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Student appraisals of collaborative team teaching: A quest for student engagement

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Abstract

Team teaching has been defined many a time in a variety of contexts. However, it is increasingly taking centre stage in addressing the gaps in student learning and is a platform for generating a multiplicity of ideas. We view learning as a product of instructors' multiple perspectives and teaching experiences. This study aimed to investigate the effectiveness and provide a synthesis of the inherent benefits of team teaching and how it positively contributes to students' critical thinking skills, learning experiences and engagement. We believe knowledge construction results from a collaborative effort between teachers and students. This supports our choice of constructivist learning theory as an ideal lens for understanding team teaching and its benefits to learners and teachers. Thus, the availability of multiple explanations from the teaching team allows the elaboration of key aspects of the module or course and beyond. Arguably this has a facilitative effect on learning (i.e., allows for knowledge development) through the provision of reflection and timely feedback compared to delayed feedback which potentially hinders learning. The results of this study show that through motivating students, providing clear communication, and involving students in the learning process, deeper engagement is needed. This is facilitated and enhanced by adopting a team-teaching pedagogical approach. This study contributes towards our understanding of students' learning and that pedagogically, the fundamental efficacy of education requires that learners be served with effective knowledge. It also reminds us that, if not handled well, miscommunication may hamper learning and engagement due to potentially mixed messages.

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Introduction

Traditional abstract teaching widely sees pedagogy through a century-old lens described as an instructional mono-teaching method (Westermarck & Gooch, 1970). The current literature informs us that students learn best when actively engaged with pedagogy and not only recipients of knowledge (Chen & Yang, 2022). Proponents of this approach, among others, 'the father of the American Middle school' William Alexander, advocated for team teaching for large groups of people (Coffey, 2008; Gaytan, 2010). This reflects the need to meet modern-day students' learning needs, whose information assimilation ability, interpretation and transformation demand a certain level of engagement and knowledge creation that require stimulation within a contextual self. This process is viewed as a learning cycle or spiral where the learner touches all the bases, i.e., a cycle of experience (Weenk, 2021, Kolby, 2015) of their contextual self in the knowledge creation endeavour. This, according to Edwards (2015), achieves long-lasting learning outcomes that "come through direct experience and interaction with the intellectual, social, and physical environments" (p. 26).

The realms of team teaching as a pedagogical approach consider the scope where two or more lecturers from the same department/discipline are responsible for tutorials, lecturing and assessments, with some or all responsible for specific activities associated with the course. It is an approach to pedagogy that is extolled for offering learners a multiplicity of explanations for complex concepts and improves teacher development (Lieber et al., 2017). Outcomes of the team-teaching pedagogical approach are attributed to students benefitting from multiple enlightenments/vantage points to complex concepts (Burden et al., 2012). While this allows students insightful bouncing of ideas, from a teacher's perspective, it provides an opportunity to promote development through mutual reflection. Though it may be viewed as expensive for institutions due to the potential need for more staff, it derives its strength from an ability to harness an interdisciplinary format (Quinn & Kanter, 1984). The issue of who should teach what is interesting, with Otache (2019) proposing that the main issue should be content as it largely determines what should be taught (i.e., a curriculum issue) and who should teach it. For example, modules such as entrepreneurship should be guided not only by theoretical knowledge but also by the practical aspects of it. Hence, the invitation of industry guest speakers is also integral to team teaching in modules requiring linkages to practice. Our point of departure is the belief that a collaborative teaching approach is a plausible alternative to solo teaching and is effective in underpinning students' learning.

While students may express their learning experiences in any course from their potential grade (Weinberg et al., 2009), this study uses students' views on a course that has adopted a team-teaching approach. By exploring literature on team teaching, coupled with student views, we hope to provide some answers to the following questions:

- Is team teaching effective in helping students learn?

- To what extent can team teaching provide a platform to develop students' skills and knowledge?
- What does the involvement of teachers in team teaching imply for the learning of students?

Team teaching: An evolving pedagogical approach

While we acknowledge a modest amount of research on team teaching, in this article, we bring together the various takeaways on teaching and team teaching from extant literature to further expand some of the expositions by investigating. We have noted the discourse around team teaching for blended learning (Crawford & Jenkins, 2018; McKenzie et al., 2022) and pedagogical and technological uncertainties/online teaching (Bender, 2012; Fletcher & Bullock, 2015). Some studies centred on team teaching on pedagogical 'best' practice (Mortera-Gutiérrez, 2006), while others have focussed on team teaching and diversity (Buckley, 1999, Milford et al., 2022). Some earlier studies sought to align student achievement to team teaching (Armstrong, 1977).

These shifting pedagogical contours, driven by a desire to capture learners' imagination and instil engagement, have led to limited effectiveness and rigour of a variety of teaching strategies such as mono-teaching (Westermarck & Gooch, 1970), blended-learning (Crawford & Jenkins, 2018) and hybrid approaches (Dos Santos, 2016). While each of these contributes towards pedagogy in its specific way, a persisting and diverse approach that punctuates the need to develop students through an encompassing approach driven by learners' and teachers' generation of knowledge is needed. We believe adopting a team-teaching approach can help guide pedagogy grounded not in a single voice (teacher/s) but in multiple perspectives (teachers & students). In this paper, we learn from traditional teaching approaches, develop, and instantiate a team-teaching approach as a platform to develop students' skills and knowledge. Given that educational institutions globally are seeking ways to engage students in learning, we argue that much effort should be expended on understanding and using team teaching, mainly on its ability to facilitate learners' perspectives as participants and contributors to knowledge. When shared and moderated via teacher expertise, this dialogue will bring the gaps/ areas missed through the dynamics of the traditional teacher-to-student interactions (Letterman & Dugan, 2004). However, for dialogue to be meaningful, clarity of communication should be present. Waber et al. (2022) claimed that positive and trusting relationships within the team are core if such dialogic relationships are to work and produce optimal learning experiences. These are achieved via clear communication within the team and with students.

Team teaching has been defined many times in various contexts and often described along a wide continuum of pedagogical terminology. Anderson and Speck (1998) conceptualised team teaching as a cacophony of voices arising from various pedagogical contexts and settings (see Baeten & Simons, 2014). Helms et al. (2005) viewed it as

composed mainly of three styles: interactive, participant-observer, and rotational models. Hourcade & Bauwens (2001) understood it as cooperative teaching, where two or more educators with distinct sets of knowledge and skills work together in an academic setting responsible for a diverse group of students. Furthermore, Welch & Sheridan (1996) and Boulay (2005) conceived team teaching under various guises: collaborative teaching, co-teaching, or teacher collaboration. Carpenter et al. (2007) assumed team teaching as composed of the splitting up of lecture blocks among teachers (the serial approach) to teachers continually planning, presenting and evaluating lectures together (the collaborative approach). Others described it not as a new phenomenon in higher education (HE); instead, as an activity rather than a pedagogic approach (Minett-Smith & Davis, 2020). The viewpoint adopted in this discussion is that the authors use the term team teaching to cover all activities associated with a university course, such as lecturing, assignments, tutorials, and subject-specific activities. Similar approaches were adopted in the past by the likes of Liebel et al. (2017).

Team teaching is primed on collaborative work and a degree of students' ownership of the learning process and its authenticity. Learning, in this sense, represents efforts by the teacher and, importantly, involves the students. Students' ownership of the learning process has been credited with increased confidence, responsibility, and success achieved using live case studies. Cliff and Curtin (2000) and Galluci (2009) argued that using case studies improves students' problem-solving skills, higher-order reasoning, and understanding of course material. To complement this, teachers' feedback on students' performance has been found to build self-regulated, independent, and deep learners (Thibodeaux & Harapnuik, 2020), partly by taking ownership of work. Persuasively, the concept of ownership clearly drives motivation for teachers to teach and, from a learner's perspective, the quality of the learning experience. This position supports Wenger & Hornyak's (1999) conceptualisation of team teaching. From a teacher's perspective, taking ownership of the learning process is a testament to the possibilities for mutual learning through team teaching and learning involving teachers and students as they learn new aspects of the subject matter (Shibley, 2006).

Theoretical underpinning

Teaching and its related strategies are topical issues at the centre of student learning. Without negating historical pedagogical contributions that mono-teaching has made to student learning, innovative approaches encompassing team teaching have surfaced. They are widely credited with responding to ever-changing student learning styles. Even before the advent of online learning that forced many educational and non-educational institutions to go digital, educators were persistently exploring ways that foster active and engaging pedagogies beyond traditional practices of passive instruction (Olorunnisola et al., 2003). To develop a conceptual understanding of team teaching and its role in fostering active learning, we propose that this discussion will answer some of the key questions pertinent to pedagogy,

noting the logic of teaching is to instil learning.

Team teaching is often conceptualised differently across contexts such as secondary schools, colleges, and universities. It is further dissected into undergraduate, graduate, and professional courses. From this perspective, it strongly appears that context has a role to play. However, what is common among these definitions in these settings is the involvement of two or more educators working together in the planning, teaching, and assessment processes. Similar thoughts are held by authors such as Brookfield (2015), who portrayed collaborative participation by teachers in planning, instruction, and evaluation as a clear demonstration of critical dialogue unfolding before them. This belief is further strengthened by Gurman (1989), who viewed team teaching as "an approach in which two or more persons are assigned to the same students at one time for instructional purposes" (p. 275). This view was supported by Hatcher et al. (1996), whose stance advocated the notion of "two or more instructors collaborating over the design, implementation and evaluation of the same course or courses" (p. 367). Together these constructive definitions form an array of pedagogical voices. Interestingly, rather than having an enlightened view of team teaching, it appears that a lack of a singular definition renders these disparate voices unhelpful to a degree in our quest to understand specifically why team teaching is effective in student learning. This strengthens our resolve to add a student-centric voice to this discourse. In developing a deep and better understanding of student learning in a team-teaching context, we are of the view that this pedagogical approach benefits students by further developing their cognitive skills through actively involving them in the process of knowledge creation (i.e., active learning), not just via a linear process (Fosnot & Perry, 1996). Furthermore, understanding learning from this perspective demonstrates students' assimilation of knowledge as a complex process. Hence, we argue that cognitive learning and a deep understanding of different constructions and meanings of content/taught material are required to contribute to the rationale for adopting team teaching. This is even more relevant as the literature on team teaching is more anecdotal than theoretically grounded. For this reason, this discussion premises students' active learning (Chen & Yang, 2022; Edwards, 2015) by using the constructivist theory of learning (Hein, 1991).

Constructivism, as a theory, views student learning as an active process in which learners gain a deeper understanding of a subject through their action and reflection (Cattaneo, 2017). It is the exact opposite of traditional teaching, which was and continues to be instructional. Constructivism "emphasises that learners create meaning as opposed to acquiring it" (Clark, 2018, p. 181). Some define it as "a philosophical view on how we come to understand or know" (Savery & Duffy, 1995, p. 31). Other authors argue that this approach is based on the idea that "people construct their own knowledge through their personal experience" (Duffy & Cunningham, 1996, p. 1). Though this theory is by no means new, it continues to evolve premised on the notion that learners construct knowledge and make meaning (Jaeger & Lauritzen, 1992; Narayan et al., 2013). Its adoption in this paper reinforces the view of knowledge construction about learning, not a description of teaching (Crawford & Jenkins,

2018). Using the constructivist approach as a learning theory allows, if not encourages, differences in opinions by teachers and students alike in a way that helps students develop a self-reinforcing mindset that seeks out deeper learning. This is symptomatic of team teaching which, according to Kostko's (2019) study, showed students' preference for team teaching over individual instruction as it positively impacts their learning and classroom experience.

Besides, on a closer look at the literature, some discerning voices admit fears that fellow team teachers who bring in new learning ideas threaten and dismantle mono-teaching (Dos Santos, 2016). Similarly, Shaughnessy and Senior (2022) portray mono-teaching as matching a teacher's limitations or preferred learning style, which may suffer from theoretical or pedagogical ignorance. Though admittedly, pedagogical models vary, and teaching transformation is inevitable over time, the decisive role students play not just as learners but contributors of knowledge should not be ignored. We argue that this role is best premised on team teaching, which plays on empowering learners as promoters of critical thinking (Fernandes & Aguiar, 2022). This clearly demonstrates that from a pedagogical perspective, team teaching as an instructional strategy eclipses mono-teaching.

This open-minded approach to learning facilitates the generation and exploration of possibilities, both affirming and contradictory, thus enabling "learners to raise their own questions, generate their own hypotheses and models as possibilities" (Fosnot & Perry, 1996, p. 27). This motivational tenet of teaching contrasts the traditional viewpoint, where learning is the passive transmission of information from the teacher to the learner (Narayan et al., 2013). For this reason, in contrast to mono teaching, we adopted a constructivist approach as it is geared towards confronting learning as an artefact rooted in a complex environment that "provides opportunities for learners to be active in building and creating knowledge... and it's situated in a collaborative realm" of cognition and learning (Anderson et al., 2000, p. 130; Crawford & Jenkins, 2018). Student involvement often leads to highly motivated learners. Furthermore, motivation is a widely studied phenomenon spanning the realms of individual, group, and organisational levels. Within the realms of students, its main emphasis is the idea that student behaviour will depend on their achievement and how this is closely matched to the value of the target goal, i.e. a combination of student needs and goals (Shin, 2018). For some students, it may include a degree of collaboration and participation in class (Printrich et al., 2008), while for others, their academic capabilities may play an important role in their motivation to achieve (Zimmerman, 2000).

Overall, these descriptions are more attuned to our circumstances as they include faculty members from the same department, and an interdisciplinary team such as guest lectures (Lansiquot, 2020), and students both as the audience and co-creators of knowledge (Balasubramanian & Wilson, 2007; Cook-Sather & Matthews, 2021). Within this context, we assert that teachers took turns lecturing on the specific topics of a course /module; however, no shared activities involving multiple lecturers simultaneously form part of this discourse. What is abundantly clear is that these views support the premise of this pedagogical

approach as effective, with an ability to empower teachers as they creatively work together with students to generate new knowledge (Roth & Tobin, 2002). From this perspective, teachers and their students become both consumers and producers of knowledge (Kerin & Murphy, 2015).

Methodology

For understanding collaborative/team teaching, it is critical to use views about and appraisals of this pedagogical approach from a class of 654 higher education students. This stance is even more important as the literature suggests that students' views have often been ignored. Also, though trust between the team teachers is presumed to be positive, this pedagogical approach lays bare the possibility for student comparisons of teaching styles and subject knowledge (Burden et al., 2012).

Using a qualitative approach, data was gathered from the respective student cohort using voluntary feedback. The taught course is a second-year undergraduate mandatory course. It is taught over ten weeks encompassing lectures (delivered by a team of three lecturers and a group of guest lecturers). Tutorials mainly encompass the use of live case studies, and presentations are delivered by a total of five lecturers, including those for main lecture delivery. Assessments encompass individual assessment (an essay worth 30%) and a 70% group consultancy project (personal reflection, group presentation video and slides).

Table 1. Sample demography and assessments.

	Number of students	654
	Lecturers	Two
	Guest speakers	Five [each per assigned topic]
	Workshops/Tutorials Tutors	Five
	No of lectures	Ten [one per week]
Number of assessments	Essay	30%
	Group Consultancy project	70%

Our view is that team teaching is well suited for qualitatively delivering the different pedagogical approaches in the classroom to prepare students for set assessments. From this perspective, we considered and aligned ourselves to approaches adopted by authors such as Briggs (1996), who prioritised constructive alignment in course development to align the course aims/learning outcomes to activities and assessment of the course elements.

The material required by students in preparation for their assessments is mainly taught and discussed in class. However, it should be noted that in building up to their project tasks, students must research each organisation they seek to evaluate. To this end, we argue that a team-teaching model consisting of various roles for the teachers, involving students, guest lecturers, workshop tutors, and examiners, is the relevant approach.

Participants are students from a UK higher education institution whose appraisals came from a much larger cohort of 654 second-year undergraduate students. No distinction was made on gender, nationality or whether students were home or international participants for the simple fact that

the evaluations are anonymous. The cohort was from a diverse background composed of international and home students but had a good working knowledge of written and spoken English. These responses were obtained free of any incentives.

Students' views followed a year where they mainly interacted with their teaching team online. Having developed an understanding of team teaching from a theoretical point of view, we intend to draw student perspectives on this phenomenon to add and further develop the discourse around this pedagogical approach. Several issues were commented upon, with some anecdotal suggestions or concerns being raised. Arguably, this forms the basis of learning using a co-creation approach (Bovill, 2020). Some of the notable themes are discussed below.

Student lens on team teaching: A discussion in context

Beyond exploring the inherent benefits already presented above, and those that accrue to teacher development through team possession of skills-set within the team (Mansell, 2006), team teaching inevitably fosters student engagement (Donnison et al., 2009) by supporting an increased focus on the learning rather than simply accumulating knowledge (Shibley, 2006). To aid that, we use a module guide to enable a consistent focus by the team on key issues that benefit students. Clearly, this aligns the learning journey to a coherent approach from both the student and teacher perspectives. The results presented below will demonstrate team teaching's ability to reduce gaps that may be associated with team teaching as an educational pedagogy by eliminating the tendency to prefer a certain teacher. Importantly, they will enlighten a deeper understanding of team teaching from the perspective of the questions posed at the beginning of the discussion:

1. Is team teaching effective in helping students learn?
2. To what extent can team teaching provide a platform to develop students' skills and knowledge?
3. What does the involvement of teachers in team teaching imply for the learning of students?

The primary data revealed some interesting threads presented below and, importantly, showed that learners responded positively to team teaching regarding lecturing/lecturers and the module's administration. Notable students' views on the strengths of team teaching and the organisation of the learning materials/module are given below, premising mainly four aspects: course administration/delivery (covers aspects in 1, 2 & 3), engagement, and motivation (Q2 & 3) and lastly consistency of communication (Q1, 2 & 3).

First and foremost, it was interesting that from the onset, some students presented as preferring the team-teaching strategy to solo teaching, which to some extent epitomised the benefits which we often discussed as a team.

This approach shows how working as a team can be beneficial for everyone. Doing this as an individual is not always the most effective.

This method is good as it allows students to learn different opinions/tips/points from different teachers. This will help us to learn more as different methods of teaching from the teachers will hopefully come together to provide the best lectures/workshops possible.

For many learners, team teaching provided a variety of touchpoints that they benefitted from, be it from the multiplicity of views, in-depth understanding of concepts or learning materials on the Moodle learning platform. "The course has a great Moodle structure", while others noted that the teaching team and the course were "very organised". "All the lecturers did their best", with others noting, "I really liked the structure of the module on Moodle; everything was easily accessible, clear and well-structured to benefit both the teaching team and students".

From the students' views, a resource/module guide provided some structure and consistency to team teaching (Robb & Gerwick, 2013). Others noted that they found the navigation of the course easy and clear. One stated, "I could find answers to most of my questions regarding the module before sending out an email".

Furthermore, in developing students' skills and knowledge, team teaching was an "easier platform to gain diverse skills as different ideas formed part of the team of teachers. Also, other alternative platforms facilitated independent studies such as journal articles..., lectures/workshop platforms allowed for asking... questions".

From this standpoint, the students' views demonstrate the benefits of a guided approach to learning using the Moodle learning platform and module guide to navigate the subject areas being explored. Beyond this approach being beneficial to students, a clearly structured curriculum/module guide improves the quality of education and teaching by pointing out not only lectures and workshops/seminars but also other external sources such as relevant journal articles, associated and recommended books, etc. Thus, it promotes communication and cooperation among the teaching team through resource sharing, experiences, and various teaching methods (Chang, 2018).

Consistency of communication

In sharp contrast to individual or mono teaching (Baeten & Simons, 2014), the learners' reviews demonstrated that team teaching thrives on the ability of those involved to provide clarity of information that is seamless and consistent for student learning, assessment and engagement.

I quite enjoy the group work that involves communicating with the teaching team and working together with other students to produce the consultancy report. This was quite fun. More modules should take this approach.

This shows the driving motivation to involve students in their learning through communication by the team and their ability to be involved in the co-creation of knowledge. Information was shared fully by copying all communications to students across the whole team, be it via the Moodle platform or through emails. This is fundamentally viewed as effective communication and consistency between the teaching team and students. This created a knowledge-sharing platform, and thus students commented on positive team motivation through “creating good working relationships based around clear communications”, a point noted by Minett-Smith & Davis (2020). Clearly, this worked to the benefit of students across the module. Similarly, some students concurred with this view and noted: “Developing a clear communication channel between teachers and students was vital in promoting openness”.

This formed the basis for our teaching to affirm the students’ views as the whole team developed this communication strategy collaboratively. Noticeably, more students became vocal regarding improvements to be made to the module and teaching styles. This created an atmosphere of trust where students were free and able to share their thoughts and contribute to the process of learning even though team teaching, in some instances, denotes a great variability in team-teaching approaches and application, and more so depending on the size of the team and class.

Perhaps consider making an assignment in the form of a presentation instead of a written report or exam. At university, almost every assessment is written, so it would be nice for a change and... to have a presentation count towards the module grade in the context of this subject [module name redacted for confidentiality] – [it is] also useful practice for possible future careers in business.

This is a clear demonstration of communication based on mutual appreciation and respect, an important element of a ‘trusting’ relationship from the students’ perspective (Waber et al., 2022). Importantly, it shows students’ confidence in openly interacting with their teachers within the team. In our case, students had the opportunity to raise concerns regarding their learning by being treated not just as learners but as contributors to the learning process.

Motivation

This premises the role of teachers in providing a pathway for students to reach their goals or desired achievements, as noted by the following student:

The lecturer(s) is very motivating, and overall, the pre-recorded lectures are structured well.

The teachers had made the class always interesting in every possible way, making it easy to understand the module. The module is interesting and challenging and always gives out something new to learn.

Other students showed a high degree of engagement with the course as they noted the valued resources provided to them by their teaching staff, noting:

In this module, I enjoyed how it incorporated many aspects of business, emphasising the importance of strategic management in all areas of an organisation. I also enjoyed the workshops and learning how to apply the content from the lectures to various case studies... [I] found doing a group presentation for our reports really useful as it allowed the group to build on the feedback from more than one lecturer, which was very beneficial.

This supports a proposition by Eccles & Wigfield (2000), which explored the expectancy value theory of achievement and motivation, where students’ behaviour is closely tied to their needs and the value of the goals available in the environment.

Engagement

Higher education literature has highlighted student engagement, assessment, and feedback/feedforward as some of the indispensable cogs of pedagogy (Walker, 2013). From the feedback we got from students, positive views on the role of team teaching in encouraging them to engage in deeper levels of discussion were evident. It also increased access to teachers by enabling learners to receive in-depth face-to-face feedback. We support this perspective by noting the views of students below:

The lectures were great as they provided many examples and went in-depth in their clarification of key issues. This made the module itself very interesting and easy to engage with.

This extends our understanding of pedagogy through a constructivist approach where team teaching became a mechanism for clarifying complex key issues.

I think having multiple lecturers allows for different teaching styles to be experienced and so keeps students engaged. On the other hand, ... some students may favour one lecturer.

Team teaching allows... students to experience new teaching styles and therefore develop new ways of adapting to learning which is good for the real world.

In attempting to engage students, it is important that we move away from a single pedagogy approach where the teacher or team teachers are the only source of information. Beyond this, it is important that students be able to synthesise various key information sources to make learning their own, as indicated by the comment: “I was in [the lecturers’] workshops, and they as well as the resources on Moodle were very helpful”. Taking the diversity of learning into consideration, overall, for student learning to be effective, both teacher and student roles should be

reconsidered (Garrison & Kanuka, 2004). This moves the emphasis of learning from a teacher-centric activity to the student, where experience attainment rather than content delivery is important (Zhang, 2001). This enables students to focus on improving critical thinking skills by learning how to identify, locate, access, and evaluate information that is important for scholarly learning. Using the skills inherent in various team members is just one aspect of this.

Team teaching is effective as every student learns differently. As a result, having many teachers makes you more likely to meet each student's needs and specific preferences.

Another student noted, "the idea of having two or more lecturers means our learning is always varied by the use of different perspectives. This approach keeps us focussed across the whole two hours of lecture. It makes it enjoyable". The student quotes above chime with Kostko's (2019) findings on the impact of team teaching. From this, it is reasonable to assume that team teaching positively impacts student learning and learning experience.

Most learners notably preferred the team-teaching experience. Other students reflected on their experiences by noting that team teaching "provides more access to lecturers and their availability to help" and "availability of different lecturers is always important". "It helps with understanding the content better", while another noted that this approach to teaching "can build knowledge through different teaching styles".

The pursuant viewpoints have shown that students value team teaching. However, it is essential to note that it takes a variety of forms in its delivery. Some consider a cross-disciplinary approach where different teachers are responsible for the course content of their respective disciplines (Plank, 2011). In other circumstances, teachers from the same department work together to deliver value to students, with a combination of teachers and external/guest speakers also constituting another form of delivery (Jacob et al., 2002). These perspectives largely diverge from a teacher-centred approach by creating what Plank (2011) viewed as a scholarly community in which teachers and students work together and understand how knowledge is constructed (see Harris & Harvey, 2000; Tisdell & Aisen, 2000). This naturally enhances dialogue and active learning within the constituted groups.

Student and team-teacher roles

Studies have identified collaborative team teaching as closely related to student motivation to achieve desired outcomes (Baeten & Simon, 2014). Beyond this, the findings from students' feedback on team teaching and working collaboratively revealed that during tutorials or online lectures when students were working collaboratively with their peers, some students adopted the teacher role in enabling the effective functioning of the group/class and subsequent knowledge sharing with the rest of the class. Notably, during the pandemic, when online teaching was prevalent, some students would volunteer to take charge

of questions or 'chats' being posted online, thereby saving time and improving learners' experience. While some students were willing to switch to an 'observational role', more engaged students found themselves taking on the role of 'evolving experts' as they actively expressed themselves within the group and to the rest of the class by sharing ideas on issues being discussed, a view supported by McKenzie et al. (2022).

I would have liked to have all the learning blocks already unlocked/visible since the beginning instead of having them unlocked at the weekend.

Maybe next time we can be assigned groups as some people had difficulty finding a group, hence benefitted from some help from fellow students.

Clearly, some students took a leadership role by encouraging their teachers to proactively provide learning materials ahead of the scheduled time. Most often, these same students were open to feedback from the teaching team on how they thought the course might be improved. To a large extent, this answers the question of what constitutes an active learner. From a team-teaching perspective, this was an important realisation that learning approaches require flexibility to improve student engagement and learning experiences, as fellow students may benefit from other students' contribution and interaction with the teaching team by providing or requesting flexibility in how the teaching or teaching materials are delivered.

Discussion: A multiplicity of perspectives

This discussion contributes towards the literature on teaching and specifically team-teaching in several ways: we highlight a multiplicity of ways in which team-teaching pedagogy informs current ways on understanding learners' engagement, motivation, and knowledge generation in class. This contribution integrates teacher-led pedagogy and diverse students' learning strategies with other existing theoretical underpinnings vested in learning not as a monolithic knowledge construction process but a complex endeavour rooted in multiple perspectives and interpretations. It is in this spirit that these comments are suggestive of how students appreciate a multiplicity of viewpoints in developing their skills and knowledge (Anderson & Speck, 1998; Neilsen, 2007). A diversity of perspectives encourages students to seek and construct meaning or answers for themselves in a critical way rather than dogmatically rely on a presumably right answer: that from the teacher(s). This resonates with views proffered by Shuell (1986) that prioritise what the student does as being "more important in determining what is learned than what the teacher does" (p. 429). Thus, the availability of multiple explanations from the teaching team allowed the elaboration of key aspects of the module or course and beyond. Arguably this has a facilitative effect on learning (i.e., allows for knowledge development) through the provision of reflection and timely feedback compared to delayed feedback (i.e., has a retention effect, thus retarding learning) (Surber & Anderson, 1975). This view supports findings by Brookfield (2015) that advocate for team teaching as leading

to a greater depth of perspectives than is possible in solo teaching. This is exemplified by the comment from one of the students:

It can, to a large extent, lead to an in-depth understanding of some issues, as some teachers may be more knowledgeable or better at explaining certain concepts than others. As a result, by having a plethora of teachers who are better at certain things, you are more likely to develop students' knowledge.

Secondly, we have used this research on team teaching to broaden our understanding of the pedagogical strategies and their role in advancing and capturing the attention of an increasing number of students from diverse backgrounds. Thus, the literature and findings presented above clearly demonstrated the benefits (and, to some degree, challenges) of team teaching to both students and teachers. It has advocated team teaching as offering students multiple explanations of complex concepts and improving teacher development, fostering creative and critical thinking (Brookfield, 2015; Crawford & Jenkins, 2018), and accords students different experiences, expertise and perspectives. From a team-teaching lens, we found weaker students to largely benefit from aspects of team teaching, a view shared by Crawford & Jenkins (2018). Hence, we argue that this pedagogical approach is important to teaching a diversified group of learners. In our own teaching, we have witnessed the beneficial positive outcomes in increased levels of engagement from our diversified international students who are not necessarily native to the language and culture. This is significant as the emphasis on academic accountability (Benjamin, 2000), student engagement and satisfaction across universities is paramount and a key driver in many university teaching decisions and is widely followed by the sector.

Thirdly, there is also an element of strength in numbers on teacher availability, with some students reporting that teachers were "proactive and readily available" compared to the modules that adopt mono teaching. This provides some answers to questions such as: how does team teaching help students learn? As teachers, we have our perspectives on how we think students learn. What this study partially seeks to fulfil is to enable students' voices to be heard on how best they view team teaching by integrating some of their views following evaluation. This shows team teaching as an exploitable resource base for students to tap into and enhance their understanding of the subject matter.

Fourth, the findings presented above gave us some interesting insights into team teaching on the one hand. On the other, they clearly show that using a multiplicity of sources enables students to understand key concepts from various vantage points (Anderson & Speck, 1998), or a spontaneous combustion of multiple perspectives and experiences (Brookfield, 2016). Team teaching should thus be viewed as a necessity rather than a pedagogic choice (Minett-Smith & Davis, 2020), especially in the context of student diversity.

The views above remind teachers and, to some degree, students that it is impossible for teachers to know everything about module or subject-specific issues. Hence, the findings form a stronger argument that collaboration among the teaching team, including guest lecturers, brings strong linkages across topics to bear. This is needed for learners to have effective learning experiences. This is consistent with the views shared by Minett-Smith & Davis (2019), who noted that understanding some often-complex pedagogical concepts could be overcome by team teaching.

Implications for learning and pedagogy

The students' voices support Andersen's (1991) position on team teaching as important in creating a climate where ideas can be developed and freely exchanged. Furthermore, Hale and Klaschus (1992) stressed the dynamic nature of the interchange of disparate opinions as invigorating both the team and the learners. At best, it establishes a pattern for the students to assert their own views and strive to support them as solidly as possible. This supports our adoption of constructive alignment, where what we teach and what the students strive to learn are on the same trajectory (Kandlbinder, 2014). At worst, simple explanations make students uneasy, which forms a desirable position for students to be in as they strive to be independent learners.

Rather than being a unidirectional merited view of team teaching, the literature informs us that differing opinions between teachers may cause some confusion among students, thus leaving them frustrated and impatient to know what is right (Bowen & Nantz, 1992). Though these views may essentially represent a diversity of professional/academic opinions, as witnessed by this study, much of the existing work has also shown team teaching as beneficial for students through its innovative techniques that spark student interest, inquiry, and learning outcomes (Duggan & Letterman, 2008).

Adopting the team-teaching approach changes our perception of university teaching, which mainly views learning as a lecturer-student relationship, i.e., mono-teaching (Mercado, 2019). Rather than students being recipients of a single viewpoint of learning, team teaching provides students with an interpretative platform that allows them to foster different ways of understanding concepts (Brookfield, 2015). This platform benefits students by having two or more sources of deeper feedback, fairness and alternative viewpoints on assessments (Andersen, 1991). The existence of alternative views on assessments is supported by Morganti & Buckalew (1991), who noted the convergence of two teachers' judgement as promoting students to improve their performance. Clear links with the aforementioned point toward students' satisfaction in both online and face-to-face classroom work, as teachers working in a team were able to provide swift feedback on work and assessment tasks.

Our arguments for team teaching and its relevance in current pedagogy are embedded in the belief that a notable increase in student diversity in higher education institutions has crystallised to a level where educators cannot meaningfully

view students by their capabilities or cultural groups. Instead, we adopt the understanding that pedagogically, the fundamental efficacy of education requires that learners be served with knowledge that is effective for all, including those with diverse backgrounds and learning aptitudes (Hourcade & Bowens, 2001). Furthermore, built-in in this pedagogical approach is student-engagement. Our task as teachers is beyond just disseminating knowledge, with the student being a passive-knowledge-taker. Learning has and is an active process that is largely dependent on the student being a participant or active contributor (McKenzie et al., 2022). From this vantage point, the above discussion provides a clear viewpoint that Shuell (1986) intimated: students' interpretation and understanding of new information depend on the availability of appropriate schemata, in our case, adopting team teaching for a multiplicity of views and interpretations.

Implications for practice and further research

This study has some important implications as its findings could be used to support learners in developing their skills and knowledge. The use of feedback, albeit from a single module, suggests a potential tool for student learning activities and improving student participation. Both team-teaching staff and faculty will inevitably use this in seeking improvements through research geared towards providing students with key learning tools in their learning process.

In contrast to mono teaching, our perception and use of a constructivist approach to learning is the belief of its increased interpretive ability (Narayan et al., 2013) and harnessing the learner's experiences in understanding the various viewpoints from multiple perspectives or skills embedded in the team. As we have seen, this may lead to increased student learning, participation, understanding and involvement in knowledge creation. However, future research on team teaching may seek to reconcile mono vs team teaching propositions, as cooperative or cooperative arrangements may suitably be ideal for increased student learning. In our case, the responses overwhelmingly favoured team teaching compared to mono-teaching. Hence, it may be the case that institutional or team dynamics may serve as a moderator to the constructivism vs knowledge creation link.

Limitations

This research study has some limitations that require future research. Our findings are solely based on the feedback from a single module by students in a UK institution. This prevents the generalisation of viewpoints from several institutions and students across several modules, courses, or levels of study. Hence, the validity of the data and findings is impacted. We encourage future studies in this area to seek data from across several institutions, from several modules/subjects and different levels of study., i.e., first, second, third years and postgraduate students.

Importantly, learning objectives need to be articulated clearly for the course to succeed. Team teaching enables collaborators to plan more effectively via a team-checking

system where individuals engage in conversations or meetings to iron out any gaps that may exist, be it regarding content or delivery. Inherent to this is that team teaching may consume time as it involves more than one teacher and resources where scarcity may be an issue. If not handled well, miscommunication may hamper learning and engagement lost to mixed messages.

Conclusion

In conclusion, we reiterate the findings by Andersen & Speck (1998), who viewed student learning as a product of instructors' multiple perspectives and teaching experiences. This supports our choice of constructivist learning theory as an ideal lens for understanding team teaching and its benefits to learners and teachers. Our view, supported by those of the students who participated in this study, is that the changing pace and variability of instruction by a team of tutors helps create an engaged set of learners through motivation, engagement, effective communication and allowing students to take an active role in their learning as contributors to knowledge. Importantly, far from being a student-led evaluative exercise, we need to laud this aspect of pedagogy that benefits from inviting a multiplicity of views from colleagues. Brookfield (2015) noted that by observing what we do as a team, colleagues help promote critical conversations and new ways of delivering pedagogy aimed not only at students but among ourselves as teachers. Overall, these studies support our conception that students benefit from collaborative teaching approaches. More importantly, they view teachers' and students' roles as evolving with more emphasis placed on the student rather than the teacher. Content matters, but student experiences are key for engagement and constructing knowledge.

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