

Analysis of Competency Enhancement: Online Delivery of KIPA Course

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Abstract— The study investigates the efficacy of the Instructional Leadership Course and Andragogy Development (KIPA) program, emphasizing competency enhancement for new educators in online delivery modes. The literature review underscores the success of blended learning and explores theoretical frameworks guiding competency development. The research objectives aim to systematically assess and compare competency levels, with positive outcomes revealed in post-course improvements across knowledge, understanding, skills, problem-solving, and ability to share skills. Demographic insights highlight a higher representation of females (68.05%) and a predominant association with polytechnics (68.75%). These positive results provide valuable insights for Jabatan Pendidikan Politeknik dan Kolej Komuniti (JPPKK) in shaping future competency enhancement courses, despite acknowledging challenges in online training. Limitations include potential bias and a focus on immediate post-training outcomes, urging future research to explore long-term competency retention and instructional impacts on diverse learners.

Keywords— Instructional Leadership Course, Andragogy Development, Competency Enhancement, KIPA, JPPKK.

I. INTRODUCTION

The history of the Instructional Leadership Course and Andragogy Development (Kursus Instruksional dan Pembangunan Andragogi or KIPA) involves its initiation as a mandatory program for new lecturers in Polytechnics and Community Colleges [1]. Focuses on instructional techniques and andragogical principles, fostering an educational spirit among educators. The program, exemplified by cohorts like KIPA Kohort 3/2017, involves active participation with numerous attendees, enhancing leadership and andragogical skills.

Renowned educators, including those from the Department of Education Polytechnic and Community College, contribute as main speakers and trainers [2]. The program's regular sessions, such as the one in 2019, focus on refining teaching methods and enhancing the learning experience in Polytechnics.

A. Importance of competency enhancement in instructional and andragogical training.

Competency enhancement holds paramount importance in the realms of instructional and andragogical training for various compelling reasons. Firstly, when considering effective learning delivery, instructional competencies play a pivotal role in ensuring the adoption of essential teaching practices that cater to the diverse needs of learners, promoting equal effectiveness across varied student profiles[3]. Moreover, andragogical competencies come to the forefront in tailoring educational experiences for adult learners,

acknowledging their self-directed nature and specific learning requirements [4][5]. The holistic approach of competency enhancement programs, encompassing knowledge, skills, and abilities, further underscores their flexibility and adaptability to diverse learning contexts [6].

Teachers, recognizing the necessity to align with andragogical approaches, must continually enhance their competencies to foster harmony with the unique characteristics of adult learners [7]. Additionally, competence in andragogy is deemed crucial for curriculum design, aiding in the selection of appropriate techniques and methods that enhance the overall learning experience [8]. Notably, the andragogical approach promotes increased learning independence, particularly beneficial for adult learners seeking self-directed educational paths [5]. In summary, the emphasis on competency enhancement ensures that training approaches are not only effective but also tailored and flexible, seamlessly adapting to the distinctive needs and characteristics inherent in both instructional and andragogical contexts.

B. Rationale for exploring online delivery.

The rationale for examining online delivery methods encompasses several critical considerations. Firstly, in terms of performance, research indicates no significant difference in the overall academic performance of students engaged in online learning compared to those in in-person settings [9]. Notably, online learning

sessions are characterized by increased interactivity, providing diverse training options, as opposed to the more traditional in-person sessions [10]. While in-person learning is recognized for its effectiveness, incorporating various learning methodologies such as writing and reading, studies yield mixed results concerning student satisfaction with online education, with some expressing concerns about potentially reduced satisfaction levels [11]. Another significant aspect is the cost-effectiveness of online learning, which may offer a more economical alternative compared to traditional in-person learning, as supported by certain studies [12]. Additionally, hybrid approaches, combining elements of both in-person and online delivery, show no significant differences in some studies, suggesting a potential middle ground in educational delivery methods. In conclusion, the consideration of online delivery hinges on factors like interactivity, effectiveness, satisfaction, and cost, with hybrid approaches emerging as a possible compromise that balances these considerations.

II. LITERATURE REVIEW

A. Previous studies on effectiveness in face-to-face instructional courses.

Extensive research has delved into the effectiveness of face-to-face instructional courses when compared to their online counterparts, yielding key insights. According to a study gauging undergraduates' opinions, both online and face-to-face activities can result in similar academic performance levels [13]. Blended learning, which integrates face-to-face and online elements, has proven effective, with the presence of teachers in traditional sessions reducing psychological distance between educators and learners [14].

A comprehensive comparative analysis discovered no significant difference in student performance between online and face-to-face courses [9]. Examining factors influencing effectiveness, multiple regression analysis suggests that online classes are generally less effective than their face-to-face counterparts [9]. Interestingly, some studies propose that blended learning may be as effective as face-to-face learning, particularly in enhancing practical skills [15].

In summation, while online alternatives can attain comparable academic outcomes, their effectiveness often hinges on factors such as course design and the incorporation of face-to-face components.

B. Research on online learning and its impact on competency development.

Investigations into online learning and its implications for competency development have revealed noteworthy insights. Competency-Based Education (CBE) within the realm of online learning emerges as a catalyst for promoting equity and personalized learning, thereby positively influencing competency development [16]. Research further delves into students' favorable assessments of e-learning and its substantial contribution to fostering competency development [17]. Recognizing the pivotal role of online learning competency, a specific research inquiry identifies it as a crucial factor in achieving effective teaching outcomes [18].

The impact of online teaching strategies on students' academic achievement is scrutinized, underscoring the imperative to evaluate and enhance approaches to online learning [19]. An in-depth analysis of the digital competence of online learners brings to light socio-economic considerations that significantly affect competency development [20]. Moreover, digital learning platforms are identified as substantial influencers of students' learning behavior and motivation, thereby contributing significantly to competency development [21].

Online education, as evidenced by research, not only measurably impacts the development of academic skills but also extends its influence to broader life skills, signifying a comprehensive effect on competency [22]. The effectiveness of online learning is revealed to be contingent on various factors encompassing student and instructor self-efficacy, attitudes, and confidence, emphasizing the intricate and multifaceted nature of competency development [23]. Additionally, teacher competence in online teaching is identified as a positive influence on online learning outcomes, underscoring the pivotal role of educators in shaping the trajectory of competency development [24].

C. Theoretical frameworks guiding competency enhancement in educational settings.

Competency enhancement in education involves exploring theoretical frameworks. Andragogy, developed by Malcolm Knowles, emphasizes self-directed adult learning, applied in the KIPA course, displaying its effectiveness in fostering competency regardless of the delivery mode.

Donald Kirkpatrick's Training Evaluation Model systematically assesses competency levels in both face-to-face and online KIPA course modalities through Reaction, Learning, Behaviour, and Results tiers [25]. Fred Davis' Technology Acceptance Model (TAM) is pertinent for evaluating technology's impact on competency enhancement, exploring factors like perceived ease of use and usefulness, and providing insights into online versus face-to-face delivery in the KIPA course [25].

The Community of Inquiry Framework by Garrison, Anderson, and Archer emphasizes social, cognitive, and teaching presence in online environments, shedding light on its influence on competency enhancement in the KIPA course's online format [26]. David Kolb's Experiential Learning Theory (ELT) highlights the cyclical nature of learning. Analysing KIPA's incorporation of experiential learning provides insights into competency enhancement in both face-to-face and online contexts [27]. Integrating these frameworks enables a nuanced exploration of competency factors in the KIPA course, facilitating a comparative analysis between face-to-face and online delivery modes.

III. RESEARCH OBJECTIVE

The goal of the comparative analysis, is to systematically assess the levels of competency enhancement among participants in the KIPA course delivered through online format. The specific aims include evaluating the impact of both delivery modes on the participants' knowledge acquisition, understanding, skills development, problem-solving abilities related to the course, and their ability to share acquired skills with others. By examining these specific competency levels through the provided questionnaire, the study aims to provide insights into the effectiveness of the KIPA course in different delivery formats, contributing valuable information for instructional design and educational delivery decisions.

IV. METHODOLOGY

This study adopts a quantitative descriptive survey methodology utilizing a questionnaire as the research instrument. The survey design employs the questionnaire to obtain minimum scores. The aim of the descriptive analysis is to scrutinize and document general findings [28]. The questionnaire is identified as the most suitable research instrument for determining the perceptions of the Polytechnic Professional Development Center (PPPT) of Malaysia regarding the

effectiveness of the Implementation of Instructional Leadership Course and Andragogy Development (Kursus Instruksional dan Pembangunan Andragogi or KIPA) in an online format. The questionnaire, developed by the researcher, has undergone a validation process, with each item achieving a Cronbach's alpha value exceeding 0.7.

Four main constructs are evaluated in the questionnaire, namely demographics, competency levels, lecturer effectiveness, and coordination effectiveness. The constructs for each item are outlined as follows: Section A pertains to demographics, Section B contains constructs related to competency aspects with 5 items, Section C relates to lecturer effectiveness with 6 items, and Section D pertains to coordination effectiveness with 5 items.

In this questionnaire, two main constructs are focused on for the study, namely demographics and competency levels. Section A examines demographic aspects, while Section B contains constructs related to competency levels consisting of 5 items. Aspects of lecturer effectiveness (Section C) and coordination effectiveness (Section D) will not be considered in the analysis of this study.

The online questionnaire was distributed, and the study gathered responses from 144 participants out of the total 229 attendees of the 2022 KIPA program. Data collected were recorded and analyzed using Statistical Package for Social Science (SPSS) version 25 software. The interpretation of the mean scores in this study refers to the mean scores proposed by Pallant [29] as presented in Table 1 below:

Table 1: Mean Score Interpretation.

Level	Mean Score
High	3.67 - 5.00
Moderate	2.34 - 3.66
Low	1.00 - 2.33

The population for this study comprises participants who attended the KIPA Program in the year 2022. The population size for this study is approximately 229 individuals, while the determination of the sample size, chosen by referring to Krejcie & Morgan's table [30], is 144 respondents. Simple random sampling technique has been selected as the sampling method. Simple random sampling requires each individual to have an equal chance of being selected or used as a sample. This

method is also suitable when the studied population exhibits uniform characteristics [31].

V. DATA ANALYSIS

The table 2 presents data on the distribution of individuals by gender and the type of institution they are associated with. In terms of gender, there are 46 males, accounting for 31.95% of the dataset, and 98 females, constituting 68.05%. Regarding institution type, 99 individuals, representing 68.75%, are affiliated with polytechnics, while 45 individuals, comprising 31.25%, are associated with community colleges. This data reveals a higher proportion of females in the dataset and a predominant association with polytechnics.

Table 2: Background of Respondents According to Gender and Institution.

No	Information	Category	Count	%
1	Gender	Male	46	31.95
		Female	98	68.05
2	Institution	Polytechnic	99	68.75
		Community College	45	31.25

The analyzed data reveals that participants exhibited significant advancements across various competencies following the completion of the course or training (Table 3). On average, there was a substantial improvement in knowledge, with participants displaying an effective assimilation of new information, as reflected in an average rating of 4.11. Moreover, participants deepened their understanding of the material, indicating the course's success in fostering comprehension, with an average rating of 4.08.

Practical skills experienced a notable enhancement, signifying the course's efficacy in developing and refining participants' abilities, yielding an average rating of 4.06. The observed improvement in problem-solving ability, with an average rating of 4.04, suggests that participants were able to adeptly apply their acquired knowledge and skills to address real-world challenges. Additionally, the high average in the ability to share skills (4.08) underscores participants' confidence in effectively communicating their newfound expertise to others. Collectively, these results paint a positive and comprehensive picture of the course's impact, encompassing elevated levels of knowledge, understanding, skills, problem-solving ability, and an enhanced capacity to share these skills with others.

Table 3: Item analysis of the effectiveness of competence level perception.

Competency	Range	Mean
Knowledge Level Improvement	2 to 5	4.11
Understanding Level Improvement	2 to 5	4.08
Skills Improvement	3 to 5	4.06
Problem-Solving Ability	2 to 5	4.04
Ability to Share Skills	3 to 5	4.08

VI. DISCUSSION

The "Comparative Analysis of Competency Enhancement: Face-to-Face vs. Online Delivery of KIPA Course" aims to assess and compare the levels of competency enhancement among participants in the KIPA course delivered through traditional face-to-face sessions and the newer online format. The study explores various dimensions, including knowledge acquisition, understanding, skills development, problem-solving abilities, and the participants' ability to share acquired skills.

Several prior studies have indicated that satisfaction levels are higher with face-to-face training when compared to online training. Notwithstanding the perceived merits of online training, both polytechnics and training providers confront multiple challenges. These challenges encompass issues related to preparedness for online training, discrepancies in training environments, the availability of adequate technological resources for training purposes, and the accessibility of reliable internet connections [32]. Moreover, establishing a connection between theoretical knowledge and practical application poses further difficulties [33]. Nevertheless, as the world shifts from the pandemic phase to an endemic state, the handling and implementation processes of online training appear to be displaying improved performance.

Table 2 provides insights into the demographic distribution of participants based on gender and institutional affiliation. Notably, the dataset comprises 46 males (31.95%) and 98 females (68.05%), indicating a higher representation of females. Furthermore, 99 participants (68.75%) are associated with polytechnics, while 45 individuals (31.25%) are linked to community colleges. This highlights a predominant association with polytechnics in the dataset.

The assessment analysis (Table 3) demonstrates significant advancements in various competencies post-

course completion. Participants exhibited substantial improvements in knowledge (mean: 4.11), indicating effective assimilation of new information. Deepened understanding of the material is evident, with an average rating of 4.08, showcasing the course's success in fostering comprehension. Practical skills experienced notable enhancement (mean: 4.06), emphasizing the course's efficacy in developing participants' abilities. The observed improvement in problem-solving ability (mean: 4.04) suggests effective application of knowledge and skills in real-world challenges. Additionally, a high average in the ability to share skills (4.08) underscores participants' confidence in communicating expertise.

These positive results underscore the effectiveness of the instructional design in promoting comprehensive competency development. Designers should continue emphasizing practical application and knowledge transferability in course development.

While the study provides valuable insights, limitations include potential self-report bias and a focus on immediate post-training outcomes. Future research could explore long-term competency retention and the impact of instructional methods on diverse learner groups.

VII. CONCLUSION

In conclusion, this study illuminates the effectiveness of online delivery methods in elevating participants' competencies. The study underscores significant progress in knowledge acquisition, understanding, skills development, and problem-solving abilities, emphasizing the success of the instructional design in fostering comprehensive competency development. Despite recognizing challenges associated with online training, the positive outcomes offer valuable insights for Jabatan Pendidikan Politeknik dan Kolej Komuniti (JPPKK) in shaping future competency enhancement courses. The study's acknowledgment of limitations, including potential self-report bias and a focus on immediate post-training outcomes, encourages a nuanced interpretation of the findings. The call for future research on long-term competency retention and the impact of instructional methods on diverse learner groups further enhances the study's contribution to guiding JPPKK's endeavors in designing and implementing effective and inclusive educational programs across traditional and online formats.

ACKNOWLEDGMENT

The successful completion of this study, investigating the efficacy of the Instructional Leadership Course and Andragogy Development (KIPA) program, has been made possible through the invaluable support and guidance of Ts Zainab Binti Othman, Pengarah Kanan (Kompetensi), and Ts Zulkurnain Bin Shahadan, Pengarah Bahagian Kompetensi dan Peningkatan Kerjaya. Their expertise and commitment have played a crucial role in shaping the competency enhancement for new educators in both face-to-face and online delivery modes. The insights provided by Ts Zainab Binti Othman and Ts Zulkurnain Bin Shahadan will undoubtedly contribute to the future development of competency enhancement courses at Jabatan Pendidikan Politeknik dan Kolej Komuniti (JPPKK).

REFERENCES

- [1] "KIPA | ulpl-ipsis." [Online]. Available: <https://webulpl.wixsite.com/ulpl-ipsis/kipa>. [Accessed: 14-Jan-2024].
- [2] "JPPKK/BKPK/UPK." [Online]. Available: <https://sites.google.com/mohe.gov.my/kipa1-2022/utama>. [Accessed: 14-Jan-2024].
- [3] "Teacher Competencies Delivery | WingInstitute.org." [Online]. Available: <https://www.winginstitute.org/teacher-competencies-delivery>. [Accessed: 14-Jan-2024].
- [4] "Pedagogy, Andragogy, & Heutagogy | University of Illinois Springfield." [Online]. Available: <https://www.uis.edu/colrs/teaching-resources/foundations-good-teaching/pedagogy-andragogy-heutagogy>. [Accessed: 14-Jan-2024].
- [5] Tristan De Vera, "The Importance of Andragogy in Training and Development," 2021. [Online]. Available: <https://www.gofluent.com/us-en/blog/andragogy-in-training-and-development/>. [Accessed: 14-Jan-2024].
- [6] K. M. Salleh, N. H. Khalid, N. L. Sulaiman, M. M. Mohamad, and L. C. Sern, "Competency of Adult Learners in Learning: Application of the Iceberg Competency Model," *Procedia - Soc. Behav. Sci.*, vol. 204, pp. 326–334, Aug. 2015.
- [7] P. P. and N. S. Pawat Chaipidech, Tanachai Kajonmanee, Kornchawal Chaipah, "Implementation of an Andragogical Teacher Professional Development Training Program for Boosting TPACK in STEM Education on JSTOR," *Educ. Technol. Soc.*, vol. 24, no. 4, pp. 220–239, 2021.
- [8] J. A. Henschke, "Andragogical curriculum for equipping successful facilitators of andragogy in

- numerous contexts,” *Andragogical Pedagog. Methods Curric. Progr. Dev.*, pp. 142–168, 2014.
- [9] J. Paul and F. Jefferson, “A Comparative Analysis of Student Performance in an Online vs. Face-to-Face Environmental Science Course From 2009 to 2016,” *Front. Comput. Sci.*, vol. 1, p. 472525, Nov. 2019.
- [10] Levi Olmstead, “Online Learning vs. Face-to-Face Learning: Which Is Best?,” 2023. [Online]. Available: <https://whatfix.com/blog/online-learning-vs-face-to-face-learning/>. [Accessed: 14-Jan-2024].
- [11] and M. M. Geng, Hongyan, “Comparing Student Performance and Satisfaction Between Face-to-Face and Online Education of a Science Course in a Liberal Arts University on JSTOR,” *J. Coll. Sci. Teach.*, vol. 51, no. 2, pp. 12–22, 2021.
- [12] “In-Person vs. Online Learning - Pros & Cons of Each | Yellowdig.” [Online]. Available: <https://www.yellowdig.co/post/in-person-vs-online-learning-can-they-compare>. [Accessed: 14-Jan-2024].
- [13] N. Kemp and R. Grieve, “Face-to-face or face-to-screen? Undergraduates’ opinions and test performance in classroom vs. Online learning,” *Front. Psychol.*, vol. 5, no. NOV, p. 116971, Nov. 2014.
- [14] M. J. Kintu, C. Zhu, and E. Kagambe, “Blended learning effectiveness: the relationship between student characteristics, design features and outcomes,” *Int. J. Educ. Technol. High. Educ.*, vol. 14, no. 1, pp. 1–20, Dec. 2017.
- [15] A. Bock et al., “Effectiveness of face-to-face, blended and e-learning in teaching the application of local anaesthesia: a randomised study,” *BMC Med. Educ.*, vol. 21, no. 1, pp. 1–8, Dec. 2021.
- [16] R. A. L. F. van Griethuisen, E. M. Kunst, M. van Woerkom, R. Wesselink, and R. F. Poell, “Does implementation of competence-based education mediate the impact of team learning on student satisfaction?,” *J. Vocat. Educ. Train.*, vol. 72, no. 4, pp. 516–535, 2020.
- [17] R. A. Vázquez Gómez, C. Galindo Correa, and P. P. Espinosa Martínez, “The Development of Competencies for Use in Online Learning During the Covid-19 Pandemic: Insights from the hospitality management degree program at the Universidad Panamericana, Mexico City campus,” *eLearn*, vol. 2023, no. 6, Jun. 2023.
- [18] Y. Wei, X. Y. Lai, X. Q. Li, P. X. Zhang, and ..., “An Assessment of Online Learning Competency among Students of Higher Vocational and Technical School in China,” *J. ...*, vol. 3, no. 1, pp. 17–25, 2022.
- [19] K. Hamdan and A. Amorri, “The Impact of Online Learning Strategies on Students’ Academic Performance,” *E-Learning Digit. Educ. Twenty-First Century*, May 2022.
- [20] S. Vishnu et al., “Digital competence of higher education learners in the context of COVID-19 triggered online learning,” *Soc. Sci. Humanit. Open*, vol. 6, no. 1, p. 100320, Jan. 2022.
- [21] U. Noor, M. Younas, H. Saleh Aldayel, R. Menhas, and X. Qingyu, “Learning behavior, digital platforms for learning and its impact on university student’s motivations and knowledge development,” *Front. Psychol.*, vol. 13, p. 933974, Nov. 2022.
- [22] N. R. Shaji and S. Sreeja, “Impact of Online Education in the Development of Life Skills of Students,” *SSRN Electron. J.*, Feb. 2022.
- [23] T. Hongsuchon, I. M. M. El Emary, T. Hariguna, and E. M. A. Qhal, “Assessing the Impact of Online-Learning Effectiveness and Benefits in Knowledge Management, the Antecedent of Online-Learning Strategies and Motivations: An Empirical Study,” *Sustain.*, vol. 14, no. 5, Mar. 2022.
- [24] Y. Liu, L. Zhao, and Y. S. Su, “The Impact of Teacher Competence in Online Teaching on Perceived Online Learning Outcomes during the COVID-19 Outbreak: A Moderated-Mediation Model of Teacher Resilience and Age,” *Int. J. Environ. Res. Public Health*, vol. 19, no. 10, May 2022.
- [25] S. Sultan et al., “A Theoretical Framework and Competency-Based Approach to Training in Guideline Development,” *J. Gen. Intern. Med.*, vol. 35, no. 2, p. 561, Feb. 2020.
- [26] D. Hickey, “A Framework for Interactivity in Competency-Based Courses | EDUCAUSE Review.” [Online]. Available: <https://er.educause.edu/articles/2015/8/a-framework-for-interactivity-in-competency-based-courses>. [Accessed: 14-Jan-2024].
- [27] L. C. Sern, H. M. Adamu, and & K. M. Salleh, “Development of Competency Framework for Nigerian TVET Teachers in Tertiary TVET Institutions,” *J. Tech. Educ. Train.*, vol. 11, no. 1, pp. 11–018, Mar. 2019.
- [28] A.N. A. AGUS, “Tahap Pengetahuan Dan Kediaan Guru Bahasa Melayu Dalam

Melaksanakan Pendekatan Terbeza Dalam Pengajaran Dan Pembelajaran Di Rumah Semasa Tempoh Perintah Kawalan Pergerakan (The Level of Knowledge and Readiness Malay Language Teachers' to Implementation," J. Pendidik. Bhs. Melayu, vol. 11, no. 1, pp. 75–87, May 2021.

- [29] J. Pallant, "SPSS Survival Manual: A step by step guide to data analysis using IBM SPSS," Jul. 2020.
- [30] R. V Krejcie and D. W. Morgan, "Determining sample size for research activities.," Educ. Psychol. Meas., vol. 30, no. 3, pp. 607–610, 1970.
- [31] D. Ghazali and H. Sufean, Metodologi Penyelidikan Dalam Pendidikan: Amalan Dan Analisis Kajian., vol. 4878. 2019.
- [32] N. Mahalingam and K. Jamaludin, "Impak Dan Cabaran Pelaksanaan Pengajaran," J. dunia Pendidik., vol. 3, no. 4, pp. 104–115, Jan. 2022.
- [33] B. Yıldırım, "Preschool Education in Turkey During the Covid-19 Pandemic: A Phenomenological Study," Early Child. Educ. J., vol. 49, no. 5, pp. 947–963, Sep. 2021.



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ISSN: 2582-6832