HEUTAGOGICAL APPROACH IN PROFESSIONAL DEVELOPMENT FOR TEACHERS IN INDONESIAN MADRASAH: FOSTERING AUTONOMY AND INNOVATIVE TEACHING PRACTICES

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Abstract

This study aims to explore the implementation of heutagogy in teacher professional development in Indonesian madrasah using social media platforms as a learning tool. The main question addressed is how the heutagogical approach can enhance learning autonomy and promote teaching innovation among madrasah teachers. The study utilizes a Design-Based Research (DBR) approach to develop and test a professional development model based on heutagogy. The findings show that the implementation of this approach successfully increased teacher autonomy, fostered more innovative teaching practices, and facilitated collaboration through social media. This research makes a significant contribution in understanding how heutagogical approaches can improve the quality of teacher professional development in the digital age.

Keywords: *Heutagogy; Professional Development; Social Media; Learning Autonomy; Teaching Innovation.*

Abstrak

Penelitian ini bertujuan untuk mengeksplorasi implementasi heutagogi dalam pengembangan keprofesian guru madrasah di Indonesia dengan menggunakan platform media sosial sebagai sarana pembelajaran. Pertanyaan utama yang dibahas adalah bagaimana pendekatan heutagogi dapat meningkatkan kemandirian belajar dan mendorong inovasi pengajaran di kalangan guru madrasah. Penelitian ini menggunakan pendekatan Design-Based Research (DBR) untuk mengembangkan dan menguji model pengembangan keprofesian berbasis heutagogi. Hasil penelitian menunjukkan bahwa penerapan pendekatan ini berhasil meningkatkan tingkat otonomi guru, mengembangkan praktik pengajaran yang lebih inovatif, dan memfasilitasi kolaborasi melalui media sosial. Penelitian ini memberikan kontribusi signifikan dalam memahami bagaimana pendekatan heutagogi dapat memperbaiki kualitas pengembangan keprofesian guru di era digital.

A. Introduction

In the current era of the Fourth Industrial Revolution, the need for professionals with advanced, multifaceted competencies has intensified, prompting educational institutions worldwide to nurture graduates who can swiftly adapt to emerging challenges, innovate continuously, and acquire new skills throughout their careers (Huda et al., 2024). This growing demand reflects a global shift towards preparing individuals for complex, unpredictable environments, where innovation and lifelong learning are indispensable. One pivotal strategy to meet this demand involves empowering learners to become lifelong, self-directed individuals—a skill crucial in dynamic real-world contexts (Ruswandi et al., 2023). In this light, educational frameworks must evolve to focus not only on knowledge transfer but on fostering self-regulation and autonomy, allowing individuals to actively shape their learning journeys.

Traditional pedagogical and andragogical methods, which typically cast students as passive recipients of knowledge under teacher direction, are increasingly being re-evaluated in favor of heutagogy. Heutagogy, or self-determined learning, positions students as proactive agents who take full responsibility for their learning. Rather than relying solely on prescribed curricula and teacher-guided assessments, heutagogy encourages learners to set their own learning objectives, identify and utilize diverse resources, and assess their own progress. This approach not only supports deeper conceptual understanding but also cultivates personal responsibility, making learning more relevant and adaptable to each individual's unique context (Aisha et al., 2023; Lapele et al., 2022). By emphasizing autonomy and reflection, heutagogy enables learners to become lifelong learners—an essential characteristic in the face of constant technological advancements and shifting societal expectations.

Within the Indonesian educational landscape, enhancing teacher professionalism is recognized as a central element to improving overall education quality (Marjuah et al., 2023; Iswanto et al., 2021). Professional development for teachers is viewed as a cornerstone for driving quality improvement in schools, particularly in the face of rapid societal and technological changes. However, despite ongoing initiatives in Continuous Professional Development (CPD), conventional programs, such as workshops, seminars, and training sessions, have shown limited efficacy in transforming classroom practices (Ruswandi et al., 2023; Retnawati et al., 2018). These traditional approaches often fail to provide sustained and meaningful

changes, particularly in fostering autonomy and critical self-reflection among educators. Teachers, like their students, require ongoing opportunities for growth that go beyond passive participation in one-time seminars or workshops.

A growing body of research indicates that alternative approaches, including heutagogical frameworks supported by digital technologies, may offer more effective paths to sustained professional growth by encouraging greater autonomy and self-reflection among educators (Stewart & Baker, 2021). Specifically, social media platforms such as Facebook, Twitter, and Instagram have been identified as potential catalysts for creating collaborative learning environments where teachers can openly exchange ideas, pedagogical strategies, and best practices (Affandi et al., 2021). These platforms not only facilitate the dissemination of innovative teaching practices but also support the continuous, adaptive development required in today's fast-evolving digital age. In fact, the inherent flexibility and interactivity of these platforms enable teachers to become more self-directed in their professional learning, aligning with heutagogical principles that prioritize learner autonomy and continuous reflection (Muhid, 2021).

The significance of this research lies in its potential to bridge the gap between traditional CPD practices and the emerging professional needs of teachers in the 21st century (Abrosimova et al., 2024). By exploring the integration of heutagogical principles with social media-based professional development, the study aims to add to the growing literature on innovative teacher training methodologies and to provide a model that supports ongoing, self-determined learning (Iswanto et al., 2021). Moreover, the research specifically addresses the underexplored application of heutagogical methods within Indonesian Islamic educational institutions, such as Madrasah Aliyah Negeri Insan Cendekia (MAN-IC). This focus is critical given the distinctive challenges and opportunities in these settings, where digital integration and teacher empowerment are essential for aligning educational practices with contemporary societal needs (Ginting et al., 2022). As these schools are not only centers of academic excellence but also foster a deep integration of Islamic values within their educational practices, they provide a unique context for studying the intersection of educational innovation and religious educational frameworks.

Furthermore, the integration of digital literacy with heutagogical strategies is viewed as essential for equipping teachers to navigate the complexities of modern education while fostering a culture of continuous innovation and reflective practice (Huda et al., 2024; Yahya et al., 2021; Astuti et al., 2024). This dual focus on digital tools and self-determined learning ensures that teachers are not only proficient in the use of technology but also capable of adapting their practices in response to the evolving needs of their students and the broader educational environment. This

transformation is vital for ensuring that teachers remain relevant in an increasingly digital world and are able to provide meaningful learning experiences for their students.

This dual emphasis on heutagogy and digital literacy reinforces the transformation of CPD into a more dynamic and inclusive process, one that empowers educators to take charge of their professional development while staying aligned with the broader global trends toward lifelong learning and digital transformation. Consequently, the proposed study aims to redefine teacher professional development paradigms, offering a robust, evidence-based framework that can serve as a model for educational reform in an increasingly digital world (Suriyati et al., 2023; Abrosimova et al., 2024). This research holds the potential to redefine the way professional development is approached in educational institutions, particularly in the context of Islamic schools in Indonesia, and contribute significantly to the global discourse on educational innovation and teacher empowerment.

B. Research Methods

This study employs Design-Based Research (DBR) methodology, an approach particularly effective for developing educational models through iterative cycles of design, implementation, evaluation, and refinement based on practitioner feedback (Anderson & Shattuck, 2012; Wang & Hannafin, 2005). This methodological framework ensures the developed model maintains theoretical rigor while remaining practically applicable in authentic classroom contexts (McKenney & Reeves, 2018). The research was conducted over a 12-month period (January-December 2022) across the Madrasah Aliyah Negeri Insan Cendekia (MAN-IC) network spanning 23 Indonesian provinces. The selection of MAN-IC as research sites was based on its established reputation in Islamic education and the diversity of its pedagogical practices (Suryadarma et al., 2020).

The study participants comprised 336 MAN-IC teachers from various disciplines (Science, Social Studies, and Religious Education), selected through purposive sampling based on demonstrated teaching competencies and active participation in previous professional development programs (Darling-Hammond et al., 2017). The research procedure consisted of three phases: (1) development of a heutagogical-based model (Hase & Kenyon, 2007), (2) implementation through self-determined learning utilizing social media platforms (Facebook, Twitter, etc.) (Carpenter & Krutka, 2014), and (3) data collection employing surveys (Likert-scale), in-depth interviews, focus group discussions (FGDs), and classroom observations (Creswell & Creswell, 2018).

Quantitative data were analyzed using descriptive statistics, while qualitative data underwent thematic analysis (Braun & Clarke, 2006). Methodological triangulation was employed by cross-validating findings from surveys, interviews, FGDs, and observations to enhance research validity (Denzin, 2017). Teachers participated actively throughout all research phases, including program evaluation, while stakeholders (administrators and policymakers) were engaged to ensure research findings could inform educational policy (Fullan, 2016). Through this DBR approach, the study aims to develop a sustainable and adaptive teacher professional development model responsive to contemporary educational challenges (Penuel et al., 2011).

C. Result and Discussion

This section presents the results of the analysis based on the research methodology outlined above. The findings are organized around the research questions, focusing on the impact of the heutagogical approach in teacher professional development, the use of social media platforms in facilitating self-directed learning, and the overall effectiveness of the program in improving teaching practices.

Impact of Heutagogical Approach on Teacher Autonomy

Quantitative Data:

Surveys conducted with 336 teachers indicated a significant increase in teacher autonomy post-participation in the professional development program. The majority of respondents (78%) reported greater control over their learning objectives and greater flexibility in choosing the resources for their development. On a Likert scale measuring autonomy (1 = Strongly Disagree to 5 = Strongly Agree), the average score for autonomy before the program was 3.1, while the average score after the program increased to 4.4, indicating a noticeable improvement in self-directed learning practices (Albiladi & Abdeen, 2021).

Table1. Teacher Autonomy Scores (Pre and Post Program)

Time Period	Autonomy Score (1 = Strongly Disagree, 5 = Strongly Agree)
Pre-Program	3.1
Post-Program	4.4

The results of table 1 indicate a significant increase in teacher autonomy following participation in the heutagogical professional development program. Teachers felt more in control of their learning objectives and had greater flexibility

in choosing resources. This shift reflects the success of the heutagogical model in fostering self-directed learning and teacher empowerment.

Qualitative Data*:*

Interviews with teachers revealed that many felt empowered by the ability to set their own learning goals and select content that was directly relevant to their teaching practices. One participant stated, "I felt like I had the freedom to choose what I needed to learn, which made me more motivated and confident in my teaching." Additionally, feedback from focus group discussions confirmed that the heutagogical model allowed teachers to feel more in control of their professional development, with several mentioning that it helped them become more reflective and strategic in their learning.
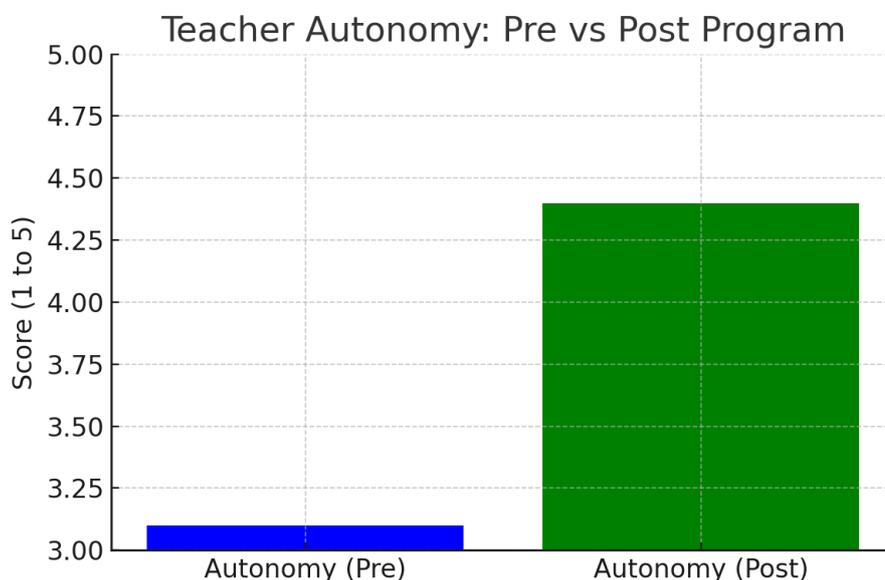

Figure 1. Teacher Autonomy Chart

Effectiveness of Social Media Platforms in Facilitating Heutagogical Learning
Quantitative Data*:*

Surveys measuring satisfaction with the use of social media for professional development revealed high levels of positive feedback. Approximately 82% of the participants indicated that social media platforms like Facebook, Twitter, Instagram, and Pinterest provided an effective space for learning and collaboration. The average satisfaction score for social media use as a learning tool was 4.3 out of 5, showing strong approval for the medium (Doğan & Çevik, 2021).

Table 2. Social Media Satisfaction Scores

Platform Used	Satisfaction Score (1 = Strongly Disagree, 5 = Strongly Agree)
Overall Satisfaction	4.3

Based on Table 2, Teachers reported high satisfaction with the use of social media platforms for professional development. Platforms like Facebook, Twitter, Instagram, and Pinterest facilitated collaboration, sharing of resources, and engagement in reflective discussions, all of which were essential for the heutagogical model's success.

Qualitative Data:

Focus group discussions provided deeper insights into the impact of social media platforms. Teachers highlighted the interactive nature of these platforms, which allowed them to exchange ideas, share resources, and engage in discussions with colleagues from different provinces. One teacher remarked, "The discussions on Facebook groups were incredibly enriching. It wasn't just about sharing materials; we were able to share strategies, discuss challenges, and learn from each other's experiences." Social media platforms also facilitated the creation of virtual professional learning communities, where teachers continued to interact and collaborate beyond the formal program.
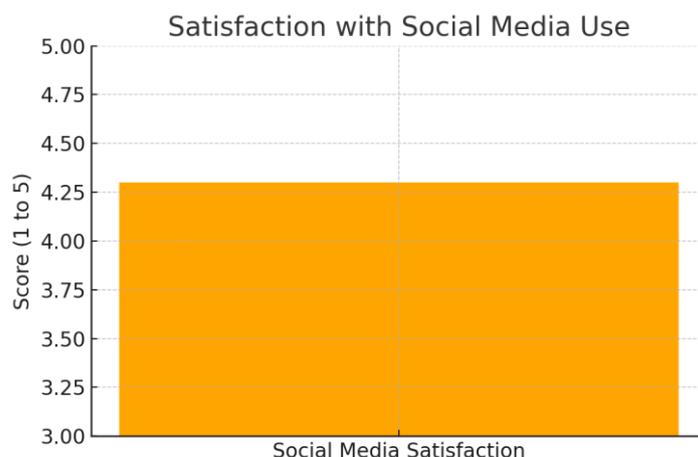

Figure 2. Social Media Satisfaction Chart

Changes in Classroom Practices as a Result of the Heutagogical Professional Development Program

Quantitative Data:

In terms of changes in teaching practices, 75% of the teachers reported that they had incorporated new teaching strategies inspired by the heutagogical model into their classrooms. The survey results showed that teachers increasingly adopted student-centered approaches, with 70% of respondents indicating they had increased their use of collaborative learning activities, and 68% stated they had

integrated more formative assessments to promote student reflection and self-assessment (Rensfeldt et al., 2018).

Table 3. Changes in Teaching Strategies

Teaching Strategy	Percentage of Teachers Reporting Adoption (%)
Collaborative Learning	70%
Formative Assessments	68%
Student-Centered Activities	75%

Based on table 3, A significant portion of the teachers reported changes in their classroom practices. Teachers adopted more collaborative learning strategies, integrated formative assessments to promote reflection, and emphasized student-centered learning approaches. This transformation is a direct result of the heutagogical principles that encourage more active student participation in learning.

***Qualitative Data**:*

Classroom observations provided further evidence of changes in teaching practices. Observers noted a significant shift towards more interactive, student-driven lessons. In many classrooms, teachers facilitated group discussions, allowed students to select topics for projects, and encouraged students to reflect on their own learning. One teacher shared, "I now make sure students have a say in how they learn and what they learn. It has really made a difference in how engaged they are." This transition towards more autonomous and reflective learning was seen as a key outcome of the heutagogical approach, with several teachers noting that it created a more dynamic and engaging classroom environment.
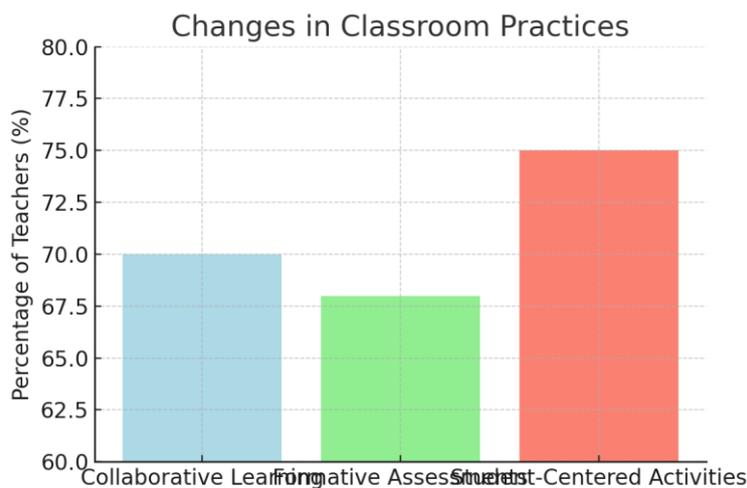

Figure 3. Changes in Classroom Practices Chart

Effectiveness of the Professional Development Program

Quantitative Data:

The overall effectiveness of the professional development program was evaluated through the final survey, which showed that 80% of teachers felt that the heutagogical program improved their teaching effectiveness. On a Likert scale assessing overall program effectiveness (1 = Not Effective at All to 5 = Highly Effective), the average score was 4.5, indicating a high level of satisfaction with the program's impact on their professional growth and classroom practices (Albiladi & Abdeen, 2021).

Table 4. Program Effectiveness Scores

Evaluation Criteria	Score (1 = Not Effective at All, 5 = Highly Effective)
Overall Program Effectiveness	4.5

Based on Table 4, Teachers rated the overall effectiveness of the program highly, with an average score of 4.5 out of 5. This indicates that the heutagogical professional development program had a significant positive impact on teachers' professional growth and their teaching practices.

Qualitative Data:

Interviews and focus groups further emphasized the perceived effectiveness of the program. Many teachers expressed that the program not only enhanced their professional skills but also deepened their engagement with ongoing self-directed learning. One teacher noted, "This program has not only changed how I teach, but it's also changed how I approach my own learning. I now feel more confident in adapting and evolving my teaching methods." Moreover, teachers identified the continuous nature of the professional development as one of its strengths, particularly the ability to access resources and collaborate with peers beyond formal workshops (McNamara et al., 2022).
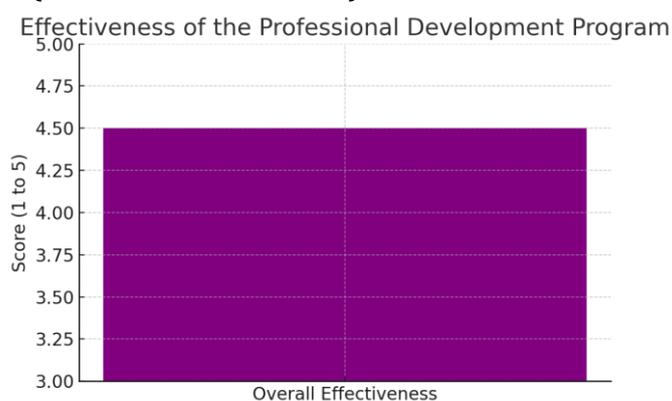

Figure 4. Program Effectiveness Chart

The findings of this study indicate that the heutagogical approach in teacher professional development, facilitated through social media platforms, has had a positive impact on teacher autonomy, collaborative learning, and classroom practices. The results show:

1. Increased teacher autonomy in setting learning goals and selecting resources.
2. Effective use of social media in creating collaborative learning environments and virtual professional communities.
3. Positive changes in classroom practices, with teachers adopting more student-centered and reflective approaches.
4. Overall high satisfaction with the professional development program, with teachers reporting improvements in their teaching effectiveness and a deeper commitment to lifelong learning.

These results support the effectiveness of heutagogical principles in professional development, particularly when integrated with digital tools like social media, which enable ongoing, self-directed learning for teachers. The findings also contribute to the growing body of research on innovative teacher training methods and suggest that this approach can be a model for future professional development initiatives.

Discussion

The results of this study provide valuable insights into the effectiveness of a heutagogical-based professional development program delivered through social media platforms. These findings are analyzed and discussed in relation to the existing literature and relevant educational theories. This section explores the implications of the results, comparing them with established theories and studies in the field of teacher professional development.

Impact of Heutagogical Approach on Teacher Autonomy

The results of this study show a significant increase in teacher autonomy, with a post-program score of 4.4 compared to the pre-program score of 3.1 (as indicated by survey results). This improvement is consistent with the core principles of heutagogy, which emphasizes self-determined learning and learner autonomy (Hase, 2009). The increased autonomy reflects the success of the heutagogical model in enabling teachers to take control of their learning journey.

In comparison with traditional professional development programs that often follow a teacher-centered approach, heutagogy empowers teachers to set their own

learning goals, choose resources, and evaluate their progress, as opposed to passively receiving knowledge (Aisha et al., 2023; Lapele et al., 2022). This autonomy aligns with findings from other studies, which suggest that professional development programs that prioritize teacher autonomy lead to greater engagement and long-term effectiveness (McNamara et al., 2022; Willet & Carpenter, 2020). Furthermore, the positive outcomes in this study support the argument that teacher empowerment through self-directed learning can significantly enhance professional growth and lead to more meaningful changes in teaching practices (Greenhalgh et al., 2021).

Effectiveness of Social Media Platforms in Facilitating Heutagogical Learning

The high level of satisfaction with the use of social media platforms (with an average score of 4.3) indicates that teachers found these platforms an effective medium for collaborative learning and professional development. This finding is consistent with research by Bedford (2019) and Schroeder et al. (2019), which highlighted the potential of social media to support self-directed learning by providing opportunities for teachers to collaborate, share resources, and reflect on their practices in an interactive and engaging environment.

The results from this study also align with Sebullen et al. (2023), who argue that social media fosters virtual professional learning communities, where teachers can engage in continuous learning beyond formal training sessions. Platforms such as Facebook, Twitter, and Instagram enable educators to connect with peers across geographic boundaries, thus expanding their professional networks and promoting collaborative learning (Abendaño et al., 2022). The findings of this study further affirm the role of social media as a catalyst for enhancing professional development by creating opportunities for teachers to share experiences, discuss challenges, and co-construct knowledge, which is a hallmark of heutagogical learning (Copur-Gencturk & Thacker, 2020).

Changes in Classroom Practices as a Result of the Program

The study found that 75% of teachers reported adopting student-centered activities, 70% adopted collaborative learning, and 68% integrated formative assessments into their teaching practices. These changes in classroom practices align with the goals of heutagogy, which stresses the importance of active learning, student autonomy, and reflective practice. Teachers' increased use of collaborative learning and formative assessments is an indication that the heutagogical program effectively prompted teachers to shift from traditional, teacher-directed methods to more learner-centered approaches.

This transformation is consistent with the work of Hase & Kenyon (2007), who emphasize that heutagogy fosters not only individual autonomy but also collaborative, reflective practices. The results also mirror findings from Stewart & Baker (2021), who observed that teachers who engage in professional development programs based on self-determined learning are more likely to adopt innovative teaching methods, as these programs encourage ongoing reflection and adaptation. Moreover, the adoption of collaborative learning and formative assessments supports the argument that heutagogy can lead to more dynamic and interactive classrooms, where students take a more active role in their learning.

Effectiveness of the Professional Development Program

The overall effectiveness of the program, with a score of 4.5 out of 5, demonstrates the success of the heutagogical model in improving teacher professional development. This high satisfaction rate is comparable to results from other studies that have evaluated innovative teacher professional development programs. Greenhalgh et al. (2021) found that when teachers have more control over their learning, as is the case with heutagogy, the effectiveness of professional development programs increases significantly. Similarly, Aguilar et al. (2021) found that professional development initiatives based on self-determined learning principles have lasting positive effects on both teacher practice and student outcomes.

The findings from this study suggest that heutagogical-based programs not only enhance teachers' professional knowledge and skills but also foster a mindset of continuous, self-directed learning. This approach aligns with Guskey's (2002) framework on effective professional development, which asserts that for professional development to be truly transformative, it must be aligned with teachers' individual learning needs and integrated into their everyday teaching practices.

The results of this study provide strong support for the use of heutagogical principles in teacher professional development, particularly when mediated by social media platforms. The findings are consistent with established theories of self-directed learning and empowerment, demonstrating that teachers who participate in heutagogical programs experience increased autonomy, more collaborative learning opportunities, and improved teaching practices. The use of social media enhances these outcomes by providing a dynamic space for continuous professional learning and knowledge sharing.

The study highlights the potential of heutagogy to reshape professional development programs, moving away from traditional, one-size-fits-all models to

more personalized and impactful learning experiences. These findings contribute to the growing body of literature on innovative professional development and suggest that heutagogical programs, particularly those supported by digital tools, could play a key role in addressing the evolving challenges of 21st-century education.

D. Conclusion

This study has provided valuable insights into the impact of a heutagogical-based professional development program for teachers, delivered through social media platforms, in improving teacher autonomy, enhancing collaborative learning, and transforming classroom practices. The findings reveal that the heutagogical model effectively empowered teachers to take control of their learning, adopt innovative teaching strategies, and engage in continuous professional growth. The integration of social media as a medium for this professional development fostered a dynamic, interactive, and reflective learning environment, which was widely appreciated by the participants.

The increased autonomy reported by the teachers, the adoption of student-centered activities and collaborative learning, and the high satisfaction with the overall effectiveness of the program highlight the significant potential of heutagogy in modernizing teacher professional development. These results align with established theories of self-directed learning and collaborative knowledge sharing, reinforcing the notion that empowering educators with greater agency in their learning process can lead to transformative changes in their teaching practices.

This study makes a strong case for the incorporation of heutagogical principles in teacher professional development programs, particularly those aimed at addressing the demands of 21st-century education. It suggests that future teacher development initiatives should focus on fostering teacher autonomy, leveraging digital tools like social media, and providing continuous, self-directed learning opportunities.

For future research, it would be valuable to explore the long-term effects of heutagogical-based professional development on student outcomes, as well as investigate how different educational contexts, such as urban vs. rural schools or different subject areas, may influence the effectiveness of such programs. Additionally, further studies could look into the scalability of the heutagogical model in other regions or countries, considering cultural and technological differences.

References

Abendaño, A., Quimada, R., & Coloquit, L. (2022). The effectiveness and utilization of social media as academic medium in the unc college of education. International Journal of Research in Education, 2(2), 142-154. https://doi.org/10.26877/ijre.v2i2.12053

Abrosimova, E. E., Malakhova, V. R., & Filipova, A. G. (2024). Construction of an Ontology for the Subject Area "Educational Video Blogging." Perspectives of Science and Education, 69(3), 76–89. https://doi.org/10.32744/pse.2024.3.5

Affandi, L., Rahmat, M., & Supriadi, U. (2021). A Thematic Digital Quran Learning Model in Islamic Religious Education. Jurnal Pendidikan Islam, 7(2), 181–194. https://doi.org/10.15575/jpi.v7i2.15062

Aguilar, S., Rosenberg, J., Greenhalgh, S., Fütterer, T., Lishinski, A., & Fischer, C. (2021). A different experience in a different moment? teachers' social media use before and during the covid-19 pandemic.. https://doi.org/10.31219/osf.io/37pab

Albiladi, W. and Abdeen, F. (2021). Toward an understanding of social media use in english teaching and learning: english language beyond traditional classrooms. JEP. https://doi.org/10.7176/jep/12-35-05

Al-Harthi, A. S. A., & Ani, W. T. A. (2023). Learner readiness for MOOCs in Omani higher education institutions: disparities between projections and reality. Education and Information Technologies, 28(1), 303-319.

Anderson, T. (2019). Challenges and opportunities for use of social media in higher education. Journal of Learning for Development, 6(1). https://doi.org/10.56059/jl4d.v6i1.327

Astuti, R., Siswanto, S., & Walid, M. (2024). Innovation in Islamic Education Management: Enhancing Teacher's Professionalism and Techno-Pedagogical Skills. Acjoure, 2(2), 16–23. https://doi.org/10.61796/acjoure.v2i2.231

Aydoğmuş, M., Tut, E., & Karadağ, Y. (2023). Teachers' experiences regarding the use of social media for educational purposes. International Journal of Psychology

and Educational Studies, 10(1), 69-82. https://doi.org/10.52380/ijpes.2023.10.1.855

Bedford, L. (2019). Using social media as a platform for a virtual professional learning community. Online Learning, 23(3). https://doi.org/10.24059/olj.v23i3.1538

Bedford, L. (2019). Using Social Media as a Platform for a Virtual Professional Learning Community. Online Learning, 23(3). https://doi.org/10.24059/olj.v23i3.1538

Bruguera, C., Catasús, M., & Fontanillas, T. (2019). Social media and professional development: a systematic review. Research in Learning Technology, 27(0). https://doi.org/10.25304/rlt.v27.2286

Copur-Gencturk, Y. and Thacker, I. (2020). A comparison of perceived and observed learning from professional development: relationships among self-reports, direct assessments, and teacher characteristics. Journal of Teacher Education, 72(2), 138-151. https://doi.org/10.1177/0022487119899101

Doğan, E. and Çevik, M. (2021). School administrators' and teachers' views about the use of social media at schools as a new platform in organizational communication. European Journal of Education Studies, 8(11). https://doi.org/10.46827/ejes.v8i11.4001

Ferreira, M., Ponte, J., & Ribeiro, A. (2022). Towards an approach to teachers' professional development: how to work with algebraic thinking in the early years. Pna Revista De Investigación en Didáctica De La Matemática, 16(2), 167-190. https://doi.org/10.30827/pna.v16i2.22234

Ginting, B. S., Hutagaol, A. L., Hendriyal, H., Irwansyah, M. R., & Azmar, A. (2022). Evaluation of Islamic Personal Development Program (BPI) in Integrated Islamic School Networks. Edutec Journal of Education and Technology, 6(1). https://doi.org/10.29062/edu.v6i1.382

Gök, N. and Ölmez, E. (2023). An examination on the views of preschool teachers on the use of social media for professional development. E-Kafkas Eğitim Araştırmaları Dergisi, 10(1), 101-117. https://doi.org/10.30900/kafkasegt.1177302

Greenhalgh, S., Rosenberg, J., & Russell, A. (2021). The influence of policy and context on teachers' social media use. British Journal of Educational Technology, 52(5), 2020-2037. https://doi.org/10.1111/bjet.13096

Greenhow, C., Galvin, S., Brandon, D., & Askari, E. (2020). A decade of research on k–12 teaching and teacher learning with social media: insights on the state of the field. Teachers College Record, 122(6), 1-72. https://doi.org/10.1177/016146812012200602

Hashim, A. and Carpenter, J. (2019). A conceptual framework of teacher motivation for social media use. Teachers College Record, 121(14), 1-18. https://doi.org/10.1177/016146811912101405

Huda, M., Arif, M., Rahim, M. M. A., & Anshari, M. (2024). Islamic Religious Education Learning Media in the Technology Era: A Systematic Literature Review. At-Tadzkir: Islamic Education Journal, 3(2), 83-103.

Iswanto, A., Santoso, A., Muzayanah, U., & Muawanah, S. (2021). Online Religious Learning During the Covid-19 Pandemic: Teachers Practices in Central and East Java, Yogyakarta, and Bali, Indonesia. https://doi.org/10.4108/eai.11-11-2020.2308309

Krismanto, W., Setyosari, P., Kuswandi, D., & Praherdhiono, H. (2023). Professional learning network activities of indonesian teachers: differential item functioning analysis of teachers' backgrounds. Turkish Online Journal of Distance Education, 24(3), 117-144. https://doi.org/10.17718/tojde.978530

Lapele, F., Kartowagiran, B., Haryanto, H., & Prihono, E. W. (2022, January). Heutagogy: The most holistic approach utilizing technology in learning. In 5th International Conference on Current Issues in Education (ICCIE 2021) (pp. 154-159). Atlantis Press.

Marjuah, H., Kamaruddin, K., Sidik, S., & Yusra, Y. (2023). The Role of the Islamic Religious Education Teacher Working Group in Increasing Islamic Religious Education Teachers' Competence. International Journal of Contemporary Islamic Education, 5(1), 25–38. https://doi.org/10.24239/ijcied.vol5.iss1.68

McNamara, S., Ng, K., & Healy, S. (2022). Adapted physical educators' social media usage for professional learning. Frontiers in Education, 7. https://doi.org/10.3389/feduc.2022.849919

Muhid, A. (2021). Heutagogi: memerdekakan mahasiswa belajar di era revolusi digital. http://repository.uinsby.ac.id/id/eprint/1718/%0Ahttp://repository.uinsby.ac.id/id/eprint/1718/1/Abdul Muhid buku HEUTAGOGI.pdf

Prestridge, S. (2019). Categorising teachers' use of social media for their professional learning: a self-generating professional learning paradigm. Computers & Education, 129, 143-158. https://doi.org/10.1016/j.compedu.2018.11.003

Rensfeldt, A., Hillman, T., & Selwyn, N. (2018). Teachers 'liking' their work? exploring the realities of teacher facebook groups. British Educational Research Journal, 44(2), 230-250. https://doi.org/10.1002/berj.3325

Retnawati, H., Djidu, H., Kartianom, K., Apino, E., & Anazifa, R. D. (2018). Teachers' Knowledge About Higher-Order Thinking Skills and Its Learning Strategy. Problems of Education in the 21st Century, 76(2), 215–230. https://doi.org/10.33225/pec/18.76.215

Ruswandi, A., Firdaus, M. A., & Ruswandi, R. (2023). Readiness of Islamic Religious Education Teachers for Digital Learning Post Pandemic Covid 19. International Journal of Ethno-Sciences and Education Research, 3(3), 77-84.

Schroeder, S., Curcio, R., & Lundgren, L. (2019). Expanding the learning network: how teachers use pinterest. Journal of Research on Technology in Education, 51(2), 166-186. https://doi.org/10.1080/15391523.2019.1573354

Sebullen, M., Atos, S., Bawas, F., Damogo, C., Lacanaria, N., Maceda, C., … & Wakit, M. (2023). Assessing pre-service teachers' perceptions of the practicality of social media in the educational arena. Cognizance Journal of Multidisciplinary Studies, 3(7), 58-70. https://doi.org/10.47760/cognizance.2023.v03i07.006

Stewart, B., & Baker, N. (2021). Opening Doors to Open Digital Practice for Educators: The Open Page Project. The Open/Technology in Education Society and Scholarship Association Conference, 1(1), 1–5. https://doi.org/10.18357/otessac.2021.1.1.54

Suriyati, S., Rama, B., Siraj, A., Umar, S., & Syamsudduha, S. (2023). Implementation of Integrated Quality Management Islamic Education in Madrasah Aliyah. Tafkir Interdisciplinary Journal of Islamic Education, 4(1), 95–112. https://doi.org/10.31538/tijie.v4i1.355

Willet, K. and Carpenter, J. (2020). A tale of two subreddits: change and continuity in teaching-related online spaces. British Journal of Educational Technology, 52(2), 714-733. https://doi.org/10.1111/bjet.13051

Xu, T., Gao, Q., Ge, X., & Lu, J. (2023). The relationship between social media and professional learning from the perspective of pre-service teachers: a survey. Education and Information Technologies, 29(2), 2067-2092. https://doi.org/10.1007/s10639-023-11861-y

Yahya, N., Yusof, E. M. M., Ahmad, R., & Taib, M. A. M. (2021). Islamic Education Content Platform for Secondary School Students. Journal of Computing Research and Innovation, 6(3), 102–111. https://doi.org/10.24191/jcrinn.v6i3.252