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Student Teachers experiences of an Online Team-Based Learning Strategy Applied in an ODeL Course

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ABSTRACT

The purpose of the online course, Teaching Methodology Economics in the Further Education and Training Phase, is to expose student teachers to the online team-based learning (TBL) strategy as a collaborative teaching and learning approach that allows them to follow an organised procedure. To increase student engagement, accountability and collaboration in the course, an open distance e-learning (ODeL) environment can benefit from the active, structured small group learning that team-based learning offers. An ODeL course at a College of Education employed TBL as an example of a flipped instructional design. The experiences of the Teaching Methodology Economics student teachers participating in an online TBL strategy served as the basis for the single case study reported, which employed a exploratory qualitative approach. The study purposively selected only five participants (n = 5) for the interviews. Transcripts were produced by the computerised NVivo 14 software and thematic analysis was generated themes reflecting the participating student teachers' experiences of the TBL strategy. The findings revealed that participants developed professional attributes, were motivated to reflect on their strengths and weaknesses as members of teams, and experienced the value of working and collaborating in groups. Further research on the use of evidence-based practice will ensure better outcomes for TBL in flipped learning contexts.

KEYWORDS

Online team-based learning (TBL) strategy; flipped instructional design; open distance e-learning; qualitative approach; single case study design.

INTRODUCTION

Team-based learning (TBL) is a student-centered pedagogical strategy based on a small group structure that can be applied to large classes. This student-centered strategy is characterised by elements of individual accountability, engagement, collaboration and motivation to achieve the team objective within a small group formation. Parmelee, Michaelsen, Cook and Hudes (2012) define team-based learning (TBL) as *"an active learning and small-group instructional strategy that provides students with opportunities to apply conceptual knowledge through a sequence of activities that includes individual work, teamwork and immediate feedback*" (p. 275). Extensive research on this phenomenon, had revealed that TBL as a small-group instructional strategy has increased in importance of recent scholarly works that reported TBL as a collaborative flipped learning and teaching strategy in blended learning contexts (Cagliesi & Ghanei. 2022; De Jong *et al.* 2023; Gomez & Bieber 2005).

Global interest in TBL, as reported extensively by scholars, revealed that TBL is an active, structured form of small-group learning, that can be applied in a flipped instructional design (Cagliesi & Ghanei 2022; Odell 2018; Parmelee *et al.* 2012; Pochon-Berger, 2011). The advantages of the TBL strategy are widely documented such as increase in individual accountability, engagement, collaboration, motivation and satisfaction (De Jong *et al.* 2023; Gomez & Bieber 2005; Parmelee *et al*. 2012;). As positive outcomes reported, this strategy provided learning opportunities for students to applying their knowledge and skills to a problem, the most appropriate way is through a structured, small team-based collaboration and active participation (Adelabu & Alex, 2023; Katz & Halpern 2015; Parmelee *et al.,* 2012; Wyszomirska *et al*. 2021). For example, scholarly works reported that undergraduate and postgraduate students outperformed those exposed to the TBL learning strategy, in both contact and blended learning contexts (Abío *et al.* 2023; Cagliesi & Ghanei 2022; Lai *et al.* 2020; Odell 2018; Tasselli *et al.* 2023). However, shortcomings emerged from studies conducted where students expressed concerns to converting to a new teaching strategy such as the TBL strategy, resistance to the strategy, insufficient time to engage by students, unpreparedness of students and lack of accountability (Inuwa *et al.,* 2012; Letassy *et al.,* 2008; Remington *et al.,* 2015). These challenges led to the unsuccessful application of the TBL strategy, which requires lecturers to do pre-class planning to devote the majority of in-class time to problem-solving activities.

Recent developments in TBL applied to blended learning have prompted the author to undertake extensive scoping review of studies related to an ODeL context. However, unlike in an ODeL scenario, little research has been conducted on using the TBL strategy as a flipped instructional design in a online teaching methodology course. After reflecting on the benefits and concerns of TBL, the researcher delved into texts dealing with team engagement, collaboration and accountability to apply this strategy gradually into the course. This entailed reading extensively on the TBL strategy and consulting additional resources as part of the learning unit on teaching methodology. Based on the premises of Parmelee's *et al.* (2012) of the TBL strategy, what is not yet clear is the impact of this strategy applied in a fully online Teaching

Methodology Economics course at an open distance e-learning (ODeL) college of education at a South African university. Therefore, from an ODeL perspective this article argues that to increase student accountability, satisfaction, engagement and team flexibility in the online course, the TBL flipped strategy could be of advantaged to lecturer and student teachers in the course. In this single case study, student teachers were probed in an online course, Teaching Methodology Economics. The TBL strategy was introduced as a collaborative teaching and learning approach that allowing students to follow an organized procedure. The following research questions were formulated:

- What dimensions emerged of Teaching Methodology Economics students' narratives posted in their learning journals of the online TBL flipped strategy?
- How does the online TBL strategy enhance students' real-life learning in the ODeL course?
- What challenges emerged within the small-based group structure of the TBL formation in the online course?

This paper next turns to provide the context of the study, including the design structure of the TBL flipped instructional design, theoretical framework underpins student engagement and accountability in teacher education context at an African university. The methodology is presented next before findings and recommendations for online TBL strategy are highlighted.

Case study

This single case study situated in the college of education at a South African open distance e-learning university. Final year Postgraduate Certificate in Education (PGCE) and Bachelor of Education (BEd) student teachers were registered in the course. The TBL flipped learning strategy was included as part of the Teaching Methodology Economics course to expose student teachers to the TBL strategy, by purposely selecting scholarly works and YouTube videos for pre-class preparation and in-class discussions via Microsoft Teams (MT). The lecturer had revised, planned and aligned to some of the learning units in the course, by introduced the TBL flipped learning strategy as a collaborative teaching and learning approach which requires student teachers to adhere to structured procedures to become professionals. TBL strategy was applied in an online team-based flipped learning strategy in Teaching Methodology Economics. The twelve credited course, Teaching Methodology Economics was hosted on the university's Moodle learning management system (LMS). In the ODeL context, constructing an online TBL strategy as a flipped instructional design required the lecturer to consider four components before implementation: the teams, accountability, assignments/tasks and feedback (Michaelsen & Sweet 2008; Wyszomirska *et al*. 2021). The TBL strategy was planned and implemented according to the stages below (adapted from Michaelsen, 2004; Michaelsen & Sweet, 2008):

Selection of team-based structures: During the first online MS Teams session, the student teachers were exposed to the conceptual and components of the TBL strategy as one of the innovative pedagogies taught in the course. Before the live online session, additional

resources were uploaded on the course site (e.g., a self-made video, an article, and lecturer notes to be studied) for self-study during the course. The teams were selected randomly according to the registered student numbers. Teams consisted of seven members each, with specific roles and duties throughout the eight weeks of the learning unit on the TBL strategy of the yearly online course.

Accountability and responsiveness of the TBL process: Student teachers are individually accountable for their learning journey. Divided into team-based groups, student teachers were accountable for their individual and group work performances. Learning materials and related resources were uploaded on the module site, to be studied for tests (Chan & Kennedy 2002).

*Planning of team-based activities***:** All teams received the same project or problem to solve. Students had to studied specific learning units to complete the individual-ready assurance test (iRAT) and team-ready assurance test (tRAT) in the course. The teams worked together and reported on each stage of the project/task. On the module site, the Discussion Forum (located on the Moodle LMS) was used for critical reflection on a specific topic. The teams could select any research project and were urged to make use of the Discussion Forum to stimulate team interaction, the sharing of ideas, and reflections on their research.

Constructive feedback, and regularly updated learning journal: Students received frequent and timely performance feedback after each assessment, be it individual or team tasks or assignments, with an emphasis on constructive feedback. In most formative assessment activities, each student teacher needs to – daily – capture in the learning journal a vital part of the student's learning, which prompted them to be prepared (independent and self-managed) and to participate, as this would have an impact not only on their performance but also on the learning journal in the online course.

LITERATURE REVIEW

The social-constructivist theory underpinned the research reported here. Developed by Russian psychologist, Lev Vygotsky (1973), the theory posits that social learning enhances individuals' active participation in constructing meaning to arrive at new knowledge, skills and values. Here, the medium was the Moodle learning management system (LMS), which operates in an ODeL space, and study participants consisted of PGCE and 4th Year BEd student teachers. The application of the TBL as a flipped instructional design provided the student teachers with online learning opportunities for active engagement, the co-construction of new knowledge, the sharing of experiences, and being accountable to and reflecting on their prior learning. The use of the TBL strategy was planned and applied in the course Teaching Methodology Economics, which required student teachers to play an active role as team members in constructing new knowledge, equipping themselves with practical teaching skills, and applying those skills in a school-based placement context. The TBL strategy, which was used throughout the course, aligns with the views of scholars of social constructivism, who argue that the approach promotes

active engagement on the part of students, motivating them and enhancing their learning experiences by giving them control over the content, strategies and activities (Katz & Halpern 2015; Kim 2005;). As Swanson and Holton (2009) argue, the social-constructivist theory is not only an active process of constructing new meaning but also an internal process of constructing and accumulating lived experiences. Hence, as TBL "inevitably embodies local adaptations and thereby an interactional organization of the task in real-time" (Pochon-Berger, 2011, p. 87), the lived experiences of individuals in localities are a part of the larger theoretical framework of the strategies' implementations.

Studies on student engagement and accountability in teacher education

In the online course, Teaching Methodology Economics, students are expected to engage willingly, to participate and to contribute in a meaningful way to achieve the objectives of each respective learning unit. This implies that the students are engaging in emotional, relational, social and cognitive matters to benefit from the process, along with their peers and the lecturer. Student engagement is regarded as a vital contributing factor to the success of student learning and achievement (Abío *et al*. 2023; Burgess *et al.* 2020; Minz & Saluja 2024; Wyszomirska *et al.* 2021). To achieve this, student teachers must give sustained attention, be focused, and reflect critically on each lesson presented online. Ultimately, student teachers who actively engage in a course become competent and benefit socio-emotionally, academically and intellectually, as individuals or as a team. Since the course in question was presented fully online, student teachers who studied within the ODeL space were expected to participate actively, engage in forums, and take ownership of their learning.

In this case study, student teachers were required to take responsibility (accountability) for their actions and the tasks assigned to them. Once they had been divided into teams, the student teachers were expected to show dedication, make contributions as team members, and be willing to be held accountable. Everyone prepared and took ownership of the learning materials, before taking the individual-ready assurance test (iRAT) and team-ready assurance test (tRAT) in the course. The results of both the PGCE and fourth-year BEd students counted towards their final mark. In this study, with a small group structure, the TBL strategy was deployed to make student teachers accountable – not only as individuals but also as teams – by performing and by showing progress throughout the year (Fink 2004; Sweet & Pelton-Sweet 2008).

The TBL strategy was introduced in the course for students as team formation to apply, practise, and reflect to become competent, autonomous learners within a distance education space. This view is supported by Muongmee (2007), namely that the value of the TBL strategy as a flipped instructional design is that it promotes accountability and engagement as a means of fostering lifelong learning. During the year course, the aim was for students to be exposed to help them become autonomous, lifelong learners, as Muongmee (2007) suggests. Studies revealed that TBL promotes autonomy, self-management (Brockett & Hiemstra 1991) and the independent pursuit of learning, intrinsic motivation and relatedness (Guglielmino & Long,

2011). According to Brockett and Hiemstra (1991), self-directed learning is about transferring knowledge to a new situation, learning how to learn, and creating a greater awareness of the self.

Studies reported that students expressed concern about the fact that TBL is a new teaching strategy and they felt uncomfortable to adjust to the strategy (Inuwa *et al*., 2012; Remington, *et al*., 2015). Some felt a lack of group work or project-based learning was created into the TBL strategy. Ultimately, students felt that their courses lack commitment, accountability, and self-directed learning opportunities. Remington *et a*l (2015) reported findings of a large scale study at a US college of pharmacy related to negative impact of converting to a new TBL strategy. Findings revealed that individual freedom, resistance and insufficient time to engage by lecturers and students in the new pedagogical approach. Other studies confirmed similar concerns, like unprepared small teams, some student members of teams were unprepared and showed not accountability as individuals, some felt it was a new dimension which need more time to be adapted to the TBL strategy (Inuwa *et al*., 2012; Letassy *et al.,* 2008; Remington, *et al*., 2015; Tarman, 2010).

METHODOLOGY

Ethical clearance was obtained to conduct (reference #2023/05/13/90178912/18/AM) this single case study employed a narrative-based design (Yin, 2014), to reflect the lived experiences of student teachers taking the module Teaching Methodology Economics, who were exposed to the TBL flipped instructional design strategy. In this fully online course, they applied theory to practice on the Moodle platform. Before being placed in schools for teaching practice, student teachers were taught practical skills and exposed to online student-centered typologies of flipped instructional design; however, this study only reports on the TBL strategy. The experiences of the Teaching Methodology Economics student teachers who were involved in an online TBL strategy served as the basis for the single case study reported here, which employed a narrative-based inquiry design (Connelly & Clandinin, 1990). As mandatory in the course, all student teachers are required to capture daily experiences in the learning journal. An invitation was sent to identified student teachers who gave their consent to participate in the study. Each participant kept a learning journal that narrated their lived experiences in the TBL strategy, which is part of the course and is graded in the online portfolio for the course. The narratives of the five participants were captured as a reflection of the TBL strategy. After giving their consent for the study, only five participants (n = 5) – with pseudonyms– were selected with pseudonyms and narrated their lived experiences of the TBL strategy. A purposive sampling was selected because only final year PGCE and Bed students registered in the course were selected. The selected participants captured narratives in the learning journals during exposure to TBL strategy. Before the learning journal narratives received from the participants, the purpose of the study was explained and the consent application was signed. Participants uploaded learning journals to the researcher by MS Teams group. To start with the thematic process, project name,

Learning Journal was registered in the AI qualitative data analysis software generated, NVivo 14 version (https://lumivero.com/). All narratives captured in the learning journal were imported as text into the NVivo 14 software. The NVivo AI software generated specific themes from narratives. The data analysis process followed the following five steps: (1) familiarized with the narratives of participants captured in the learning journals, (2) coded (names) the narratives as a data set (e.g. Alexia), (3) used the NVivo software to generate (drill into narratives) themes linked to specific extracts of participants (e.g Dannyboy), (4) reflect and review of some of themes linked to extracts of participants, (5) define and finalized name of identified themes. To ensure trustworthiness and participant validation, the empirical construct is important to measure the scientific 'acid test' for the qualitative approach and triangulate the data generated with the cited literature. It was imperative to ensure that the reported data were reliable and valid. Participant validation was used as a scientific technique to confirm the credibility of the narratives as well as the generated NVivo themes. The purpose of participant validation is to serve as a quality assurance measurement; to correct errors and eliminate any misinformation. The participants sent signed emails to the researcher, stating that the narrative transcripts were true reflections of the actual process and the participant statements from the learning journal.

FINDINGS

The five participants' narratives were captured daily in their learning journals as reflections of the TBL strategy. After giving consent, participants' identity was protected by using pseudonyms and narratives were posted in the learning journal of the TBL strategy. A brief description of each participant:

Alexia is a 23-year-old, female graduate with a Bachelor of Accounting degree, registered for the PGCE (grades 10–12) and final year TP placement at a well-resourced city high school.

Dannyboy is a 27-year-old, male in his 4th year of study for the Bachelor of Education with specialisation in the FET Phase (grades 10–12), and was placed at a township secondary school.

Samson is a 24-year-old male graduate with a Bachelor of Arts degree, registered for the PGCE (grades 10–12) and final year TP placement at a low-resourced township secondary school.

Kelebogile is a 33-year-old, female graduate with a Bachelor of Commerce degree, registered for the PGCE (grades 10–12) and final year TP placement at a well-resourced urban high school.

Christine is a 29-year-old, female graduate with a Bachelor of Accounting degree, registered for the PGCE (grades 10–12) and final year TP placement at a low-resourced rural combined school.

In the next section, the dimensions emerged of Teaching Methodology Economics students' narratives posted in their learning journals of the online TBL flipped strategy. Only selected extracts are given to support each identified dimension that emerged:

- **Students' individual accountability in small-TBL groups**

The dimension of accountability is vital in the TBL strategy, and most of the participants agreed that each individual is assigned to a team accounted for ownership. This implies that each team member assumes ownership as an individual and as a team member. Several factors emerged

from this dimension, namely preparedness, trust, integrity, ownership and ethics. Goal-oriented responsibility emerged from the data analysis process; teams need to prepare because they are responsible for all actions or tasks to be completed on time and they have to meet due dates – through togetherness, team spirit, and collaboration.

Based on this dimension, Samson captured two important issues in his learning journal: preparedness and accountability as drivers for the success of the TBL strategy. He posted this narrative in his learning journal:

> *"It is important to prepare before online sessions because the success of the team comes first. I am delighted that we could work together, despite coming from different cultures, and reportedly felt unified by a strong team spirit, despite remaining accountable for our performance. As a senior student, I am entirely responsible and accountable for my studies. Accountability [requires me] to complete my course in the stipulated time. During our online discussion forums, teams agreed that TBL had increased awareness of the benefits of this approach amongst groups. I believe there is much potential to implement this approach in lessons."*

Another participant, Christine wrote in her learning journal about the TBL strategy. She expressed her delight:

> *"Our team is goal-orientated, collaborated and worked together to achieve our tasks successfully. What I like about this type of strategy is that it creates a sense of working together and belonging. For us, accountability is to work together to achieve our goals. But the real test was that we had to decide what was best for the team, the actions taken and the assignments to be completed, to achieve our goal."*

The findings revealed that the participants showed confidence, collaborated / worked together as teams to deliver the required outcomes of the tasks, assignments and projects.

As Alexia noted, trust, ethics and integrity of the individual are important for the team in terms of accountability:

> *'The most important characteristics of accountability as I can recall from my undergraduate studies are integrity, ownership, ethics, and trust. If my team fails the performance test, we are collectively responsible for our actions. No one is to be blamed for the failure, but the team. Therefore, collectively, we trust each other because we count on each other. As a team player, I am satisfied with […] what we achieved as a team during the course. I recall that there were days when some of the team members were compelled to put aside their differences for the sake of the team. No one is bigger than the team. '*

- **Students satisfaction with teams performance in learning tasks**

After data analysis, factors such as workload sharing, learning content, TBL flipped learning, task accomplishment, leadership, social support and communication openness emerged from this dimension. Participants are satisfied with the team's performance with regard to online learning tasks completed. Several teams alluded to the fact that this strategy had helped them and even

enhanced their team performance, allowing the group to set high performance targets when it came to using strategy.

Alexia said:

> *"Mutual assistance and social support are vital carriers to boost a team's morale and respect. For example, while doing assignments and research projects together, we joke around and enjoy each other [sic] company. We are inclusive of everyone's ideas and share our notes amongst members. One thing I need to stress is workload sharing which is an important factor in every team. Every member contributes their share to our group discussions. I vividly remember my former experience working in teams – a total disaster. But the way it was structured in the online session, I had debunked my sceptic[ism] and opposing views. It truly enhanced my online digital skills and team satisfaction.*

Most participants were positive about the ability of the strategy to promote team performance and digital literacy, to be successful in an online learning space. Some felt empowered in using different Moodle platform tools linked to the TBL strategy.

As Kelebogile explained, two very important factors – learning content and leadership role – had changed her views of the TBL strategy:

> *I am totally satisfied with the pre-sessions on the outline of the course. I received training on how to use and actively participate in different tools in Moodle, which changed my perception of the team learning approach. The learning content was well-received by all, each read, prepared and attended online discussions. I was elected as team leader, so I took charge, took the initiative, made sure we got everything done and submitted our tasks before or on the due dates. I also gave direction to our team and focused on task accomplishment."*

Dannyboy had the following to say about the communication openness and workload sharing among team members, and mutual support during the course.

> *We prepared, contributed, and shared workload amongst us. Everybody in our group did a great job and supported each other in the role-play activity. You felt…What I like about the team, we agreed and disagreed but provided mutual support and respect that carried us as a team. This action was an eye-opener and a new learning experience. Everybody is important to the team. My team leader is supportive and a good team player and cares about other teams."*

- **Students active participation and engagement as individuals in small-TBL groups**

Participants displayed emotions, engaging, sharing, and collaborating among teams in the online learning space. Under this dimension, factors like emotional intelligence, engagement, and shared and collaborative support increase a team's effectiveness in the online learning space. The members collaborated and supported other team members who were not progressing following the individual responsibilities and roles assigned to them. As team members became accustomed to one another, they reported easily completing their respective assignments promptly.

Christine posted this statement about team performance, emotions and respect as components of engagement:

> *I experienced an increased engagement with [my] fellow members which led to satisfaction, increased team performance, and acted professionally. My team leader provided a lot of humour and jokes but remained professional. She always challenged us to do better as a team. We supported, engaged and completed tasks on time but [sic]... I love how [sic] respect each other, learn much from each other, respecting our values, cultures and principles. We took the stance that your word is your honour. Inside our team, members were highly competitive and determined amongst us and sometimes the competition was fierce which brought out the best in me. I think healthy competition is good for the team spirit."*

Dannyboy highlighted the issue of multiculturalism (diversity) in the team and debunked his previous experiences with group dynamics. He alluded to team spirit, working together to achieve a common goal:

> *My group was diverse… we respected each other's belief and point of views. Through my team, I […] improved my collaboration skills within [a] group setting. There was an incident of a misunderstanding about who should lead the team… emotions were high, and our team leader clams everybody. Before I joined the team, I was skeptical about working in a multicultural team, because of my previous experience. The group changed my perception of working in a team. I learned [the] team skill of collaboration and engagement. I loved working with the team, and we did a great job.*

Second, the online TBL strategy enhances students' real-life learning but also challenges emerge as part of the online learning experience. In this regard, the following identified issues were captured and aligned to participants' learning journal postings.

- **Students experienced TBL as a flexible learning approach**

The study participants expressed their delight with the team-based learning experiences. They felt that this approach supported flexibility in planning and organising the learning journey throughout the online course. In their view, this type of flipped instructional design increased the sharing of information and created ample opportunity to practise the strategy, which in turn boosted their confidence in applying the Teaching Methodology of Economics during school placements (teaching practice placements).

Alexia wrote in her learning journal about the TBL strategy:

> *I like flexibility in planning, organising our learning and practising becoming excellent. I could at any time and place start my learning journey… at any time send my part of the work to my team members*. *Any time, our team reflected, customized and critically to decide who will present on behalf of the team, if our leader is absent.*

Christine supported the issue of flexibility of the TBL strategy:

> *I experienced greater sharing of information on the module site. A sense of belonging to the team encouraged the team members to contribute meaningfully to our plan*

discussion. I can apply my new knowledge and skills in my context. *Some of us made mistakes, but the more we practised, the better we became before our school placements. I am positive about this strategy. We were exposed to online demonstrations and practice sessions. It gave me the confidence to apply in my school placement for teaching practice.*

- **TBL strategy promotes student autonomous, self-directed learning and life-long learning**

As the participants posted experiences in the learning journal, participants observed that the TBL strategy promoted students' self-directed learning, autonomy, and lifelong learning. Samson wrote how the TBL strategy regulated his learning and actions productively:

I am an individual who takes initiative in my learning. I am fully accountable, committed, and responsible for my learning journey. I can say, I am [capable of] autonomy and self-management. I like studying. I completed my undergraduate degrees and short learning courses. I believe knowledge is power. One of my strengths is self-autonomy and self-managing.

Some of the participants expressed positive sentiments about the small group formations which increase confidence, creative skills and critical thinking about solving problems in teams collectively.

On why he likes the TBL strategy: TBL strategy *promotes creativity, and critical thinking and [teaches me the] skills to help me to self-evaluate my team and other teams. Confidently, I am a life-long learner.*

- **Students raised challenges of resistance, unpreparedness and lack of engagements in TBL-team formations**

Several challenges were posted in the learning journals of participants. Challenges such as resistance, unprepared group members, lack of engagements, time wasting amongst members and insufficient time for discussions emerged within the small-based group structure of the TBL-team formation. The participants wrote about the challenges experienced during the TBL strategy and highlighted specific dimensions, such as engagement, accountability, and satisfaction.

Alexia posted under accountability the following issues:

Team-based learning is a relatively new approach and sometimes overwhelming for us. I think our team wasted time because some of our members attended online, without sufficient preparation for our MCQs and discussions. It also takes time to understand this approach and [I] need [ ] time to practice [sic] to be successful in this teaching strategy. I need more practice...

After studied the narratives in Kelebogile's journal entry which reflected issues such as resistance, insufficient time and lack of engagement of individual team members, she posted:

Some members lack self-confidence in planning and presenting lessons. Everyone is accountable for preparing, planning, and responding to group tasks. One of my team members resisted to

participate. Another issue was insufficient time to engage and time wasting by our group in the new teaching strategy amongst members.

Concerning non-engagement, the post from Samson's journal:

> *Sometimes I do not like that our team leader occasionally crushes other arguments. I stayed quiet to keep the peace, not to "rattle" the team spirit. Another issue, I think we need to stop dismissing good ideas and consider all the ideas with more consideration.*

Christine posted some issues related to dissatisfaction with team-based learning.

> *I think we can improve inside and outside our team more regularly. This, I think, will work better to collaborate by expressing our ideas to the team. We need to plan our activities on time and in a collective way and not during our live team presentations, which shows that we do not have team spirit.*

DISCUSSION

The social-constructivist frame foregrounded the TBL strategy, which provided student teachers with online learning opportunities for active engagement and allowed the co-construction of new knowledge, the sharing of experiences, the taking of accountability, and reflection on prior learning in an online teaching practice course. It emerged that the student teachers experienced the online TBL strategy as creating an engaging space that fostered lifelong learning. The participants reported that they had with one another, for the success of the team. Participants posted in their learning journals, mentioning increased engagement and improved collaboration with fellow small-based group members.

This view is supported by studies that found that students do engage and actively support their team members, in an attempt to attain high scores in tasks (Abío *et al*. 2023; Katz & Halpern 2015; Minz & Saluja 2024). Furthermore, the results revealed that using TBL as an online flipped pedagogical strategy offered an empowering learning experience for student teachers working together in teams, to create a sense of togetherness, team spirit and collaboration (Alvarez-Bell *et al*., 2017; De Jong *et al.* 2023; Gomez & Bieber 2005). Extracts from the journal entries revealed that every team member had to be held accountable for both individual and team actions. The participants viewed accountability as a vital element for improving their learning retention and awareness in planning and implementing effective TBL experiences. TBL, as a strategy, has been found to promote student accountability to prepare work beforehand, to build trust, and enhance in-class as well as class discussions (De Jong *et al*. 2023; Michaelsen 2004; Muongmee, 2007; Sweet & Pelton-Sweet 2008;). Moreover, the participants expressed satisfaction with the TBL strategy for its positive impact on their digital literacy skills and their performance in the course. They indicated that they were so satisfied with the strategy that they would use it in future teaching practice, since, when applied in their course, they were actively engaging, sharing and collaborating as teams in the online learning space.

The study revealed that the online TBL strategy enhanced the participating student teachers' accountability, engagement, satisfaction and flexibility as dimensions towards lifelong

learning in the ODeL course. During the year course, the participants were exposed to self-directed learning and became autonomous learners who recognised the value of a lifelong quest for knowledge. One participant confirmed that the TBL strategy supported him to become fully committed and responsible for his/her learning journey. Moreover, as the findings revealed, the TBL strategy enhanced autonomy, self-management and motivation, thus supporting the findings of scholars such as Brockett and Hiemstra (1991) and (Guglielmino & Long 2011). One participant pointed out that the TBL strategy promoted flexibility, satisfaction and lifelong learning, in addition to helping him/her evaluate not only his/her own team but also other teams.

Finally, student teachers mentioned specific challenges and concerns associated with the implementation of an online TBL strategy in an ODeL course. Participants posted in their learning journals that teams wasted time because some members attended online, without sufficient preparation. Furthermore, participants alluded that some individual team members who resisted to be part of the small group formation, students came to online sessions unprepared, showed a lack of commitment to specific tasks, unprepared for online discussions and poor engagements in teams (Inuwa *et al.,* 2012; Letassy *et al.,* 2008; Remington, *et al*., 2015). Hence, as Carson et al. (2021) mention, associated costs, preplanning, the type of assessment tasks and the structuring of teams must receive due attention.

CONCLUSION AND IMPLICATIONS

This study was undertaken to design a TBL flipped instructional strategy and narrate Teaching Methodology Economics student teachers' experiences of the strategy. This TBL strategy, when applied as a flipped instructional design, served its purpose, being foregrounded in the social-constructivist frame. As shown, student teachers who studied in an online learning space were actively engaged, satisfied, and accountable to individual and team performance. Therefore, the ultimate success of the TBL strategy required that members must be accountable for preparing for in-class as well outside-class tasks, the sharing of experiences, and the taking of responsibility that leads to flexibility in the course to become competent in the particular course. It emerged that the student-teacher participants experienced the strategy as establishing an engaged space, which fostered the quest for lifelong learning. The findings confirmed that the participating student teachers developed accountability. In addition, they are motivated to reflect on their strengths and weaknesses as members of teams and they experience the value of working and collaborating in a team.

This study is the first to describe TBL flipped pedagogy in an ODeL context in order to achieve increased student-teacher accountability, satisfaction, engagement and flexibility as well as preformed in the online course. This finding contributes to teacher education – in particular, the Teaching Methodology Economics course applied the TBL strategy, designed based on the flipped learning principles, by promoting student teachers' preparedness, accountability, communication and teamwork skills that are critical for the teaching profession.

The findings give lecturers and curriculum designers insight into the dimensions of how student teachers perceived accountability, satisfaction, and engagement inside and outside class. Furthermore, the findings of this study provide valuable and practical information that can be used for self-directed learning and lifelong learning. From a practical and policy perspective, the findings of the TBL strategy could be included in similar teaching methodology modules to prepare student teachers for future teaching practice placements in accordance with the requirement of work-integrated learning (WIL) and the minimum requirements for teacher education qualification (MRTEQ) policy. An implication of the latter is the possibility that trainee teachers, teacher educators, lecturers and curriculum designers can use the TBL flipped instructional design as a guide to planning futuristic learning experiences for application in either a contact, blended-learning or distance education context.

As teams compete in the tRAT and iRAT, the challenges referred to earlier – preplanning in respect of non-engagement, and no accountability – became prevalent because some team members are not prepared and are inactive in the team. Other concerns emerged such as resistance, unpreparedness, and lack of commitment to allocated tasks within small-based teams. Furthermore, this study selected a small sample size of only one course and therefore the findings cannot be generalised. Future research should ideally adopt an evidence-based practice approach which may yield different results concerning an online TBL strategy, also when applied to other fully online courses.

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