Enhancing Faculty Development for Effective Team-Based Learning (TBL) Implementation in Higher Education

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ABSTRACT

Successful implementation of Team-Based Learning (TBL) in higher education is preeminent in faculty development. This review surveys the wide array of methodologies, along with the challenges and best practices involved, in developing faculty with the knowledge and skills they need to create a successful TBL implementation. Faculty development programs are crucial in preparing educators for the skills, knowledge, and confidence to move from didactic teaching to student-centered orientation with collaborative approaches. The focus area covers instructional design, team facilitation, assessment strategies, and more. This review highlights case-specific approaches from various universities that offer TBL-focused faculty development programs. The need to evaluate faculty development programs to understand their long-term effect on faculty and students is also highlighted. In addition, this review points out the need for ongoing professional development, simulation-based learning, and solid institutional support. Through structured faculty development programs which include continuous feedback and a multidiscipline approach, it is possible for institutions to guarantee that TBL will have a positive impact on learning outcomes and the overall educational experience for their students. Future program recommendations focus on continuing support, including the integration of other advanced teaching technologies to ensure that TBL knowledge and practice work within the medical curriculum, and to help medical schools develop sharing and collaboration efforts across institutions.

Keywords: Faculty Development; Team-Based Learning (TBL), Higher Education, Professional Development

INTRODUCTION

Small group-based learning, commonly referred to as Team-Based Learning (TBL), is a structured form of small-group learning that creates an environment that promotes active student participation, collaboration, and problem-solving. TBL is not a lecture-based format as opposed to a conventional lecture-based format, but instead, it emphasizes teamwork, accountability, and learning from application to real scenarios (Michaelsen et al., 2008). Importantly, this instructional approach is increasingly popular across disciplines, such as medicine, engineering, business, nursing, and pharmacy where critical thinking and teamwork are important (Meeuwsen et al, 2005; Ofstad & Brunner, 2013). TBL has a structured process characterized by pre-class preparation, readiness assurance tests (individual and team-based), application exercises, and peer evaluation to reinforce learning using collaboration and receive immediate feedback (Nieder et al., 2004; Parmelee et al., 2012).

During the preparation phase students attempt to get into preassigned readings or listening to the recorded lectures so that they can build up foundational knowledge. In class, firstly students need to go through an individual readiness assurance test or iRAT. Next, in their assigned teams, students collaboratively do a

team-based readiness assurance test (tRAT) on the similar questions, relying on the collective accountability. Immediate feedback will be provided by the instructors for correcting misconceptions. Subsequently, teams conduct application exercises in which they need to solve complex, real scenarios problems to create a deeper understanding and to think critically (Nieder, 2004; Parmelee, 2012). Peer evaluation at the end of session increases students' accountability as it encourages them to evaluate the their team fellows' contribution (Meeuwsen et al., 2005).

The effectiveness of TBL is largely supported by facilitating this process, to the degree that this is dependent on the instructor's skill. Faculty members must transition from material delivery to leadership positions that direct and facilitate group activities. This transition underscores the need for comprehensive faculty development programs to cultivate the skills and confidence necessary for faculty to effectively conduct TBL sessions (Parmelee et al., 2012). In order to meet the unique requirements of TBL, faculty members are required to get training in instructional design, team facilitation, and evaluation techniques through this faculty development program. These programs generally encompass diverse workshops, peer mentoring, and continuous professional development that instruct educators in the fundamental principles of TBL while providing them with the opportunity to refine and enhance their TBL facilitation skills (Burgess et al., 2014; Kebodeaux et al., 2014).

The widespread adoption of TBL is significantly impeded by the necessity of instructor training. Faculty development enhances instructors' facilitation of TBL sessions and empowers them to effectively lead these sessions. To implement TBL at higher education institutions, it is essential to provide educators with the requisite knowledge, skills, and confidence via faculty development (Kebodeaux et al., 2014). Given the increasing prevalence of TBL across disciplines, it is imperative to comprehend the most effective methods for optimizing faculty development programs to assist educators in navigating this transition.

Through this review, the current practices and approaches to faculty development in TBL are explored, as well as the challenges, strategies, and best practices of TBL. Furthermore, the review demonstrates the need for continuous evaluation and feedback mechanisms to maintain the alignment between faculty development programs and educators' and students' needs, and thereby promote the effective implementation of TBL in higher education.

FACULTY DEVELOPMENT IN TBL

It is therefore important for the higher education institutions to develop the faculty development program for proper implementation of the TBL. TBL is the strategy of learning-teaching associated with the idea of collaboration and activity-based significantly different from the conventional and didactic teaching system in which the educator predominates and students become audience of lectures. This change, therefore, requires a general framework of professional learning for educators that enables them to transition for new teaching positions and practices. This transformation is anchored on the faculty development programs that equip education faculties with essential knowledge regarding teaching skills as well as assessments that reflect TBL (Michaelsen et al., 2008).

Key Concepts in Faculty Development

Faculty development is a broad concept in which defined by several key components including teaching strategies, instructional design, assessment method, and the capacity of members of the faculty to employ active learning methods such as TBL. Teaching is at the core of instructional design, which in turn entails the systematic process, planning, and execution of developing teaching aids and structuring of content towards meeting distinct learning outcomes. In terms of TBL, the process of instructional design is aimed at ensuring that students engage in meaningful activities, where instructional units are organized into three main categories pre-class preparation, in-class group work, and problem solving and discussion activities (Burgess et al., 2014). To achieve this, faculty members need to be taught how to teach but also how to address group

interactions and dynamics, give feedback in a manner that might improve the performance of the individual as well as that of the whole team (Haidet et al., 2014).

Instructional Design in TBL

In contrast to traditional curriculum planning, instructional design in TBL extends beyond it. This demands educators to design a space for learning that promotes teamwork and ideas development. One of the roles faculty must be effective at is creating pre-class materials (readings, recorded lectures, problem sets, etc.) that provide students with necessary knowledge for class activities (Ofstad & Brunner, 2013). Instructors are thus required to design team-based application exercises that challenge students to apply their newly gained knowledge in real-world application contexts when they attend the in-class TBL sessions (Michaelsen et al., 2008). Indeed, facilitating these activities necessitates that instructors develop capacities to guide group discussions, manage conflicts between participants, and ensure that all the students will participate during the class. As such, it is therefore essential to provide relevant instructional design in TBL to ensure successful organizing of sessions aimed at promoting deep learning and encouraging mutual accountability (Parmelee et al., 2012).

Adult Learning Theory in Faculty Development

TBL faculty development is based on adult learning theory, or andragogy, in recognizing that adults learn best through self-directed and experiential learning (Knowles et al., 2015). Faculty members are adult learners in that they bring prior experiences to the learning table and are intrinsically motivated to take part in learning activities that are relevant to their professional practice. Therefore, faculty development programs need to be designed to honor these principles and to include reflective practice, peer teaching and learning, and self-directed professional growth. One case in particular, reflective practices in which educators can enhance their facilitation techniques along with teaching effectiveness by means of their experiences with TBL (Abushouk & Đức, 2016). Reflective elements—e.g., peer feedback and teaching observations and participation in this program are especially useful to TBL faculty members as they adjust to the demands of TBL.

METHODOLOGIES FOR FACULTY DEVELOPMENT PROGRAM IN TBL

Several methodologies defining what is effective in preparing educators to implement TBL have been identified. These include hands-on workshops, online modules, and peer mentoring programs. Each method is effective, has its own strengths, and each one can be tailored or applied to meet the particular institution and faculty requirements.

Workshops and Seminars

Faculty development programs still rely heavily on workshops as the most common methodology. These methods are usually interactive and often provide faculty with an opportunity to experience TBL firsthand through mock sessions. As a result, workshops usually cover essentials related to the instructional design, team facilitation, and assessment techniques needed to perform TBL successfully (Rands et al., 2017). Nieder et al. (2004) report that faculty who participate in these hands-on workshops gain a better understanding of the structure and flow of TBL, which leads to better implementation in the classroom. As another means to contact faculty members from remote or multi-campus settings, online seminars, and webinar approaches, in addition to traditional face-to-face workshops, have become more and more popular (Ofstad & Brunner, 2013).

Peer Mentoring and Coaching

Another potentially effective faculty development method is peer mentoring which is especially useful for less experienced TBL educators. The peer mentor is a form of pairing experienced TBL practitioners with

less experienced faculty to create another collaborative learning forum for faculty to share ideas, challenges, and TBL implementation strategies. The community of practice this method generates allows educators to learn from each other and generate new strategies based on their combined experiences (Parmelee et al., 2012). Faculty also utilize mentorship to overcome common difficulties associated with creating a team dynamic and student accountability (areas that can be especially difficult for instructors unfamiliar with active learning techniques) (Kebodeaux et al., 2014).

Online Modules and Training Platforms

As digital learning has taken on greater importance, online modules have become a flexible and scalable solution for faculty development for many institutions. Faculty can engage with TBL materials online at their own pace with the flexibility to accommodate a busy professional. Most of these modules have video tutorials, interactive simulations and discussion boards in which faculty members discuss ideas and experiences. For example, Duke University and the University of Texas have created comprehensive online TBL training programs on myriad essential TBL topics including instructional design, team facilitation, and assessment (Haidet et al., 2014).

Institutional Case Studies

Several institutions have established successful faculty development programs designed around their particular curricula. For example, the University of Florida offers a comprehensive program for faculty to develop their TBL practice, through course workshops, experiences of others' classes through peer observations, and follow-up support for continuous faculty professional growth (Nieder et al., 2004). On another front, the National University of Singapore incorporates TBL training into its more general teaching and learning centre initiatives that supply continuous support and resources to its faculty in a variety of disciplines (Parmelee et al., 2012). This paper concludes with these case studies to show the importance of institutional commitment to faculty development and ongoing support to ensure the successful adoption of TBL.

CASE-SPECIFIC APPROACHES TO TBL FACULTY DEVELOPMENT

Faculty development strategies to support institutions employing TBL have included workshops, peer mentoring, online training modules and simulation-based labs, all tailored for their disciplines. These approaches help faculty build necessary TBL facilitation skills, making the methodology work in different academic disciplines, and facilitating more student-centered learning. In this section, case-specific examples will be given of how different institutions have combined these strategies to meet different discipline-specific requirements, showing the applicability of TBL.

University of Florida: Multi-Phase Workshops, Peer Observation, and Online Training in Health Sciences

A structured TBL faculty development program offered by the University of Florida offers several training phases toward this goal of TBL teaching effectiveness enhancement in health sciences. Workshops on the fundamentals of TBL (i.e., session design, facilitation techniques, and application exercises) form the program’s early beginning. These are workshops facilitated by the Office of Faculty Affairs and Professional Development, preparing faculty to take advantage of TBL in their course design and to manage classroom dynamics. A specific example is the "TBL Boot Camp," in which faculty are trained hands-on to practice these skills (Office of Faculty Affairs & Professional Development, n.d.-a).

After the workshops, faculty members in the program observe colleagues teaching TBL situations, watching seasoned TBL instructors teach in order to learn practical teaching strategies and classroom management techniques first hand, in real-time. The theoretical concepts become practiced and the quality of TBL facilitation overall is enhanced (Office of Faculty Affairs & Professional Development, n.d.-b).

The Center for Teaching Excellence at the University of Florida also supports ongoing learning by providing online training modules through its Center for Teaching excellence. Modules include backward design and developing effective application exercises for faculty to continuously build their skills at their own pace. This flexible program is open to various disciplines including health science and engineering allowing for implementation of TBL strategy (Center for Teaching Excellence, n.d.).

University of Bradford: Simulation-Based TBL Labs and Continuous Coaching in Pharmacy Education

Simulation based TBL labs have been integrated as a core part of faculty development for the pharmacy education program at the University of Bradford in the UK. These labs provide faculty and instructors the opportunity to practice facilitation skills in real situations, such as leading a group of students through clinical problem-solving exercises or pharmacology case studies. This simulation-based method allows instructors to become familiar with group dynamics and active learning processes in the setting of TBL sessions. Faculty teaching in a controlled environment can thus fine-tune their teaching approaches, thereby yielding better performance when they apply the same in an actual classroom environment (Tweddell et al., 2016).

Continuous coaching is provided in the program by experienced faculty concerning structuring TBL sessions, developing effective application exercises, and improving assessment techniques. Research shows that University of Bradford faculty members who participate in such programs report to be more confident in their teaching, and this, in turn, leads to more engaged students and better critical thinking outcomes. Such a model supports faculty in moving from a traditional lecture-based approach to more interlacement and student-cantered learning (Tweddell et al., 2016).

Brooklyn College: Online Faculty Development for TBL

To support the adoption of TBL in higher education, Brooklyn College, a member of the City University of New York (CUNY) system, has developed a full online faculty development program. The college TBL Online Educational Resource (OER) Guide offers a suite of self-paced training modules and downloadable instructional resources to help educators effectively implement TBL in a variety of learning settings. The use of TBL will help improve faculty's teaching practices, create an environment of active learning, and increase student engagement through instructor training in the use of TBL in their courses (Brooklyn College, n.d.).

The program discusses the basic principles of the TBL method and its shift from more lecture-traditional to more interactive and student-centered learning. TBL OER guide at Brooklyn College teaches about TBL: session preparation, readiness assurance and application exercises — when students work in teams to solve complex problems. By designing TBL modules that adapt to a variety of instructional formats (i.e., teaching face-to-face, teaching hybrid, or teaching fully online), these resources allow faculty to be flexible to meet the different needs of students (Brooklyn College, n.d.).

The TBL OER guide also includes a rich resource of teaching materials, such as articles, case studies, and videos, that showcase applications of TBL where it has been implemented successfully and provide practical suggestions for overcoming common classroom challenges. In addition to providing resources covering the design of effective TBL sessions, the resources also highlight the facilitation of group dynamics and the creation of a collaborative learning environment. Finally, the program encourages faculty to develop their teaching practice by experimenting with fresh ideas and sharing them with colleagues in the college's educational community (Brooklyn College, n.d.).

Brooklyn College's faculty development program not only democratizes the TBL training, which was previously offered to an enclosed audience but also uses it as a means to enhance the dissemination of active learning principles to all other openly accessible resources. The broader educational innovation goals provide

a setting for this initiative, allowing faculty to increase their teaching skills, which leads, as a by-product, to better student outcomes.

University of Sydney: Clinical Teaching Fellowship (CTF) Program

The Clinical Teaching Fellowship (CTF) program is a one-year, longitudinal faculty development initiative of the University of Sydney that prepares early-career medical professionals and scientists to play effective roles as Team-Based Learning (TBL) facilitators. It supports the integration of TBL as a core teaching strategy in the first two years of the postgraduate medical curriculum so that faculty members are well-prepared to create active learning environments. Structured training, observational learning, and hands-on teaching experiences are included in the CTF program designed to improve participants' ability to facilitate TBL, as described in Burgess et al. (2019).

Some components are mandatory and some are optional, giving participants a chance to participate in a range of professional development levels. The mandatory activities include TBL specific training sessions for faculty, in which faculty experience the principles and practices of TBL through TBL itself and in preparation for teaching. Participants also watch experienced TBL facilitators and co-facilitate several sessions with senior educators to gain hands-on experience. The practical experience this approach offers is invaluable; participants can continually refine teaching techniques in real-time with the opportunity of immediate feedback. These extended components of the program go beyond formal training and incorporate clinical teacher training workshops, career development events, medical education research meetings, and co-teaching experiences. Besides this, these activities share a platform for many participants to create spaces for networking and collaboration, which adds to their professional growth.

In the CTF program, various forms of support are used to produce a supportive skill development environment. The organizational support guarantees participants have access to resources and the right structured time and opportunities to practice TBL facilitation. Senior clinicians and educators provide pedagogic support via mentorship and role modelling in sharing expertise and in supporting participants in refining facilitation strategies. Furthermore, the program provides affective support to participants by making the participants feel a part of a community, creating opportunities to connect with other participants, and maintaining interest through medical education.

Integrating these various forms of support, the CTF program assists faculty as they translate from theoretical knowledge to practical use and bridges the distance between traditional approaches to teaching and more engaging, learner-centered approaches. The early career faculty teaching skills training described is a comprehensive approach that benefits not only the skills of early career faculty, but also the overall medical school teaching excellence culture as well (Burgess et al., 2019).

CHALLENGES AND BARRIERS IN FACULTY DEVELOPMENT FOR TBL

While the documented benefits of TBL are well known, these can be limited by several challenges and barriers that can hobble the effectiveness of faculty development programs. These challenges can broadly be classified into institutional challenges and faculty specific barriers.

Institutional Challenges

Challenges at the institutional level are limited resources, inadequate infrastructure, and resistance to change. For intensive use of TBL, investment is needed in the training of faculty, support materials, and ongoing assessment mechanisms (Michaelsen et al., 2008). Institutions that do not have a dedicated teaching and learning center to provide sustained support for faculty to successfully transition to TBL may face difficulty in implementing TBL (Kebodeaux et al., 2014). In addition, in some institutions, there is resistance to adopting new teaching methodologies, especially in environments where there is a strongly rooted tradition of teaching by lecture (Burgess et al., 2014).

Faculty-Specific Challenges

For faculty members who are comfortable with a more lecture-based understanding of teaching and prone to didactic teaching methods, moving to TBL can be intimidating. Instructors must play new roles in TBL, serving as facilitators of team discussions, handling group dynamics and ensuring that students are up to their responsibilities. Given that these roles can be challenging for faculty who are not familiar with active learning methodologies or may feel uncomfortable letting go of the classroom discussion (Haidet et al., 2014), designing supervisory expectations and good team experiences can aid in aligning faculty members with instructional processes. Fears of a greater workload (Nieder et al., 2004) or limited time (Nieder et al., 2004) as well as the fear of a negative student response (Nieder et al., 2004) can lead to teachers' resistance to implementing new approaches for teaching.

BEST PRACTICES FOR IMPLEMENTING FACULTY DEVELOPMENT PROGRAMS

To overcome the challenges associated with faculty development for TBL, institutions should adopt best practices that address both institutional and individual faculty needs.

Structured Program Design

A well-structured and sequenced faculty development program for TBL contributes to an effective program. According to Ofsted and Brunner (2013), successful programs often start with a needs assessment and a series of workshops or seminars that build on each other and are followed by mentorship and peer observation. Implementation of TBL in structured programs leads to continuous professional development of faculty members who are confident in running TBL with comfort (Michaelsen et al., 2008).

Continuous Feedback Mechanisms

The success of faculty development programs depends on continuous feedback. Regular peer observations, coaching sessions, and reflective practices for faculty should be in place that make all that teaching is undergoing is a continuous cycle of polishing and improving (Kebodeaux et al., 2014). Evaluation of the TBL sessions is provided from peers and students' feedback that helps faculty members to adjust necessary and improve the student learning outcomes (Parmelee et al., 2012).

Multidisciplinary Approach

The TBL training is a multidisciplinary approach to faculty development that targets the more specific needs of different types of academic discipline. For example, the way TBLs are facilitated in health sciences may not be the same as business as the way is used in engineering. By offering faculty development programs that are tailored specifically towards the needs of each discipline, faculty get training that is most relevant to them, and thus more likely to actually implement TBL in their specific departments (Haidet et al., 2014).

EVALUATING THE IMPACT OF FACULTY DEVELOPMENT PROGRAMS

Determining the effectiveness of faculty development programs designed to assist faculty in implementing TBL is of vital importance to determine whether these programs are actually meeting their aim. If colleges and universities systematically assess the effect of faculty training initiatives, they will ensure that faculty participate in training so they will be prepared to integrate TBL and enhance student learning. Methods for evaluating these programs commonly involve measuring faculty satisfaction, and student learning outcomes and tracking long-term faculty progress (Michaelsen et al., 2008).

Faculty Satisfaction and Confidence

Evaluating the success of a TBL-focused faculty development program is dependent on faculty satisfaction. There is a great deal that can be learned after the training about what faculty members thought of the

training, how satisfied they are with the training they received and how confident they are about implementing TBL. A key predictor of the success of the program is faculty members' confidence in their ability to design TBL sessions, lead group discussions, and manage team dynamics. Faculty who are satisfied with their training, and feel confident in their training, are more likely to effectively implement TBL and with enthusiasm for TBL (Haidet et al., 2014; Thompson et al., 2021). Clearly defined marks of a successful faculty development program are increasing the confidence and providing positive feedback of participants (Steinert et al., 2016).

Additionally, there is an association between satisfied faculty and sustained use of TBL. When educators feel supported and well prepared after participating in these professional development sessions, the likelihood of continued utilization of TBL (and other more innovative pedagogies) in the classroom after professional development likely increases (Kebodeaux et al., 2014). By inference, institutions should consider measuring and assessing faculty satisfaction as a means for long-term institutional success.

Student Learning Outcomes

Another critical use of student learning outcomes is to assess the effectiveness of faculty development programs for TBL. Direct indicators of effective use of TBL strategies by faculty members are improved student engagement, critical thinking skills and overall performance. Institutions can compare student performance pre- and post-TBL implementation in a course and determine the effects of faculty development on teaching effectiveness (Fink, 2013; Rands et al., 2017). Several studies have shown TBL has improved student learning by increasing students' deep engagement in pertinent materials and course elaborations, increasing teamwork, and increasing students' problem-solving skills (Haidet et al., 2014).

For example, numerous studies in health sciences education have demonstrated that students who are taught using TBL methods do better on assessments, retain knowledge better, and report a higher level of satisfaction with how they learned (Parmelee et al., 2012; Thompson et al., 2021). Assessing student outcomes can give a good idea of the efficacy of faculty training programs and whether those programs are resulting in faculty implementing the skills learned and their effect on students.

Longitudinal Tracking of Faculty Development

It is necessary to track long-term faculty development to understand the impact of TBL training programs over the long haul. Institutions can monitor how well faculty continue to implement TBL after certain duration by means of peer observations, follow up training sessions, and periodic evaluations. Longitudinal evaluation of this type assists in identifying areas where additional support or re-training or mentoring may be needed (Rands et al., 2017). Longitudinal tracking is particularly important to avoid the re-emergence of the traditional teaching methods when faculty members are not confident or supported by the institution, in spite of their optimum intents.

Continuous support and re-evaluation on a periodic basis also ensure continuing professional development. Faculty members who are sustained in their mentoring and feedback are more likely to fine-tune their teaching practice, combine learning from their students, shift new strategies, and adapt TBL as their students' needs change (Haidet et al., 2014; Searle et al., 2019). In addition, longitudinal data assists institutions to detect the long-term effects of their development programs and to create changes to their training offerings as needed to satisfy faculty needs. (Chng et al., 2015).

RECOMMENDATIONS FOR FUTURE PROGRAMS

Based on current evaluations of faculty development programs for TBL, several recommendations can be made to improve future initiatives. These recommendations focus on enhancing program design, fostering innovation, and providing continuous support to ensure long-term success.

Based on the current evaluations of faculty development programs for TBL, some recommendations are suggested to improve future efforts in this area. These recommendations aim to boost the program design and innovation and offer ongoing assistance to ensure continued success.

Innovative Approaches to Faculty Development

Integration of innovative approaches – as simulation based learning, virtual reality (VR) or digital teaching tools – is one of the most promising areas for enhancing faculty development. Because simulation-based learning allows educators to practice facilitating TBL sessions in a controlled environment, build confidence, and hone their skills before TBL is used in true classrooms (Roberts et al., 2023). For example, VR modules can put faculty in realistic teaching scenarios in which they can practice leading a group discussion, answering student questions, and facilitating team activities (Gazave & Hatcher, 2017).

These technological innovations not only assist faculty innovate with TBL methods in small-risk environments that offer rapid feedback and the chance to modify training based on observations (Gazave & Hatcher, 2017) but also ensure that training remains engaging and interactive. Such innovative approaches can be incorporated into faculty development programs for more effective and dynamic training tailored to the specifications of modern educators.

Ongoing Professional Development

Although initial training for faculty is necessary to introduce them to TBL, continuous professional development is needed to sustain long-term program success. It should be the institutions' responsibility to provide advanced workshops, peer mentoring opportunities, and faculty support for professional conference attendance focused on TBL and active learning. Gaining continuous professional development helps educators to remain updated on the current research, outstanding practices, and latest technology in the area of education (Fink, 2013).

In addition, regular professional development opportunities also support the establishment of a culture of learning and collaboration among the faculty, an opportunity to learn from experiences, challenges, and successes; faculty can share the challenges and successes in implementing TBL. Through this ongoing engagement, faculty learn and try to refine their skills and adapt their teaching practices to meet the changing needs of their students (Thompson et al., 2021).

Strengthening Institutional Support

In order for TBL to become a sustainable and integral part of the curriculum, however, institutional support for faculty development programs must be strengthened. Institutions need to invest in dedicated teaching and learning centers (Haidet et al., 2014) that furnish sustained support, access to instructional designers, and peer networks for faculty. These centers should offer available digital tools, instructional materials, and the possibility of collaborating with colleagues, always at the disposal of faculty (Roberts et al., 2023).

In addition, educators should be provided with an atmosphere in which the idea of innovation in teaching is encouraged. This should encourage faculty to try newer pedagogical methods, e.g., TBL, without fear of their failure or getting a negative perception. Providing strengthened institutional support allows faculty members the tools and resources and encouragement to succeed in implementing TBL (Chng et al., 2015).

CONCLUSION

Faculty development programs are necessary for higher education institutions to successfully implement the TBL. These programs provide educators with the knowledge, skills, and confidence to move from traditional lecture-style teaching to more collaborative, student-centered methods. To ensure that faculty members are

well prepared to conduct effective TBL sessions, institutions can adopt best practices such as structured training programs, continuous feedback mechanisms, ongoing professional development, etc.

However, it is important to perform an evaluation of the impact of faculty development in order to achieve progress and improvement. Institutions will need to remain committed to obtaining the right kinds of support for faculty development, including innovative teaching tools, sustained mentoring, and routine occasions for professional growth. From here on out, integrating technological innovations and encouraging institutions to work together would strengthen TBL-focused faculty development programs. Through continued faculty development investment, it gives a warrant that TBL enhances student learning outcomes, encourages critical thinking, and further enriches the student and educator educational experience.

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