Enhancing Lifelong Learning Motivation Among Experienced Educators: A Qualitative Analysis of Bootcamp-style Professional Development

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Mohammad Tazli Azizan[1,2], Brandon Liau[2], Fadzlina Mokhtar[3]
[1]Centre for Lifelong Learning, Universiti Brunei Darussalam, Jalan Tunku Link, BE1410 Gadong, Bandar Seri Begawan, BRUNEI DARUSSALAM
[2]Skolar Sdn Bhd, 9-1, Jalan Puteri 3A/7, Bandar Puteri Bangi, 43000 Kajang, Selangor, MALAYSIA
[3]Kolej Kemahiran Tinggi MARA Kuantan, KM 8, Jalan Gambang 25150 Kuantan, Pahang, MALAYSIA
**tazli.azizan@ubd.edu.bn*

Abstract
This study examines the impact of professional development bootcamps—GENACITY, TENACITY, and TENSITY—on the lifelong learning motivation of experienced educators. The research utilizes a qualitative approach, collecting data through pre-bootcamp open-ended questionnaires, post-bootcamp focus group discussions (FGDs), and participant reflections. Framed within Kirkpatrick's Four-Level Training Evaluation Model and Constructivist Learning Theory, the findings reveal that the bootcamps fostered positive emotional engagement, practical skill acquisition, and behavioral change. Participants expressed increased motivation to implement new teaching strategies, such as active learning, problem-based learning (PBL), and cooperative learning, with many integrating tools like Canva and AI into their practices. However, participants also identified challenges, including time constraints and workload pressures, in sustaining the new strategies. The results indicate that immersive, collaborative professional development programs can reignite educators' passion for continuous learning and offer practical solutions for modern teaching environments. This study emphasizes the importance of reflective practices and follow-up support to ensure sustained impact and proposes that future initiatives prioritize experiential learning and peer collaboration. These findings contribute to the discourse on effective professional development and highlight the potential of bootcamps to address the evolving demands of lifelong learning. The study's limitations include its small, institution-specific sample, which limits generalizability. Future research should involve multiple institutions and larger samples, alongside longitudinal follow-up to validate sustained behavioral change.

Keywords: Lifelong Learning, Professional Development, Educator Motivation, Bootcamp Training, Constructivist Theory.

Introduction

The dynamic nature of education requires educators to continuously evolve their practices, embrace new technologies, and engage in lifelong learning to meet shifting demands. Lifelong learning—the self-motivated pursuit of knowledge for personal or professional development—plays a crucial role in ensuring educators remain effective throughout their careers (Alt & Raichel, 2020). However, experienced educators often face challenges such as time constraints, workload, and diminishing motivation, limiting their ability to engage in continuous professional development (Gumbo, 2020; Pichardo et al., 2021). Professional development programs must provide practical, motivating solutions to sustain engagement in lifelong learning.

In recent years, bootcamp-style professional development has emerged as an innovative approach to address the shortcomings of traditional workshops, which often fail to provide meaningful, long-term impact (Watson & Rockinson-Szapkiw, 2021; Yeh et al., 2021). Bootcamps emphasize immersive, experiential learning through collaborative activities, practical skill development, and real-world application. These intensive programs align with adult learning principles by focusing on relevance and immediate applicability, fostering both professional growth and intrinsic motivation (Bray-Clark & Bates, 2003). However, research on the specific impact of bootcamps on lifelong learning motivation—particularly among experienced educators—remains limited.

The study examines the effectiveness of three professional development bootcamps—GENACITY (The Generative AI Content Creator), TENACITY (The Next Canva Trainer Bootcamp), and TENSITY (The Next Skolar Trainer Bootcamp)—in fostering lifelong learning motivation among educators with over a

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decade of teaching experience, offered by a training & consultancy company called Skolar. GENACITY focused on empowering participants with generative AI tools for teaching and content creation, while TENACITY emphasized creative design using design tool like Canva to enhance classroom visuals. TENSITY, the final bootcamp in the series, integrated active learning strategies, including flipped classroom strategy, cooperative problem-based learning (CPBL) and scaffolding techniques, to promote more interactive and student-centered teaching practices. These bootcamps were designed to address the participants' need for practical skills that could be immediately applied in their classrooms. This study adopts a qualitative approach, using pre-bootcamp open-ended questionnaires, post-bootcamp focus group discussions (FGDs), and participant reflections to assess the bootcamps' impact on motivation, behavior, and learning outcomes. Kirkpatrick's Four-Level Training Evaluation Model provides a framework for analyzing the participants' experiences, examining the bootcamps' effectiveness through four dimensions: reaction, learning, behavior, and results (Kirkpatrick & Kirkpatrick, 2016). Additionally, Constructivist Learning Theory guides the study's analysis by emphasizing how educators actively construct knowledge through interaction, collaboration, and real-world application (Vygotsky, 1978).

Additionally, this study seeks to explore how bootcamps influence educators' lifelong learning motivation and identify the challenges they encounter in applying the skills learned. The findings contribute to the design of effective professional development programs by highlighting the importance of immersive, experiential learning in promoting sustained motivation and practical outcomes. By focusing on experienced educators, the study offers insights into the specific needs of mid-career professionals and addresses gaps in existing research on professional development in the context of lifelong learning.

Nevertheless, this study is limited by its focus on educators from one institution, thereby restricting the generalizability of findings. Furthermore, the longitudinal behavioral changes reported are based on participants' intentions rather than documented outcomes. This study addresses these gaps by explicitly examining educators' immediate motivation and perceived behavioral changes, suggesting future longitudinal studies to strengthen empirical robustness.

Literature Review

The concept of lifelong learning has gained increasing importance in the field of education, where educators must continuously evolve their practices to keep pace with technological advancements and shifting pedagogical trends (Alt & Raichel, 2020). Lifelong learning refers to the self-directed pursuit of knowledge throughout one's professional career, helping educators stay relevant and effective in addressing modern classroom challenges (Berkhout et al., 2018). However, experienced educators often encounter barriers to engaging in continuous learning, such as heavy workloads, time constraints, and declining motivation (Gumbo, 2020). Professional development programs, particularly those focusing on immersive and practical skill-building, offer a potential solution to sustain educators' motivation and facilitate lifelong learning (Watson & Rockinson-Szapkiw, 2021).

Generative AI (GenAI) is revolutionizing education by transforming how content is created, personalized, and delivered. As tools like ChatGPT and other large language models become integrated into teaching and learning (T&L), educators can benefit from AI's ability to enhance instructional design, streamline assessments, and foster personalized learning environments. Research has highlighted various dimensions of GenAI's potential. For instance, Castillo-Segura et al. (2023) found that generative AI can expedite systematic literature reviews by effectively classifying articles, thus accelerating research processes and enabling more timely academic work (Castillo-Segura et al., 2023). Similarly, Walczak and Cellary (2023) argue that the adoption of GenAI presents both opportunities and challenges for higher education, urging the need for curriculum reform and ethical AI literacy to prepare students and educators for a technology-rich future (Walczak & Cellary, 2023). Furthermore, Creely and Blannin (2023) stress that GenAI tools can reshape creative pedagogies, especially in teacher training, by encouraging innovative content creation while also raising critical questions about the evolving nature of creativity and student output (Creely & Blannin, 2023). These studies emphasize the importance of harnessing GenAI to foster adaptive, inclusive learning environments while addressing potential risks, such as algorithmic bias and the erosion of traditional academic practices.

In addition to this, another educational tool that could be adopted to enhance the teaching and learning process is Canva. Canva has emerged as a powerful tool in education, empowering both educators and students by enhancing creativity, collaboration, and teaching efficiency. The platform's accessible design interface allows users to create visually appealing educational content, including presentations, infographics, and worksheets, fostering more engaging learning environments. Vargas et al. (2022) demonstrated that Canva significantly enhances interactive learning, improving students' motivation, understanding, and participation in basic education settings (Vargas et al., 2022). Similarly, research by Pedroso et al. (2023) found that Canva promotes creativity and collaboration, helping students develop essential 21st-century skills through shared projects and group activities (Pedroso et al., 2023). Furthermore, Mudinillah et al. (2021) highlighted Canva's role in language education, where it increased students' interest and creativity in mastering new languages by

transforming traditional lessons into interactive activities (Mudinillah et al., 2021). These studies underscore the growing importance of Canva in fostering lifelong learning among educators by enabling them to stay innovative, collaborative, and engaged in their teaching practices.

Educational tool or technology can only be benefited with the right use of pedagogy. Cooperative Learning, Problem-Based Learning (PBL), Flipped Classroom, and Active Learning are student-centered pedagogical strategies that enhance engagement, foster collaboration, and develop essential skills for both academic and professional contexts. Active learning is a pedagogical approach that emphasizes student engagement through participatory activities, shifting the focus from passive reception of knowledge to active involvement in the learning process. According to Azizan (2023), active learning aims to enhance cognitive engagement by encouraging students to interact with course content, instructors, and peers through structured activities. These activities promote critical thinking, problem-solving, and collaboration, which are essential skills for academic and professional success.

Active learning strategies yield positive results in both face-to-face and online learning environments. Azizan's study highlights the effectiveness of combining tools like Mentimeter, Canva, and breakout rooms with active learning techniques to enhance student engagement and learning outcomes. When students engage actively through reflection, collaborative tasks, and interactive quizzes, they are more likely to achieve a deeper understanding of the material and retain knowledge over time. Moreover, these methods foster persistence and sustained effort, which are critical components of cognitive engagement. Azizan (2023) found that the use of intermittent discussions, reflection activities, and problem-solving exercises helped students stay motivated, resulting in improved academic performance and satisfaction. This study underscores the importance of using technology-enhanced active learning methodologies to address the challenges of online education and achieve meaningful learning outcomes.

Cooperative Learning is an educational strategy in which students work together in small, structured groups to achieve a common goal. It emphasizes collaborative tasks that enhance both individual and group accountability, fostering teamwork, communication, and critical thinking skills (Gillies, 2016). In cooperative learning environments, students engage in meaningful activities that promote mutual understanding and social interaction, leading to improved learning outcomes and positive interpersonal relationships.

Problem-based learning, on the other hand, introduces real-world problems as the focus of learning, requiring students to explore solutions through inquiry and collaborative effort. PBL nurtures critical thinking, problem-solving abilities, and independent learning by placing students in the role of active investigators. These strategies align with modern teaching practices that emphasize active learning, collaboration, and student-centred instruction (Pichardo et al., 2021). Cooperative Problem-based Learning (CPBL) integrates cooperative learning principles with problem-solving tasks, encouraging students to work together to solve complex, real-world problems (Bray-Clark & Bates, 2003). This method promotes higher-order thinking skills and peer interaction, preparing students for collaborative work environments beyond the classroom (Kim, 2019).

Moreover, the flipped classroom shifts traditional teaching by moving lectures and instructional content outside the classroom, using in-class time for discussions, group activities, and problem-solving exercises (Watson & Rockinson-Szapkiw, 2021). Research indicates that combining cooperative learning with flipped classroom techniques improves student engagement, learning outcomes, and critical thinking skills (Fernández-Ferrer & Pizarro, 2022). Research shows that these strategies are effective in improving students' learning outcomes and motivation. Foldnes (2016) found that students in a flipped classroom with cooperative learning components performed better academically than those in traditional lecture settings. Similarly, Chang et al. (2022) demonstrated that combining PBL with cooperative learning enhanced students' problem-solving abilities and teamwork in programming courses. Moreover, Fernández-Ferrer and Pizarro (2022) emphasized that incorporating active learning strategies within flipped classrooms not only improves student engagement but also significantly enhances academic performance. These pedagogical methods encourage lifelong learning by equipping learners with essential competencies for both academic and personal growth. These strategies empower students to be more autonomous learners and develop essential skills for real-world applications.

The integration of Generative AI, Canva, and modern pedagogical strategies into teaching practices is essential for educators to remain relevant and effective in today's digital learning landscape. Research shows that adopting technology and innovative teaching methods can significantly improve student engagement, learning outcomes, and satisfaction (Ran & Josefberg Ben-Yehoshua, 2020). Moreover, as students increasingly engage with digital content, educators must be proficient in creating visually appealing and interactive materials to capture their attention (Yeh et al., 2021). Learning these skills also empowers educators to foster more inclusive and collaborative classrooms. For example, cooperative learning and CPBL encourage students from diverse backgrounds to work together, promoting social cohesion and empathy (Kim, 2019).

The flipped classroom model further supports differentiated instruction, allowing educators to tailor

learning activities to students' individual needs and learning styles. However, implementing these strategies requires sustained professional development and ongoing support, as educators may encounter challenges such as time constraints, lack of institutional resources, and resistance to change (Gumbo, 2020). Bootcamps that focus on experiential learning, collaboration, and reflection provide educators with practical tools and strategies to overcome these barriers.

This study adopts Kirkpatrick's Four-Level Model and Constructivist Learning Theory as guiding frameworks. Kirkpatrick's model evaluates training outcomes through four levels: reaction, learning, behavior, and results (Kirkpatrick & Kirkpatrick, 2016). By assessing participants' immediate reactions to training, the model captures emotional engagement, which is essential for motivation. It then examines the learning outcomes, behavior changes, and long-term results, providing a comprehensive understanding of the program's impact. Meanwhile, constructivist learning theory emphasizes active participation, collaboration, and real-world application in the learning process (Vygotsky, 1978). This theory aligns with the bootcamp model, where participants engage in problem-solving tasks, collaborative activities, and reflection to construct knowledge. Scaffolding, a key element of constructivist pedagogy, ensures that learners receive structured support as they develop new skills, gradually becoming independent in their application (Kim, 2019).

Although constructivist theory emphasizes active learning and collaboration, practical limitations exist in adult learning contexts. Adults may face constraints such as heavy workloads, limited time for extensive reflection, and resistance to new learning paradigms. These practical challenges necessitate careful design and support mechanisms within constructivist-based professional development programs. While bootcamp-style professional development programs have shown promise in promoting professional growth, further research is needed to understand their impact on lifelong learning motivation among experienced educators. This study aims to fill this gap by examining the experiences of educators who participated in the GENACITY, TENACITY, and TENSITY bootcamps. Through qualitative analysis using Kirkpatrick's Four-Level Model and Constructivist Learning Theory, this research offers insights into the challenges and successes educators encounter in sustaining motivation and implementing new teaching strategies.

Methodology

Research Design

This study employs a qualitative research design using thematic analysis to explore participants' experiences across three professional development bootcamps—GENACITY, TENACITY, and TENSITY. The primary objective is to understand the bootcamps' impact on educators' lifelong learning motivation and pedagogical practices. A deductive coding approach was used, guided by Kirkpatrick's Four-Level Model and Constructivist Learning Theory. These frameworks provided a structured lens to assess participants' reactions, learning outcomes, behavior changes, and anticipated results.

Participants and Sampling

Each bootcamp involved 15 participants, with 90% overlap across the three bootcamps. All participants involved in this study were experienced educators from Technical and Vocational Education and Training (TVET) backgrounds at Kolej Kemahiran Tinggi MARA (KKTM) Kuantan. Participants had diverse subject expertise across areas such as automotive, manufacturing, robotics, and design engineering. They were actively engaged in promoting 21st-century skills initiatives at their institution. Although all participants came from the same institution, they brought diverse teaching experiences and subject expertise, creating a rich exchange of ideas and collaborative learning throughout the bootcamps.

A limitation of this study is the homogeneous sample of 15 educators from a single TVET institution. Although this facilitated deep qualitative insights, future research should involve diverse participants from various educational institutions to improve generalizability.

Table 1. Sampling of Participants' Detail

Bootcamp	Duration	Participant (n=15)	Demographic	Average Teaching Years
GENACITY	6 days (3 days + 3 days in 2 weeks) – Month 1	15	TVET Educators, KKTM Kuantan	5- 15 years
TENACITY	6 days (3 days + 3 days in 2 weeks) – Month 2	90% same cohort	Same as above (90% overlap from GENACITY)	5 -15 years
TENSITY	6 days (3 days + 3 days in 2 weeks) – Month 3	90% same cohort	Same as above (90% overlap from GENACITY)	5 -15 years

A detailed timeline of the bootcamps is presented below to illustrate the sequence of activities clearly.

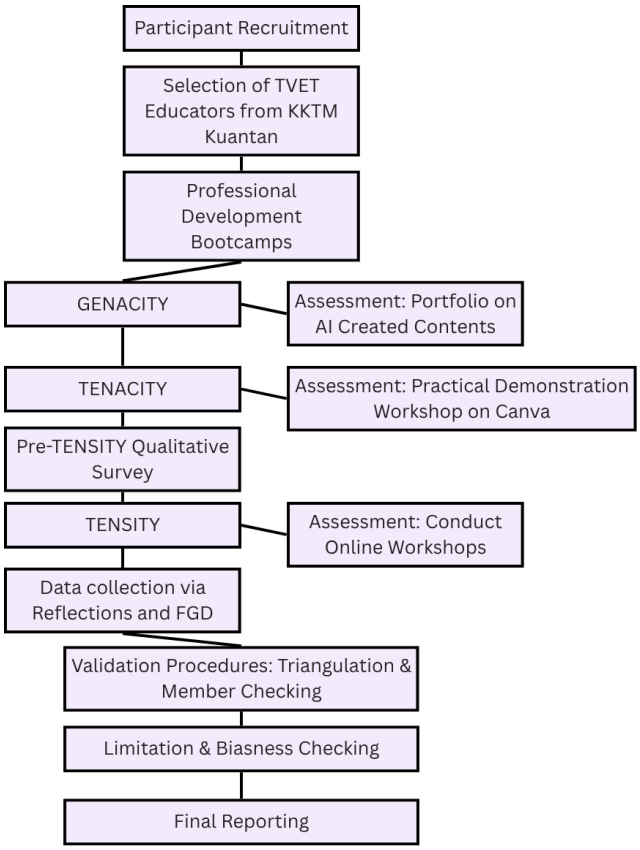

Figure 1. Timeline and sequence of professional development bootcamps (GENACITY, TENACITY, TENSITY) and corresponding data collection activities.

Data Collection Methods

The study employed three key data collection tools: pre-bootcamp questionnaires, post-bootcamp reflections, and focus group discussions (FGDs). Triangulation was conducted by systematically cross-validating data from pre-bootcamp questionnaires, participant reflections, and FGDs to enhance the reliability of findings and minimize individual researcher biases.

Pre-Bootcamp Questionnaires:

Administered two weeks before the TENSITY bootcamp, these semi-structured questionnaires captured participants' expectations and reflections on their experiences in the preceding GENACITY and TENACITY bootcamps.

Post-Bootcamp Reflections:

Participants provided reflections using Gibbs' Reflective Cycle. Reflections were collected midway through each bootcamp (after the first three days) and immediately after completion to capture evolving insights.

Focus Group Discussions (FGDs):

Semi-structured FGDs, lasting two hours, were conducted immediately after the final TENSITY bootcamp. Two facilitators led the discussions, and the sessions were audio and video recorded for transcription using Otter.AI and manually checked for accuracy.

Procedure

The bootcamps were conducted over a period of three months to provide ample opportunity for reflection, collaboration, and application. The bootcamps—GENACITY, TENACITY, and TENSITY—were conducted fully in-person, with participants and facilitators interacting face-to-face, fostering direct collaboration and engagement throughout the sessions.

- GENACITY Bootcamp (Month 1): Focused on the use of generative AI tools for content creation, including text, image, audio, and video transformations.
- TENACITY Bootcamp (Month 2): Emphasized visual design strategies using Canva, covering areas such as branding, video production, and proposal development.
- TENSITY Bootcamp (Month 3): Concentrated on active learning techniques, incorporating cooperative problem-based learning (CPBL) and flipped classroom strategies to foster student engagement.

Each bootcamp ran over two weeks with three days of sessions per week, allowing participants time for practice and reflection. At the end of each bootcamp, participants received professional competency certificates endorsed by a partnering university.

Data Analysis

A deductive thematic analysis was used to analyze the collected data. The themes were identified and mapped to Kirkpatrick's four levels (Reaction, Learning, Behavior, and Results) and aligned with constructivist learning principles.

The analysis followed these steps:

- Coding and Theming: Transcripts and reflections were systematically coded based on predefined categories.
- Triangulation: Data from questionnaires, FGDs, and reflections were cross-referenced to ensure consistency.
- Member Checking: The initial findings from the FGDs were shared with participants to validate the interpretations.
- Software Tools: A GPT-powered qualitative analysis channel was used to assist with data coding and theme extraction.

Data analysis involved deductive thematic analysis using predefined categories based on Kirkpatrick's Four-Level Model and Constructivist Learning Theory. Initial coding schemes were developed and clearly defined for consistent application. Two researchers independently manually coded a sample set of transcripts, also assisted with AI-assisted software, TurboScribe during the FGD. Comparison was made so it achieved an intercoder reliability rate of 85% before proceeding with full data analysis. Data were analyzed using qualitative analysis software (GPT-powered tools and manual review), ensuring thorough and unbiased interpretation.

Ethical Considerations

All participants were informed about the purpose of the research and provided written consent. Participants' anonymity was maintained throughout the study, and only aggregated findings were reported. Data were stored securely to protect participants' privacy, and no specific ethical challenges were encountered during the study. Given the facilitators' dual roles as researchers, potential biases were mitigated through rigorous member checking, triangulation of multiple data sources, and independent coding verification.

Findings and Discussions

The bootcamps—GENACITY, TENACITY, and TENSITY—provided an immersive learning environment where participants were exposed to modern pedagogical techniques, generative AI tools, and collaborative problem-solving frameworks. This section synthesizes participants' reflections and insights from FGDs, using Kirkpatrick's Four-Level Model and Constructivist Learning Theory to explore how the bootcamp contributed to their motivation as lifelong learners.

Reaction (Kirkpatrick Level 1)

Participants' emotional responses to the bootcamp were overwhelmingly positive. They described feelings of excitement, enjoyment, and gratitude for the opportunity to participate in a hands-on, collaborative learning experience. The workshops' interactive format, including role-play, group discussions, and Canva-based activities, was well-received.

- Participant Reflection: "*Seronok sangat belajar teknik baru, rasa macam dah bersedia nak apply dalam kelas saya. Tensity banyak beri keyakinan saya sebagai pendidik*."
- Translated reflection: *"I truly enjoyed learning new techniques; I feel ready to apply them in my class. TENSITY significantly boosted my confidence as an educator."*
- FGD Insight: Participants noted that the collaborative environment fostered a sense of community, which motivated them to engage actively throughout the sessions.

The emotional response from participants aligns with the constructivist principle that positive engagement enhances motivation. The bootcamp provided a supportive environment where participants felt valued, which is essential for cultivating intrinsic motivation and a desire for continuous learning. The interactive format of the workshops, incorporating role-play, group discussions, and Canva-based activities, fostered intrinsic motivation. This aligns with Paull et al. (2016), who emphasized the importance of positive emotional engagement as a driver for educators to embrace change and adopt new teaching strategies. This intrinsic motivation is a fundamental aspect of lifelong learning, as described by Garrison (1997), who highlighted that intrinsic motivation plays a crucial role in self-directed learning by fostering continuous curiosity and perseverance.

Positive emotional engagement, facilitated by interactive and collaborative bootcamp sessions, is well-aligned with Constructivist Learning Theory, emphasizing the importance of learner-driven engagement to foster intrinsic motivation and self-directed lifelong learning.

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Learning (Kirkpatrick Level 2)

The bootcamps were designed to equip participants with practical knowledge and skills, focusing on active learning strategies, cooperative learning structures, and generative AI tools.

Participants experienced peer teaching through jigsaw activities and role-play, which deepened their understanding by requiring them to teach others.

- Participant Reflection: "Role-play sangat membantu saya faham tentang behavior pelajar dan cara nak urus supaya semua contribute dalam kumpulan."
- Translated Reflection: "Role-play greatly helped me understand student behavior and how to manage the group effectively so that everyone contributes."
- FGD Insight: Many participants emphasized how scaffolding activities helped them connect theoretical concepts with real-world teaching practices.

The scaffolding techniques used in the bootcamp—such as breaking down complex topics into manageable parts—align with the How People Learn (HPL) framework (Bransford, 2000). As the participants delved deeper into the bootcamp, they collaborated together as a team adopting cooperative learning strategy to solve the given problems. This aligns with findings by Azizan (2018), who demonstrated that cooperative learning techniques significantly enhance deep learning and teamwork by engaging students in complex, real-world problem-solving tasks. Participants were able to progress from surface-level learning to deeper, more meaningful engagement with content, reinforcing their understanding of active learning, flipped classrooms, and CPBL. This experience reflects the constructivist view that learning occurs through active participation, reflection, and social interaction.

The bootcamps offered participants practical knowledge, particularly in using active learning strategies, CPBL, and generative AI tools. Activities such as jigsaw tasks and role-play facilitated peer teaching, deepening understanding through collaborative problem-solving. These approaches reflect the principles outlined by Lim and Choy (2014), who found that immersive faculty development programs enhance the application of problem-based learning by promoting key behaviors such as collaboration and student engagement. Furthermore, the scaffolding techniques employed during the bootcamp allowed participants to break down complex concepts, supporting deeper learning, as emphasized by Schumacher et al. (2013), who stressed the role of scaffolding in advancing cognitive engagement and self-directed learning.

Participants noted the effectiveness of scaffolding and peer teaching in understanding practical strategies; however, the time-intensive nature of such approaches highlights the practical limitations of constructivist methods in busy professional environments, suggesting the need for institutional support to maximize effectiveness.

Behavior (Kirkpatrick Level 3)

Participants demonstrated immediate behavioral changes by applying the techniques learned during the bootcamps. They also expressed a commitment to mentoring colleagues and sharing insights on social media platforms. This aligns with Edinger (2017), who found that training programs based on Kirkpatrick's model can foster long-term behavior change when participants receive practical tools and strategies. This behavioral change demonstrates the development of self-directed learning skills, a critical element of lifelong learning, as identified by Bolhuis (2003), who emphasized that educators equipped with self-directed learning skills are more likely to embrace continuous professional development. The followings are some output from the participants that reflect this stage.

- Participant Reflection: "*Saya dan team akan buat video marketing 7P's guna Canva dan cuba guna teknik flipped classroom dalam sesi kami."*
- Translated reflection: *"My team and I will create a marketing video on the 7P's using Canva and try implementing the flipped classroom technique in our sessions."*
- FGD Insight: Participants actively engaged in planning collaborative projects and discussed using TikTok to share modern pedagogical techniques.

This behavioral shift reflects the bootcamp's role in fostering self-directed learning skills, an essential component of lifelong learning. Participants not only adopted new strategies but also became advocates for change, promoting best practices within their institutions. The bootcamp provided a structured starting point for participants to explore and develop these skills, even as adults. Moreover, Azizan (2023) found that using active learning tools like Canva, Mentimeter, and breakout rooms in online learning enhances student engagement and promotes the adoption of innovative teaching practices. Throughout this bootcamp, the participants used a lot of educational tools such as Canva, Generative AI, Padlet and Mentimeter. This behavior shift reflects participants' transition from passive learners to active practitioners, a hallmark of lifelong learning (Blaschke & Hase, 2015).

Nonetheless, behavioral changes described here are primarily based on participants' expressed intentions immediately post-bootcamp. Future research should verify these intended behavioral changes through classroom observations, peer feedback, and analysis of teaching artifacts.

Results (Kirkpatrick Level 4)

The ultimate impact of the bootcamp extends beyond individual learning, as participants envisioned broader ripple effects within their institutions. They

expressed a commitment to continuous learning and collaborative teaching, emphasizing the importance of peer support and interdisciplinary collaboration.

- Participant Reflection: "*Saya akan terus tambah ilmu dan guna teknik-teknik baru ini dalam PdP semester ini*."
- Translated Reflection: *"I will continue to gain knowledge and apply these new techniques in my teaching and learning activities this semester."*
- FGD Insight: Participants highlighted the importance of mentorship and collaborative initiatives, suggesting that the bootcamp had empowered them to mentor colleagues and initiate professional development projects within their institutions.

The bootcamp's structure and content fostered a culture of continuous professional development, reinforcing participants' commitment to lifelong learning. The participants' intentions to share knowledge, collaborate with peers, and mentor others demonstrate the bootcamp's alignment with Constructivist Learning Theory, which emphasizes the importance of learning within a community. This aligns with findings by Chukwuedo et al. (2021), who reported that lifelong learning interventions enhance educators' capacity to foster a culture of continuous learning within their organizations. These findings demonstrate how the bootcamps empowered participants to become change agents, facilitating a ripple effect that promotes lifelong learning within their educational ecosystems.

Although participants expressed a commitment to sustained behavioral changes and envisioned institutional ripple effects, this level of impact remains speculative. Comprehensive longitudinal research, involving concrete documentation of these impacts, is needed to confirm the bootcamp's effectiveness over time.

Challenges and Sustainability of Motivation

Despite the positive outcomes, participants identified several challenges, including:

- Time constraints for preparing flipped classroom materials.
- Managing group dynamics during collaborative activities.
- Need for interdisciplinary collaboration to fully implement CPBL strategies.
- Participant Reflection: *"Implement PBL perlukan masa dan kerjasama dengan pensyarah lain untuk berjaya."*
- Translated Reflection: *"Implementing PBL requires time and collaboration with other lecturers to be successful."*

These challenges reflect the realities of modern teaching but also highlight areas where institutional support is essential. Participants noted that peer collaboration served as a scaffold for developing self-directed learning skills, demonstrating that such bootcamps are critical starting points for educators seeking to become lifelong learners.

In addition, participants identified several challenges, including time constraints for preparing flipped classroom materials, managing group dynamics, and the need for interdisciplinary collaboration to fully implement CPBL strategies. These challenges mirror those highlighted by Moteri (2019), who emphasized that self-directed learning frameworks must address practical challenges such as time management and collaboration to ensure sustainability, and therefore recognising the challenges that will come to them is a positive sign for a self-directed learner.

The practical challenges identified by participants such as time constraints, workload management, and interdisciplinary collaboration did underscore constructivism's practical limitations. Institutional frameworks and support are essential to address these constraints and sustain the effective application of constructivist learning strategies in professional development.

Implications for Lifelong Learning

The bootcamp experience provided participants with valuable tools and frameworks to foster continuous professional growth. The use of scaffolding, role-play, and collaborative learning was instrumental in helping participants develop the skills needed to adapt to evolving educational landscapes. The bootcamp also encouraged participants to explore new technologies, such as Canva and generative AI, which are increasingly important in modern classrooms. The bootcamp experience provided participants with tools to foster continuous growth. The use of scaffolding, role-play, and collaborative learning activities helped participants develop critical skills for adapting to evolving educational demands. This aligns with Chaves (2007), who emphasized the importance of constructivist learning environments in promoting lifelong learning. Additionally, the commitment to mentoring colleagues and sharing knowledge on social platforms reflects the importance of communities of practice in sustaining professional growth, as outlined by Blaschke & Hase (2015) in their discussion of heutagogy and lifelong learning. By empowering educators with the confidence and skills to lead change, the bootcamp serves as an enabler for a larger ripple effect within the educational ecosystem.

Conclusion

This study demonstrates that immersive bootcamp-style professional development programs—such as GENACITY, TENACITY, and TENSITY—play a pivotal role in reigniting educators' motivation for lifelong learning and equipping them with practical,

relevant skills. Framed within Kirkpatrick's Four-Level Training Evaluation Model and Constructivist Learning Theory, the findings indicate that these bootcamps foster positive emotional engagement, deeper learning, behavioral changes, and long-term impact within educational institutions. Participants reported increased motivation to implement new teaching strategies such as active learning, CPBL, and flipped classroom techniques, as well as confidence in using technology tools like Canva, Generative AI, and other digital platforms in their teaching practices. The bootcamps effectively facilitated self-directed learning by encouraging educators to become active learners and practitioners. This behavioral shift aligns with the principles of heutagogy, where learners take ownership of their development, further reinforced by the collaborative and reflective nature of the bootcamps. Moreover, the study highlights those participants not only adopted new strategies but also embraced mentorship roles within their institutions, suggesting that bootcamps have the potential to initiate ripple effects that promote continuous learning at an institutional level.

However, the findings also reveal several challenges, including time constraints, workload management, and the need for interdisciplinary collaboration to fully implement strategies like CPBL. These challenges emphasize the importance of institutional support and follow-up initiatives to ensure sustained application of the skills acquired during the bootcamps. Recognizing these challenges is a positive indicator of participants' growing self-awareness as lifelong learners, as they prepare to overcome obstacles through collaborative efforts and professional communities of practice. Fig. 2 illustrates how the bootcamps contributed to participants' development as lifelong learners. In addition to this, the authors would like to emphasis that relatively small sample size, potential selection bias, possible researcher bias due to facilitators' dual roles, and the lack of long-term follow-up would be some of the limitations for this research. The authors suggested these as areas for future research.

In conclusion, the study underscores the value of experiential, collaborative professional development programs in motivating lifelong learning among experienced educators. Bootcamps that integrate technology tools, reflective practices, and active learning frameworks not only enhance teaching effectiveness but also cultivate intrinsic motivation for continuous growth. Future professional development initiatives should prioritize experiential learning, peer collaboration, and ongoing support to sustain the momentum generated during such programs. These findings contribute to the broader discourse on professional development and offer valuable insights for designing effective training models that align with the evolving demands of the educational landscape.

The study acknowledges key limitations, including a relatively small sample size, potential biases from facilitator-researcher dual roles, and reliance on self-reported behavioral intentions. Future studies should address these limitations through larger, diverse samples, multi-institutional contexts, and longitudinal analyses with documented behavioral outcomes.

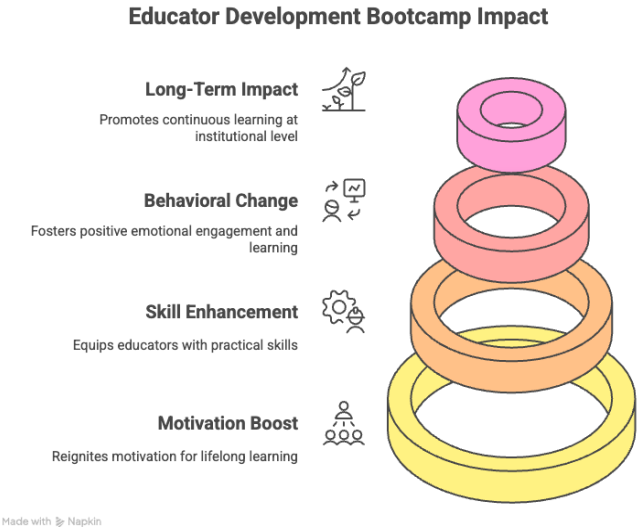

Figure 2. The conclusive findings of the bootcamp impact towards lifelong learning of the educators

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Conflict of Interest

The author declares that there is no conflict of interest regarding the publication of this paper.

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