of 5-20 multiple choice or true/false questions (Learning Access Management System, 2022). Student teams generally consist of 5-7 students but can vary based on class size. With regard to the IRATS and TRATS, the questions posed on each assessment are identical. Students initially take the IRAT to evaluate their individual knowledge of the subject matter. They then answer the same questions with teammates for the TRAT as a supplementary knowledge check. Completion of the TRATS also facilitates an active learning process that utilizes peer-to-peer feedback to hold students accountable for completing pre-class content. Following the RATS, questions are reviewed by the class as a group, followed by a mini-lecture designed to reinforce the primary concepts covered by the RATS. Finally, students apply the learned concepts to application-based problems or during labs in their collaborative teams. These activities generally include some component of classroom debate or discussion to help facilitate the collaborative learning process. The objective of these activities is to help the students more thoroughly explore the finer nuances and intricacies of the learning material. (Robinson et al., 2013; Learning Access Management System, 2022; Vanderbilt Center for Teaching, 2023).

A meta-analysis of TBL conducted by Sisk (2011) found evidence suggesting that TBL leads to higher tests scores, increased classroom engagement, and an increased sense of classroom ownership for students. Research also shows that team-based collaboration skills can be translated from a classroom setting to the workforce, and often helps students that struggle in traditional classroom settings to improve their academic performance (Haidet et al., 2014; Sisk, 2011). Specific to social work, a study conducted by Minnick et al. (2023) demonstrated the capacity of TBL to produce universally high test scores and transferrable workforce skills for BSW students engaged in joint experiential and TBL courses centered on substance misuse education.

Outcomes related to educational ownership, self-directed performance, collaboration, and teamwork are also notably important with both contemporary academic and work environments shifting from in-person to online settings (Badiyepeymaie Jahromi et al., 2016; Wildman et al., 2021). In relation to this shift and the need for self-directed performance outcomes and collaborative skills, a 2004 study by Levine et al. found that psychiatric students performed significantly better on the National Board of Medical Examiners Psychiatry Subject Test and had more positive attitudes in regard to working in teams after learning via the TBL pedagogy. Students also reported team-learning activities to be more effective teaching tools than individual learning activities. A 2010 study on the impact of TBL on medical students by Koles et al. (2010) revealed that students had higher average scores on questions that assessed knowledge of content learned through TBL than on questions using other instruction methods. Additionally, students ranked in the lowest quartile of the class showed the highest level of average improvement (7.9%) as opposed to all other students (5.5%). Finally, Zgheib et al. (2010) explored the impact of TBL on medical students in a pharmacology course and found that TBL was more effective for student comprehension of advanced content than traditional lectures.

University and Program Demographics

This study was conducted at a mid-sized university located in East-Central Indiana, with a student body of just under 22,000 enrolled students (U.S New and World Report, 2023). According to M. Moore (personal communication, December 12, 2022) the social work department where the TBL was implemented offers both undergraduate and master's programs that, in 2022, had a combined total of 315 BSW students and 87 MSW students. M. Moore also noted that 28% of the BSW students were from underrepresented minority groups which included 12% Black or African American, 7% Hispanic, 7% two or more races, and 2% Asian. The remaining 72% of BSW students identified as White. 51% of the program's BSW students were first generation college students, and roughly 20% identified as a member of the LGBTQ+ community. Demographic data outside of student enrollment numbers were not available for the MSW program for 2022.

Methods

The study sample consisted of 166 students from 15 individual BSW and MSW courses within the social work program. The study was conducted over the course of four years (2019-2022), and was composed of a short, anonymous Qualtrics survey that was administered in class to each of the participants at the end of the semester. The original survey asked one question that directed students to identify whether they would prefer if their future courses utilized TBL, a different teaching pedagogy they had experienced at the university, or if they did not have a preference. Students were provided with three response options that consisted of "Team-Based Learning," "Other Pedagogy," and "No Strong Opinion." Demographic questions were added in year three of the study to account for variables related to gender, age, and race. The surveys were implemented in courses taught by one assistant professor in the department of social work at the participating university who was trained in TBL as part of their graduate education. The courses

followed the TBL framework of weekly readings and/or video assignments, RATS composed of five true/false questions, a mini lecture (maximum 20 minutes), and a concept application lab that varied from debating contemporary social justice issues to designing public health social marketing materials and engaging in university environmental health promotion strategies.

Student participants in the TBL courses ranged from pre-major BSW social work students (i.e., students who had yet to apply to the BSW program which does not occur until the end of the students' sophomore year at the participating university) to senior-level BSW students and first-year MSW students. At the conclusion of the study, a Fisher's Exact Test was performed using SPSS to identify if student preference for TBL was associated with race, gender, program level, or individual course. Age and the "other" response option for gender were excluded from the analyses due to the sample size and homogeneity of the sample (92% were 21-25 years old; 99% were male/female). Data on student grades and course evaluation outcomes was also examined to assess the efficacy of the course in delivering the required content to students. The course evaluation data were collected from the university's standardized course and teaching evaluation that is administered in every class provided by the university. These surveys are anonymous and administered externally via university email. They are not directly connected to TBL and are primarily used by departments for faculty evaluations and tenure decisions. The study received an exemption from the university's institutional review board because it is considered a standard, anonymous teaching evaluation that regularly occurs in most college courses.

Results

The results of the study showed that participants were skewed towards the undergraduate level (75%), and were primarily female (85%), white (70%), and 21-25 years old (92%). Participation years were also slightly skewed towards years three and four, which accounted for 58% of the completed surveys. Demographic data related to gender, age, and race were not collected for the first two years of the study, and 100% of students in participating classes completed the TBL questionnaire.

In regard to TBL preference, the findings identified that a large proportion of participants (81%) preferred TBL to other teaching methodologies, and that none of the demographic variables tested had a statistically significant association ($p < .05$) with student preferences for TBL. Cases with no strong opinion ($n = 12$) were excluded from the analyses after it was determined that they had no significant correlations with any of the demographic variables. Results from the Fisher's Exact Test showed that TBL preference was not significantly associated with Race ($p = .876$), Gender ($p = .681$), Program Level ($p = .528$), or Course ($p = .286$). Participant demographics and the descriptive survey results are provided in Table 1.

Table 1. *Participant Demographics & Survey Results (n = 166)*

	<i>n (%)</i>
Program Level (n = 166)	
Graduate	41 (25%)
Undergraduate	125 (75%)
Gender (n = 94)	
Female	80 (85%)
Male	13 (14%)
Non-Binary or 3 rd Gender	1 (1%)
Age Group (n = 78)	
18-20 years old	2 (3%)
21-25 years old	72 (92%)
26-30 years old	1 (1%)
31-35 years old	1 (1%)
36-40 years old	
41+ years old	2 (3%)
Race (n = 95)	
American Indian or Alaska Native	0 (0%)
Asian	3 (3%)
Black or African American	14 (15%)
Hispanic, Latino or Spanish Origin	8 (8%)
Middle Eastern or North African	0 (0%)
Native Hawaiian or Other Pacific Islander	1 (1%)
White	66 (70%)
Bi-Racial	3 (3%)
Other	0 (0%)
TBL Preference (n = 166)	
Other Pedagogy	19 (12%)
Team-Based Learning	135 (81%)
No Strong Opinion	12 (7%)
Survey Year (n = 166)	
2019	19 (11%)
2020	52 (31%)
2021	41 (25%)
2022	54 (33%)

In addition to the survey findings, the study results also identified that the cumulative course average for all students enrolled in the TBL courses was a 95, or an A letter grade. Descriptive course evaluations showed that the TBL courses received high evaluation scores with a cumulative average of 4.52 out of five (rated on a Likert scale from 1 = *strongly disagree* to 5 = *strongly agree*) and a cumulative response rate of 77%. It is also notable that the descriptive course evaluation scores statistically favored “strongly agree” despite a disproportionate number of evaluations (4 of 15) coming from one of the historically more difficult classes in the BSW program according to M. Moore (personal communication, December 15, 2022), *Research in Social Work II*. Course demographics, average grades, and average teaching evaluation scores are provided in Table 2, course descriptions for the TBL courses are provided in Table 3, and the course evaluation questions that were answered by participants are provided in Table 4.

Table 2. *Course Demographics & Evaluation Results*

Courses (n = 15)		% of Sample	Students	Grade Mean	Course Eval. Mean	Resp. Rate	Course Sections
BSW	Social Welfare Policy I	11%	19	91	4.8	73%	1
	HBSE II	11%	18	95	4.5	79%	1
	Social Work Practice IV**	27%	44	97	4.3	86%	3
	Research in Social Work II**	27%	44	92	4.3	83%	4
	Elective - Addictions	4%	6	96	4.8	89%	1
MSW	Social Work Practice II	7%	11	96	4.3	67%	1
	Social Welfare Policies & Programs	2%	4	98	4.8	86%	1
	Micro Perspectives of HBSE	4%	7	97	4.6	50%	1
	Macro Perspective of HBSE	8%	13	98	4.6	81%	2

* Response rate for course evaluations
 **Indicates an immersive learning course

Course descriptions are included because many new faculty, surprisingly, may not always have a solid grasp on MSW or BSW courses and because we hope this article can be used by faculty from other helping disciplines who are not familiar with social work understand the curriculum.

Table 3. *Course Descriptions*

Courses	Description	
BSW	Social Welfare Policy I	Introduces the historical development, mission, & philosophy of social welfare in the United States with a focus on the analysis of current social welfare programs.
	HBSE II	Builds a foundational understanding of people & their social environments focusing primarily on factors that influence human behavior such as culture, class, race, ethnicity, sexual orientation, gender identity, gender, discrimination, economic forces, organizations, & communities.
	Social Work Practice IV*	Introduces entry-level practice methods with organizations & communities.
	Research in Social Work II*	Focuses upon statistical measurement & data analysis used by a BSW degreed practitioner to evaluate practice & program effectiveness.
	Elective - Addictions	Exploration of social work with selected client populations & types of practice with emphasis on individualized study, experiential learning, & group discussion.
MSW	Social Work Practice II	Builds students' knowledge & experience in macro practice & the process of engaging, assessing, intervening & evaluating outcomes with organizations & communities.
	Social Welfare Policies & Programs	A social work foundation course which provides an overview of current social welfare policy & programs. Students will examine historical, social, economic, political, organizational, environmental, & global influences on current social welfare policy & programs.
	Micro Perspectives of HBSE	Micro perspectives of HBSE focuses on the interaction between people & their environment with special emphasis on individuals, families, & groups.
	Macro Perspective of HBSE	Macro perspectives of HBSE focuses on the interaction between people & their environment with special emphasis on organizations & communities.

*Indicates an immersive learning course

The course evaluation questions (Table 4) are the standardized questions provided by the university as part of the universal teaching evaluations that all teachers in every class have their students fill out. They are grouped by instructor and course characteristics.

Table 4. *Course Evaluation Questions*

Items
Instructor
My instructor explains the course objectives clearly.
My instructor explains course content clearly.
My instructor effectively engages me in the learning process.
My instructor treats me with respect.
My instructor provides opportunities for students to engage in the learning process.
My instructor provides timely feedback.
My instructor is available for consultation (e.g., email, office hours, by phone, by videoconference, or by appointment).
Course
This course has clear objectives.
This course is effective in meeting its objectives.
This course has assignments related to the objectives of the course.
This course has a clear grading system.
This course broadens my perspective and/or knowledge.

Overall, these findings suggest that TBL is an effective teaching pedagogy for social work education, and that a large majority of students preferred it to every other teaching modality that they had experienced in their academic careers at the time of the survey.

Limitations

There are several limitations associated with this study. First, the courses were implemented by a single faculty member and without the use of a control group rather than by multiple faculty members in a randomized setting. Therefore, there is a risk that the findings could reflect practices or features associated with the faculty member such as grading style or classroom environment rather than factors associated with TBL. However, this issue was addressed in the directions provided to the students prior to filling out the TBL survey in each of the courses. In the directions students were instructed to disregard any negative or positive bias associated with the current instructor and to identify their pedagogical preference for future courses which would involve other faculty members. A second potential issue is that the study occurred within a single social work program with some students participating in the study more than once. However, the course sequencing was distributed in a way that duplicate students were kept to a minimum (< 5% of the sample) due to the implementing faculty member's teaching schedule. Another limitation was that demographic data for the participants were not collected for the first two years of the study which reduces the reliability of the findings across demographic groups. Finally, student TBL preferences could have been influenced by the course scores they expected to receive at the time they filled out the study (i.e., a high grade = a good review). However, the surveys were anonymous and originally completed prior to taking final exams or submitting final course assignments which composed a significant portion of the students

grades in each of the TBL courses. Therefore, the students would not have had any assurances of a good or bad grade for the course when completing the survey which minimizes the risk of individual grades influencing the TBL survey outcomes.

Implications for Social Work

The results of this study produced evidence that TBL could potentially be beneficial as a teaching pedagogy for social work education. The course outcomes were favorable with a 95% cumulative course average for participating students and a 4.52 cumulative course evaluation average. These outcomes are suggestive of the potential benefits for utilizing TBL as an educational pedagogy in social work. Additionally, the fact that the courses were successfully implemented with a limited number of students with varying backgrounds and academic experiences further speaks to the possible utility of TBL as a teaching methodology. This is particularly noteworthy given that social work education currently has a large discrepancy in clinical licensure exam pass rates among race and age groups (Association of Social Work Boards, 2022). The finding that 81% of the participating students indicated that they would prefer to use TBL over other teaching methods in future classes also provides evidence of the need to further investigate the efficacy of TBL in future studies.

Given the results demonstrated in the study, it is recommended that the CSWE, social work academic programs, and individual faculty members begin exploring TBL as mechanism for enhancing teaching practices in social work education. With regard to incorporating TBL, there are a large number of free resources located on YouTube and through the Team-Based Learning Collaborative that can prepare interested faculty to implement TBL in their own courses. It is also recommended that social work researchers replicate this study using a larger and more nationally representative sample, as well as a more rigorous experimental design to strengthen the validity of the findings.

Conclusion

Overall, this study demonstrated the potential utility of utilizing TBL in social work academics. The results provided a preliminary evidence-base for incorporating TBL into existing courses and showed the need for conducting additional research with regard to TBL and social work education. More specifically, there is a clear need for further evidence of the efficacy of TBL as a teaching strategy, as well as a need for more studies on how TBL influences the outcomes of students from disadvantaged backgrounds and/or groups who have low licensure pass rates. Finally, studies that investigate whether TBL is appropriate for students from minority cultural backgrounds is additionally warranted.

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