MODEL 70-20-10 VS ADDIE: A COMPARATIVE ANALYSIS OF LEARNING MODELS FOR ENHANCING APPARATUS COMPETENCE

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ABSTRACT

Enhancing apparatus competence is an urgent and crucial matter to address the challenges of modern bureaucracy, which demands rapid adaptation in the digital era. This research aims to comparatively analyze the 70-20-10 and ADDIE learning models for enhancing apparatus competence. The research employs a qualitative approach using the Systematic Literature Review (SLR) method, based on PRISMA. The research results indicate that the 70-20-10 Model, which emphasizes a learning proportion based on experience (70%), social interaction (20%), and formal training (10%), is considered flexible and effective in informal learning and leadership development. However, it's difficult to be measured and evaluated. Meanwhile, the ADDIE Model, with its systematic stages (Analysis, Design, Development, Implementation, Evaluation), is considered superior in structure and measurability. However, it's less flexible and requires substantial resources. Integrating both models into a hybrid learning approach, which combines the strengths of each, can offer a transformative solution for enhancing apparatus competence and create a holistic approach. The ADDIE model is used to design formal learning that is measurable and systematic, supported by thorough planning, competent facilitators/mentors, digital infrastructure, and a comprehensive evaluation system. Meanwhile, the 70-20-10 model, with its flexibility, will enrich contextual learning through experience and collaboration. The integration of these models will create an inclusive training design through the development of adaptive, efficient, and sustainable apparatus competence, thereby improving the quality of public services.

INTRODUCTION

In a global landscape that demands rapid adaptation, enhancing the competence of apparatus is highly important for navigating the challenges of modern bureaucracy. This is true especially in the digital age, which prioritizes efficiency and transparency. However, a gap persists between the required competencies and the effectiveness of conventional training programs. Formal training often falls short in applying knowledge to real-world situations.

The 70-20-10 and ADDIE are two learning models with distinct theoretical foundations and approaches. However, both are relevant for developing apparatus competence. The 70-20-10 model,

built on theories of informal learning and work experience, posits that 70% of learning comes from practical experience, 20% from social interaction, and 10% from formal training (Arets 2016). When put into practice, the 70-20-10 model aligns with Kolb's experiential learning theory (Amenumey and Badu 2023).

However, its implementation in the public sector still faces challenges due to a hierarchical bureaucratic culture and a lack of infrastructure supporting informal learning (Arets 2016). Meanwhile, the ADDIE model (Analysis, Design, Development, Implementation, Evaluation) is seen as a systematic framework for designing training based on specific needs, with an evaluation phase that ensures alignment between objectives and outcomes (Karns 2024). Yet, in the context of dynamic informal learning, the linear aspect of ADDIE is considered less responsive, such as with on-the-job training.

This aligns with the findings of a study Armizawati and Asmendri (2022) which stated that the ADDIE model effectively improved the performance of library employees but couldn't address the need for collaborative learning. Meanwhile, a review Amenumey & Badu (2023) indicated that the 70-20-10 model excels in leadership development in higher education. They further explained that there hasn't been empirical validation within highly complex bureaucracies with multidimensional stakeholders.

The limited number of comparative studies examining both models within the same ecosystem indicates a research gap here. This is evident from the studies by Adeoye et al (2024) and Karns (2024) which focus solely on the advantages of ADDIE in formal education, while Arets (2016) and Amenumey & Badu (2023) primarily explore the 70-20-10 model in the private sector and higher education. A study by Frimousse (2018), which aimed to test the application of 70-20-10 in the public sector through a breakthrough, concluded that the focus of studies is still predominantly on corporations.

The novelty of this research lies not only in describing the strengths and weaknesses of each model but also in the opportunity to integrate the 70-20-10 and ADDIE models by combining their respective advantages. The potential synergy of these two models is identified in the effort to strengthen apparatus competence in the digital era. Therefore, this research becomes even more relevant as the pressures arising post-pandemic and the challenges faced in the era of the Industrial Revolution 4.0 necessitate rapid adaptation of apparatus to changes in regulations and technology.

This research aims to conduct a comparative analysis of the 70-20-10 and ADDIE learning models in an effort to enhance apparatus competence. The research will focus its analysis on three main sub-focuses: (1) What are the concepts of the 70-20-10 and ADDIE learning models? (2) What are the implementation and challenges of the 70-20-10 and ADDIE learning models? and (3) What

are the opportunities for integrating the 70-20-10 and ADDIE learning models in enhancing apparatus competence?

Hopefully, this research provide a comprehensive understanding of the strengths and weaknesses of each model, as well as the potential synergy between them in improving apparatus competence. This way, more efficient strategies for enhancing apparatus competence can be identified, ultimately impacting the quality of public services.

LITERATURE REVIEW

Analysis of the 70-20-10 and ADDIE Learning Model Concepts

McCall, Lombardo, and Eichinger introduced the 70-20-10 learning model in the 1980s through their research at the Center for Creative Leadership (CCL). Their study aimed to understand how successful leaders learn and develop their competencies. The 70-20-10 model focuses on effective learning, with the proportions being 70% from on-the-job experiences, 20% from social learning, and 10% from formal education (Eichinger and Lombardo 2015).

In essence, Amenumey & Badu (2023) posit that the 70-20-10 model is rooted in Kolb's experiential learning theory, which emphasizes a learning cycle based on concrete experience, reflection, conceptualization, and active experimentation. This model is considered suitable for dynamic leadership development and contextual learning, particularly in complex organizational environments (Harding 2022). Amenumey & Badu (2023); Mughal (2023); Suharsono (2020) also state that leadership development and optimal training transfer are key focuses in the application of this model.

On the other hand, the ADDIE model (Analysis, Design, Development, Implementation, Evaluation), since its introduction in 1975 by the Center for Educational Technology at Florida State University, has become one of the most popular and widely used instructional design models. Initially developed to meet the training needs of the US military, it was subsequently adopted broadly across various fields, including education. The ADDIE model helps educators create tools and infrastructure for dynamic training or learning programs that support learning (Junaedi 2019).

According to Branch (Hidayat & Nizar, 2021). this model continues to evolve with technological advancements and the need for more dynamic learning. It further explains the systematic framework of the ADDIE model, which includes the *Analysis phase*: identifying learning needs and constraints, and analyzing participant characteristics; the *Design phase*: structuring learning plans including objectives, strategies, and learning evaluation; the *Development phase*: creating learning materials covering content, media, and evaluation tools; the *Implementation phase*:

carrying out the learning design in learning activities; and the *Evaluation phase:* assessing the effectiveness of learning activities both formatively and summatively.

The ADDIE model is considered effective in improving learning quality due to its clear and relevant phased structure for both educational and corporate contexts (Adeoye et al. 2024). However, ADDIE is often criticized for being less flexible in responding to the dynamic training needs in the public sector, especially in developing countries (Zulfqar et al, 2021).

Philosophically, the difference between the two models lies in their learning orientation, where the 70-20-10 model is organic and centered on the work context, while the ADDIE model emphasizes structure and predictability (Suharsono, 2020; Syahid et al, 2024). In the learning process, the 70-20-10 model is considered more suitable for dynamic leadership development, whereas the ADDIE model is more appropriate for technical training requiring standardization (Karns 2024).

Model The 70-20-10 learning model, introduced by McCall, Lombardo, and Eichinger, emphasizes that effective learning occurs through work experience (70%), social interaction (20%), and formal learning (10%). Conceptually, this model is relevant to Kolb's experiential learning principles and is considered suitable for dynamic leadership development. Meanwhile, the ADDIE model is a systematic framework in instructional design that emphasizes the analysis of needs and is relevant to a behaviorist approach. This model is considered effective in improving the quality of learning due to its clear and measurable phased structure.

Philosophically, the difference between these two models lies in their learning orientation, where the 70-20-10 model is organic and centered on the work context, while the ADDIE model emphasizes structure and predictability. The 70-20-10 model is considered more suitable for leadership development, while the ADDIE model is more appropriate for technical training that requires standardization. Although the two models have differences, they can be used together as they can complement each other to achieve more comprehensive learning objectives.

Implementation and Challenges of the 70-20-10 and ADDIE Learning Models

Implementing the 70-20-10 model in the public sector requires a collaborative organizational culture that supports innovation. This aligns with the idea that the effectiveness of the 70-20-10 model depends on facilitating and measuring informal learning, as well as appropriate interpretation and implementation based on context (Arets 2016; Bagley 2018; Clardy 2018). Suharsono (2023) study shows that this model's implementation in Central Java was successful through a corporate university program that combined strategic projects (70%), group discussions (20%), and short training sessions (10%). However, the main challenges lie in mentor readiness and time allocation (Najafiet al, 2022). Moreover, hierarchical bureaucratic culture often hinders cross-sector collaboration, which is a key component of the 70-20-10 model (Dopson et al. 2019).

The ADDIE model, with its systematic stages of analysis, design, development, implementation, and evaluation, provides a structured framework for effective learning design (Maribe 2009). The ADDIE model has proven effective in enhancing competence in the development of learning media and training (Adeoye et al., 2024; Aini et al , 2023; Arini et al, 2024). Other studies also indicate that ADDIE's application is beneficial in various contexts and work areas, such as the development of learning multimedia, learning tools, and training in various fields (Guo & Yang, 2021; Kunting et al, 2017; Latip, 2022)

Meanwhile, ADDIE implementation faces challenges related to design rigidity and the time-consuming complexity of the analysis phase. A study by Rachma et al (2023) on implementing the ADDIE model through the development of apparatus training simulation videos showed a 40% improvement in reinforcement skills during the development phase. Other research also implies that the design phase requires 30% more time due to the complexity of apparatus needs (Karns 2024). Another challenge faced during ADDIE implementation is the difficulty in accommodating rapidly changing public policy dynamics (Suharsono 2020).

A common constraint experienced during the implementation of both models is the limitation of digital infrastructure. Implementing both models in the digital era requires technological support, such as Learning Management System (LMS) platforms. Suharto (2024) states that 60% of government agencies still have limited access to adequate digital infrastructure. He further explains that this hinders the evaluation phase in ADDIE model implementation and informal learning in the 70-20-10 model.

Considering the description above, the implementation of the 70-20-10 and ADDIE models in the public sector impacts competence enhancement, but their implementation is not without specific challenges. The 70-20-10 model, which emphasizes learning through experience, social interaction, and formal training, requires a collaborative organizational culture, mentor support, and adequate time allocation. The main obstacle lies in the hierarchical bureaucratic structure, which hinders cross-sector collaboration, the essence of the 70-20-10 model. Meanwhile, the ADDIE model, with its structured instructional design approach, also faces challenges such as rigidity, the time-consuming complexity of the analysis stage, and vulnerability to rapidly changing public policy dynamics.

Opportunities for Integrating the 70-20-10 and ADDIE Learning Models in Enhancing Apparatus Competence

Although these two models differ philosophically in their approaches, integrating them can combine the strengths of formal and informal learning, creating a holistic approach to public sector human resource development, (Najafi et al, 2022). The potential for integrating these two models in various learning contexts is also supported by studies (Amini and Sujatmiko 2024; Lestari and

Wibawa 2024). These studies demonstrate the potential for integrating the two models in various contexts, such as multimedia development and training, making it a holistic solution for modern learning needs.

Several other studies also imply the benefits of integrating learning models. Research by Rahmatullah et al (2022) and Suci and Abdurahman (2022) on the integration of Problem-Based Learning (PBL) with learning media, shows that this integration has a positive impact on learning effectiveness and improved student abilities (Atmojo et al. 2023).

Based on the opinions above, the integration of the 70-20-10 and ADDIE learning models presents significant opportunities. Combining the strengths of both models will result in a relevant, holistic, measurable, and effective approach. Thus, the two models complement each other. The 70-20-10 model will encourage contextual learning, while the ADDIE model provides a clear evaluation framework.

RESEARCH METHOD

This research employs a Systematic Literature Review (SLR) approach to comparatively analyze the 70-20-10 and ADDIE learning models, aiming to improve apparatus competence. SLR was chosen for its capacity to provide a comprehensive and systematic synthesis of relevant scientific evidence (Aromataris and Pearson, 2014). The SLR process adhered to the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analysis) model, ensuring transparency and accuracy in reporting the literature review findings (Moher et al. 2019; Page et al. 2021).

Following the PRISMA guidelines, the research began with the identification phase. Articles were searched across three prominent databases: Google Scholar, Semantic Scholar, and Crossref, using the keywords: "70-20-10," "ADDIE," "kompetensi aparatur" (apparatus competence), and "studi literatur" (literature study). This initial search yielded 117 articles deemed potentially relevant to the research topic.

After identification, a screening process was conducted to ensure that selected articles met the inclusion criteria. This systematic screening aimed to minimize bias and ensure only relevant articles were analyzed (Van Dinter et al, 2021). The screening involved two main steps: first, removing duplicate articles to prevent redundancy, and second, selecting articles based on their titles and abstracts. Articles were evaluated against predefined inclusion criteria, such as focusing on learning models, a publication timeframe for national articles (2014-2024), and publication type (journals, proceedings, or government reports). This selection process resulted in 66 articles moving to the eligibility stage. Fifty-one articles were excluded due to not meeting the criteria, either because of duplicate titles, irrelevance to the topic, or publication dates before 2014 (for national articles).

The subsequent eligibility phase involved downloading and thoroughly reading the 66 articles that passed screening. This step assessed the methodological validity, relevance of the articles to the primary research focus, and the availability of information pertinent to the comparative analysis sub-focus. Ten articles that did not meet these criteria were excluded, leaving 56 eligible articles.

The final inclusion phase involved a thematic analysis of the 56 selected articles, comprising 38 international and 18 national publications. This analysis aimed to synthesize the conceptual aspects, strengths, weaknesses, and potential for integration between the 70-20-10 and ADDIE models within the context of enhancing apparatus competence. To guarantee the validity and reliability of the analysis results, two independent researchers, who are also the author's working colleagues (widyaiswara), were involved in reviewing the articles based on the established inclusion criteria and their expertise.

Finally, the results of the thematic analysis were harmonized with notes and findings. This analysis is expected to provide an in-depth understanding of the conceptual frameworks, implementation, comparative aspects, and integration opportunities of both models. The research design, adopting the PRISMA model, is visualized as presented in Figure 1 below:
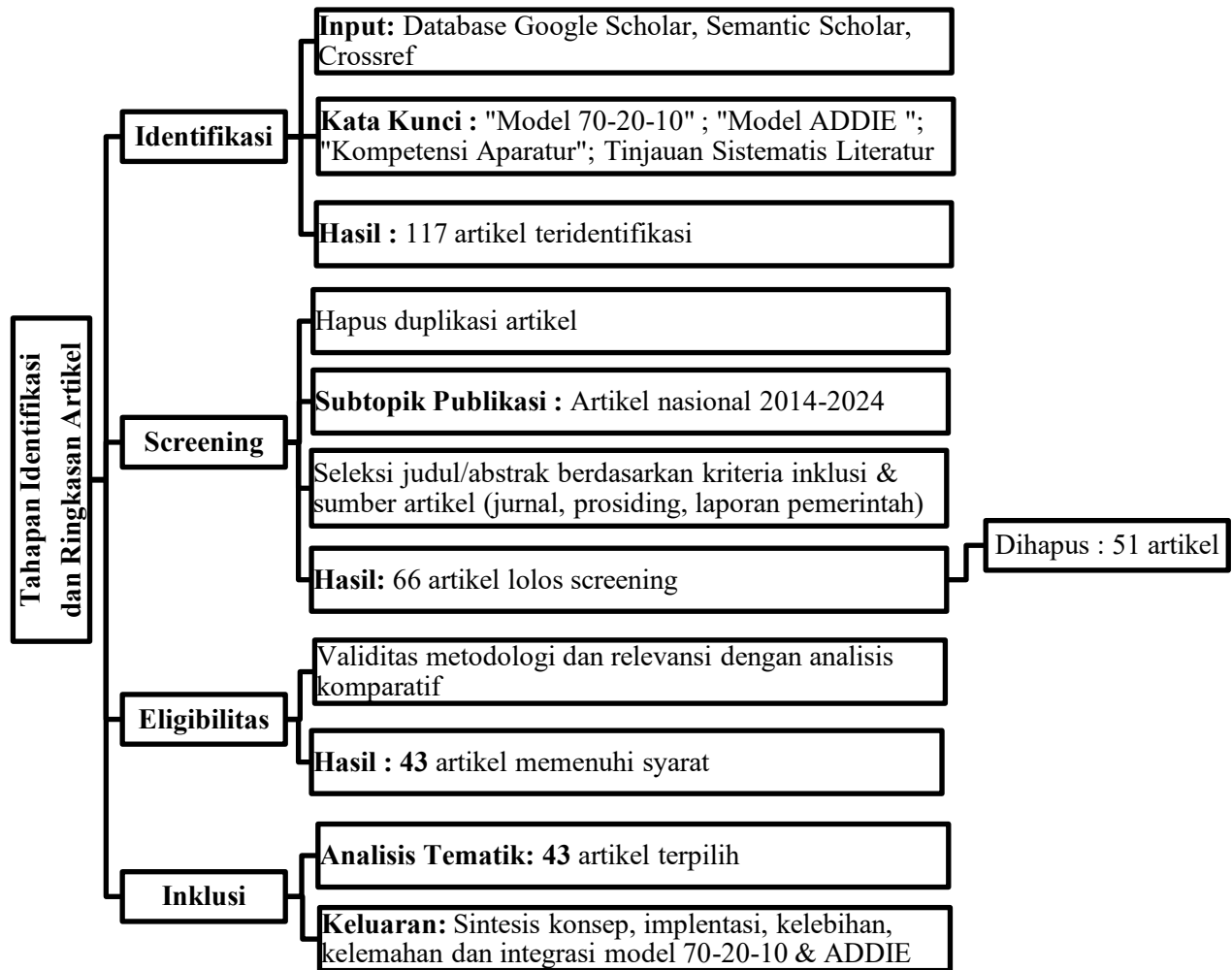
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│                   Identifikasi                                 │
│   Input: Database Google Scholar, Semantic Scholar, Crossref   │
│                                                                │
│   Kata Kunci : "Model 70-20-10" ; "Model ADDIE ";             │
│   "Kompetensi Aparatur"; Tinjauan Sistematis Literatur        │
│                                                                │
│   Hasil : 117 artikel teridentifikasi                         │
│                                                                │
│                   Screening                                    │
│   Hapus duplikasi artikel                                     │
│                                                                │
│   Subtopik Publikasi : Artikel nasional 2014-2024             │
│                                                                │
│   Seleksi judul/abstrak berdasarkan kriteria inklusi &        │
│   sumber artikel (jurnal, prosiding, laporan pemerintah)      │
│                                                                │
│   Hasil: 66 artikel lolos screening          Dihapus : 51 artikel │
│                                                                │
│                   Eligibilitas                                 │
│   Validitas metodologi dan relevansi dengan analisis          │
│   komparatif                                                  │
│                                                                │
│   Hasil : 43 artikel memenuhi syarat                          │
│                                                                │
│                   Inklusi                                      │
│   Analisis Tematik: 43 artikel terpilih                       │
│                                                                │
│   Keluaran: Sintesis konsep, implentasi, kelebihan,           │
│   kelemahan dan integrasi model 70-20-10 & ADDIE              │
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(Left vertical label: **Tahapan Identifikasi dan Ringkasan Artikel**)

Figure 1. Article Identification Stages and Selection Summary
(Adapted from Page, 2021)

RESEARCH RESULTS

Based on the identification and classification process, as part of the thematic analysis of articles that passed the inclusion phase, we identified 30 articles related to the 70-20-10 and ADDIE models. Additionally, 4 articles served as references for methodology development, and 9 other articles were used for the background, theoretical review, and in-depth discussion. The results of this identification are then presented in a matrix format using Excel. This matrix contains information on the main themes, study focus, research locus, and the number of articles for each main theme. This aims to provide a clear and structured overview of the main topics discussed in the literature review concerning the comparative analysis of the 70-20-10 and ADDIE models.

Information is presented in an identification matrix format to facilitate the analysis process based on the predefined sub-focus areas, as shown in Table 1.

Table 1. Identify Articles Based on Main Theme, Focus and Locus of Study

No.	Learning Model	Main Theme	Research Focus	Field of Study	Number of Article(s)
1.	70-20-10	Implementasi dan Efektivitas Model 70-20-10	Applying and Evaluating the 70-20-10 Model Across Various Contexts	Business, Education, Workplace, Bisnis, Pendidikan, Training, Corporation	9 Articles
		Informal Learning and Learning Transfer in the 70-20-10 Model	The role of informal learning and its relationship to learning transfer.	Workplace	2 Articles
		Leadership and Competence Development with the 70-20-10 Model	Applying the 70-20-10 model in leadership and competence development	Higher Education, Training Institute	2 Articles
		Analysis and Critique of the 70-20-10 Mode	Analysis, critique, and debates related to the 70-20-10 model.	Learning and Development	1 Articles
2.	ADDIE	Developing Learning Media and Materials with the ADDIE Model	Applying the ADDIE model in developing learning media and materials.	Education	6 Articles
		Learning Design with the ADDIE Model	Using the ADDIE model to design learning.	Education	4 Articles
		Implementing the ADDIE Model in Training	Applying the ADDIE model in a training context.	Educational Institution	2 Articles
		ADDIE Model in Distance Education	Applying ADDIE model in distance education	Distance Education	2 Articles
		Application and History of the ADDIE Model	Applying the ADDIE model in specific fields and its historical development	Nursing	2 Articles

Source: Processed Data by the Author, 2025

Data in Table 1 shows that for the 70-20-10 model, the main theme "Implementation and Effectiveness of the 70-20-10 Model" dominates, with a focus on the application and evaluation of the model in various contexts. There are 9 articles on this theme, making it the most discussed. Additionally, there are 2 articles on the theme of informal learning and learning transfer within the 70-20-10 Model, exploring the role of informal learning and its relationship to learning transfer. Another emerging theme is leadership and competence development with the 70-20-10 Model, which includes 2 articles. Finally, there is one identified article on the theme of Analysis and Critique of the 70-20-10 Model.

Meanwhile, the most discussed main theme for the ADDIE model is the development of learning media and materials with the ADDIE Model. There are 6 articles focusing on the application of this model in developing learning media and materials. Another significant theme is Learning Design with the ADDIE Model, which discusses the use of the ADDIE model in designing learning, with 4 articles. Furthermore, there are 2 articles on the implementation of the ADDIE Model in Training, and 2 articles on the ADDIE Model in distance education. Lastly, 2 articles on the

application and history of the ADDIE model discuss the application of this model in specific fields and its historical development.

In general, the main themes studied in the 70-20-10 model are in the context of implementation, effectiveness, and competence development. Meanwhile, for the ADDIE model, the main themes of the articles studied are in the context of media development, learning design, and training. The diverse study focuses of both models illustrate their relevance and enrich the researcher's arguments.

Analysis of the locus or field of study in the identified articles reveals a wide variation. For the 70-20-10 model, studies are frequently conducted in business, education, workplace, training, and corporate contexts. This reflects the model's relevance in various environments that emphasize experiential learning and social interaction. Meanwhile, the ADDIE model is more commonly studied in educational contexts, focusing on the development of media and learning materials, and learning design. However, there are also studies of the ADDIE model in organizational, training, distance education, and nursing contexts, demonstrating the model's flexibility in various fields that require systematic instructional design.

These differences in study locus reflect the primary focus of each model. The 70-20-10 model emphasizes informal learning and leadership development and is widely applied in work and organizational environments. The ADDIE model, with its focus on structured instructional design, is widely applied in educational and training contexts that require systematic and measurable learning material development. Nevertheless, there is an overlap between the two models in the context of training and competence development, indicating the potential for integration to create a more holistic and effective approach.

DISCUSSION

Analysis of 70-20-10 and ADDIE Learning Model Concepts

As a learning framework, the 70-20-10 model emphasizes that 70% of learning comes from work experience, 20% from interaction with others, and 10% from formal education (Arets 2016). In the context of informal learning, Clardy (2018) offers a critical note on the large proportion of informal learning in this model and suggests further evaluation of the proportion and effectiveness of each component. Another opinion by Bagley (2018),), in his study on the evaluation of the 70-20-10 framework in workplace learning activities, also states that this model needs to be interpreted and implemented carefully.

The debate among experts regarding the concept of the 70-20-10 learning model is also highlighted by Harding (2022) who mentions that this model remains a topic of discussion and debate among practitioners and academics. One such topic is the concept of leadership development explored

by Amenumey & Badu (2023) regarding leaders' experiences in integrated leadership development with the 70-20-10 model in higher education. A similar review of leadership development was also presented by Day (2000), whose study emphasizes the importance of understanding the context in which leadership develops.

Meanwhile, although ADDIE is widely used in the development of learning media (Aini et al. 2023; Arini et al. 2024; Latip 2022) and training (Adeoye et al. 2024; Armizawati and Asmendri 2022), including in nursing (Guo and Yang 2021), it also faces implementation challenges, as reflected in studies of its historical development (Chevalier 2011). This model is considered less flexible, less adaptable to change, and requires substantial resources for design and implementation.

As a systematic instructional design model, the ADDIE model, consisting of five stages: Analyze, Design, Develop, Implement, and Evaluate, is widely used in the development of learning media, as seen in research by Aini et al, 2023) on the development of Videoscribe learning media, Videoscribe, Arini et al (2024) on Economic e-Modules, and Latip (2022) on science literacy-based learning multimedia. ADDIE's application is also found in training contexts, such as by Armizawati & Asmendri (2022) in the design of library staff training.

The 70-20-10 learning model, which emphasizes 70% learning from work experience, 20% from interaction, and 10% from formal education, is considered relevant in the digital age. However, the proportion and effectiveness of each component, especially informal learning, remain a subject of debate. Some experts highlight the importance of careful interpretation and implementation of this model, as well as the need to understand the context in which learning and leadership development take place.

On the other hand, the ADDIE model, with its stages of analysis, design, development, implementation, and evaluation, is widely used in the development of learning media and training. Chevalier (2011) memberikan offers several critical notes regarding this model, including: (1) analysis is often limited to a needs assessment that assumes training is the only solution, without investigating the underlying causes of performance gaps; (2) design is often unclear in identifying target audiences and specific behavioral objectives; (3) evaluation of training is frequently limited to reaction surveys, without assessing the real impact on individual performance and desired business outcomes.

From an effectiveness perspective, the 70-20-10 model is considered relevant through Situated Learning theory (Lave, J., & Wenger 1991), where competence develops through participation in communities of practice. A study by Amenumey & Badu (2023) mentions that leaders in Ghana improved management skills through interaction with stakeholders (social learning), which is at the

core of the 70-20-10 model. However, this model faces challenges in measuring the impact of informal learning (Harding 2022).

Meanwhile, the effectiveness of the ADDIE model in enhancing competence through structured learning design is demonstrated by Adeoye et al (2024). Furthermore, Guo & Yang (2021) study, which examines the application status of the ADDIE model in nursing, concludes that this model is relevant in various fields. This reinforces Chevalier (2011) opinion that throughout its historical development, the ADDIE model has always undergone adjustments over time.

The ADDIE model's ability to produce measurable outputs, as shown by Branch (2009) study on e-government training in the US, indicates a 25% improvement in digital system mastery during the evaluation phase. However, Zulfqar et al (2021) offer a critical note on this model, as it's considered less effective in developing soft skills that require contextual learning such as communication or negotiation.

Based on the above, from an effectiveness perspective, the 70-20-10 model is deemed effective in improving management skills, but struggles to measure the impact of informal learning. This is because this model emphasizes competence development through participation in communities of practice and interaction with stakeholders. Meanwhile, the ADDIE model is considered capable of producing measurable and structured outputs. However, this model is deemed less effective in developing soft skills that require contextual learning.

Implementation and Challenges in Enhancing Apparatus Competence

Implementing the 70-20-10 model in the public sector requires the support of a collaborative organizational culture that fosters innovation. Suharsono (2023) study indicates that the 70-20-10 model was successfully implemented through a corporate university program at BPSDM Central Java. However, the primary challenges in implementing the 70-20-10 model lie in mentor readiness and time allocation (Najafi et al. 2022). Another challenge is that hierarchical bureaucratic culture often hinders cross-sector collaboration, which is a key component of the 70-20-10 model (Dopson et al. 2019).

Meanwhile, ADDIE implementation faces challenges related to design rigidity and the time-consuming complexity of the analysis phase. A study by Rachma et al (2023) on implementing the ADDIE model to develop apparatus training simulation videos showed a 40% increase in reinforcement skills. Other research also mentions that the design phase can require 30% more time due to the complexity of apparatus needs (Karns 2024). Another challenge encountered in implementing the ADDIE model is the difficulty in accommodating rapidly changing public policy dynamics (Suharsono 2020)

The limitation of digital infrastructure, surprisingly, poses a challenge for both models. Implementing both models in the digital era necessitates technological support, such as Learning Management System (LMS) platforms. This was a finding by Suharto (2024) who identified that 60% of government agencies still have limitations in providing adequate digital infrastructure. This obstacle hinders the evaluation phase in the ADDIE model and informal learning in the 70-20-10 model.

To overcome these implementation challenges, several strategic recommendations can be considered. First, competency-based mentor training needs to be enhanced to support the 20% social learning phase in the 70-20-10 model (Najafi et al. 2022). Second, integrating technology into the 10% formal learning phase of the 70-20-10 model can strengthen formal learning (Suharsono 2023). Third, using ADDIE to design core curricula before implementing experiential learning can create a more measurable structure (Amenumey and Badu 2023)

The findings from the studies above indicate that the implementation of the 70-20-10 model in the public sector is hampered by a less collaborative organizational culture and mentor readiness, despite successes achieved through structured programs like Corporate University. The ADDIE model, while effective in skill enhancement, faces challenges in design rigidity and the complexity of its analysis phase, as well as difficulty accommodating policy changes. Furthermore, a common obstacle for both models is the limitation of digital infrastructure. To address these challenges, competency-based mentor training, technology integration in learning, and the use of ADDIE to design core curricula before implementing experiential learning are recommended.

Moreover, based on a literature review focused on identifying the strengths and weaknesses of the 70-20-10 and ADDIE models, the advantages and disadvantages of both models in learning implementation have been identified. A specific review of the strengths and weaknesses of the 70-20-10 and ADDIE models, based on the documented findings, is presented in the following table.

Table 2. Identifying the Advantages and Disadvantages of the 70-20-10 and ADDIE Models

No.	Reviewed Aspect	Learning Model	
		70-20-10 Model	ADDIE Model
1.	Strength	Flexible and adaptable to change (Arets, 2016)	Structured and systematic learning design (Maribe, 2009)
		Able to optimize self-directed learning (Clardy, 2018)	Clear and measurable learning objectives (Adeoye et al., 2024)
		Facilitates informal learning relevant to the work context (Bagley, 2018)	Learning materials created are relevant and well-directed (Armizawati & Asmendri, 2022)
		Increased participant engagement in the learning process (Johnson et al., 2018)	Appropriate evaluation methods for measuring learning effectiveness (Cahyadi, 2019)
		Costs are relatively lower because it utilizes existing resources (Harding, 2022)	Applicable across various contexts and fields (Guo & Yang, 2021)
2.	Weakness	Difficult to measure and evaluate informal learning (Johnson et al., 2018)	Requires sufficient resources for design and implementation (Kunting et al., 2017)
		Requires support and collaboration from various parties (Garaas, 2016)	Lengthy and complex design process (Reyvalda et al., 2019)
		Less focus on structured formal learning (Clardy, 2018)	Less flexible and less adaptable to change (Utama et al., 2022)
		Challenges exist in facilitating and managing informal learning (Suharsono, 2020)	Potential over-dependence on learning design experts (Sari, 2018).
			Difficult to implement in dynamic work environments (Syahid et al., 2024)

Source: Processed Data by Author, 2025

The identification and classification results, as presented in Table 2, indicate that the implementation of the 70-20-10 model has several advantages, as highlighted by Arets (2016) It offers flexibility and adaptability to change, making it relevant in dynamic work environments. Clardy (2018) adds that applying this model optimizes self-directed learning and empowers individuals to take responsibility for their self-development.

Furthermore, Bagley (2018) findings point to the model's ability to facilitate contextual informal learning and connect learning with daily work experiences. also emphasize the model's advantage in increasing participant engagement in the learning process, creating a more interactive learning experience. Meanwhile, in terms of cost, this model is relatively less expensive because it utilizes existing resources (Harding 2022).

Despite the advantages outlined above, the 70-20-10 model also has drawbacks in its implementation, particularly regarding the measurement and evaluation of informal learning (Johnson et al., 2018). The success of this model's implementation is also highly dependent on support and collaboration from various parties (Garaas 2016). Clardy (2018) further points out the model's lack of focus on structured formal learning. Moreover, in the context of widyaiswara's (training instructors') competency development, as discussed by Suharsono (2020), this model has weaknesses in facilitating and managing informal learning.

The explanations above suggest that the 70-20-10 model offers flexibility and adaptability in dynamic work environments, encourages self-directed learning, facilitates contextual informal

learning, and enhances participant engagement. Its implementation cost is relatively lower due to the utilization of available resources. However, challenges lie in measuring and evaluating informal learning, dependence on support and collaboration, a lesser focus on structured formal learning, and difficulties in facilitating and managing informal learning.

Another review of the advantages of implementing the ADDIE model indicates that it offers advantages in terms of structure and systematization of learning design (Maribe 2009). A study by Adeoye et al (2024) also confirms that implementing the ADDIE model can ensure clear and measurable learning objectives, thereby facilitating the evaluation process. Armizawati & Asmendri (2022) further add that the design of learning materials within the ADDIE model is more relevant and focused. Regarding the use of evaluation methods, a study by Cahyadi (2019)) states that the evaluation methods used in the ADDIE model are appropriate for measuring learning effectiveness. Furthermore, in terms of flexibility, the ADDIE model is flexible in its application across various contexts and fields (Guo and Yang 2021)

However, in its implementation, the ADDIE model also has several disadvantages. Its implementation requires sufficient resource availability for design (Kunting et al. 2017). Other studies also show several drawbacks of the ADDIE model, including the need for a long and complex design process (Reyvalda et al (2019), a lack of flexibility and adaptation to change (Utama et al, 2022), dependence on learning design experts (Sari 2018) and the difficulty of implementing the ADDIE model in dynamic work environments (Syahid et al. 2024).

The review of the advantages and disadvantages of implementing the ADDIE model in learning, as described above, shows that this model comparatively offers advantages in terms of structure and systematization of learning design, ensuring clear and measurable objectives, and relevant and focused materials. Another advantage of applying the ADDIE model is that the learning evaluation process is more effective and easier to perform, and the model is flexible and can be applied in various contexts.

However, in its implementation, the ADDIE model requires significant resources, its design process is long and complex, it is less flexible to change, and it heavily depends on learning design experts (media and content). Another constraint is that this model is difficult to implement in dynamic work environments.

Opportunities for Integrating the 70-20-10 and ADDIE Learning Models to Enhance Apparatus Competence

The analysis of the concepts and challenges in implementing the 70-20-10 and ADDIE learning models reveals philosophical differences between them. The core distinction lies in their learning orientation: the 70-20-10 model is organic and centered on the work context, while ADDIE

emphasizes structure and predictability (Suharsono 2020; Syahid et al. 2024). The 70-20-10 model is considered more suitable for dynamic leadership development, whereas the ADDIE model is better suited for technical training that requires standardization (Karns 2024)

In terms of focus, the 70-20-10 model emphasizes informal and contextual learning, which is deemed more relevant to current digital-era learning needs, as highlighted by Arets (2016). This model is seen as capable of fostering self-directed learning initiatives and facilitating informal learning relevant to the work context (Bagley 2018; Clardy 2018). Meanwhile, the ADDIE model prioritizes structured and measurable learning design, ensuring clear learning objectives and relevant materials (Maribe 2009). Both can complement each other, where the experience and interaction within 70-20-10 can enrich the formal learning process in ADDIE. Conversely, ADDIE's structure can provide clear direction for informal learning.

Despite their significantly different approaches, the 70-20-10 and ADDIE models share fundamental commonalities. These include: first, both models aim to enhance competence at both individual and group levels (Adeoye et al. 2024); Second, both the 70-20-10 and ADDIE models emphasize the importance of relevant and meaningful learning for participants (Johnson et al. 2018); Third, both models have been applied in various contexts, both formal and informal (Palabıyık and Oral 2023).

These substantive similarities in the implementation of both models present an opportunity for their integration in learning, particularly in the context of enhancing apparatus competence. Integrating the two models can create a holistic approach that combines the strengths of formal and informal learning, thereby increasing the effectiveness of learning objectives. This holistic approach aligns with Syahid et al (2024) findings on the importance of collaboration in learning media design.

The integration of both models can also be formulated through Hybrid Learning (Bonk and Graham 2012). For instance, the analysis phase in ADDIE can identify the need for mentoring (20% in 70-20-10), while the evaluation phase measures the impact of collaborative learning. This approach aligns with the concept of Learning Ecosystem (Chatti et, 2017), which emphasizes the interconnection between formal and informal learning resources. This hybrid approach is supported by blended learning theory and the need for flexibility among apparatus (Saifullah et al, 2023).

A study by Wahat et al (2013) demonstrated that combining the two models improved apparatus performance by 30% compared to conventional training. Frimousse (2018) further emphasized the importance of internships as a foundation for learning, aligning with the 70% work experience proportion in the 70-20-10 model. However, an integration of evaluation aspects is needed to ensure accountability. If referring to this perspective, the combination of the 70-20-10 model with ADDIE lies in the evaluation aspect, which is one of the aspects within the ADDIE model

Thus, integrating the 70-20-10 and ADDIE models by combining their respective strengths can create a more holistic and adaptive training approach. This can address the challenges of apparatus competence development in the public sector. Several prerequisites that must be considered in any learning model integration process are thorough planning and design before implementation (Amenumey and Badu 2023). Another factor driving the success of learning model integration is the role of competent facilitators/mentors in guiding the learning process (Khochenkova 2023).

A holistic approach is achieved through the integration of the two models by combining the advantages of formal and informal learning. Several studies have shown that combining the two models significantly improves performance. Practically, this integration can be realized through Hybrid Learning, where the analysis phase in ADDIE identifies the need for mentoring, while the evaluation phase measures the impact of collaborative learning. This approach aligns with the concept of Learning Ecosystems, which emphasizes the interconnection of learning resources. This integration provides guidance for government agencies in efficient training resource allocation.

Selain Furthermore, these findings can enrich academic discourse on inclusive training design, especially in the context of developing country bureaucracies facing infrastructure limitations. Lastly, prerequisites that need to be considered in promoting the successful integration of the two learning models are thorough planning and design, as well as the role of competent facilitators or mentors in guiding the learning process.

CONCLUSION

Philosophically, the 70-20-10 model is different to ADDIE model. The 70-20-10 is organic and focuses on the work context, while ADDIE emphasizes structure and predictability. Comparatively, the 70-20-10 model boasts advantages such as flexibility, adaptability in dynamic environments, and low-cost, experience-based informal learning. However, it falls short in evaluating informal learning and relies heavily on collaboration, lacking formal structure. Meanwhile, ADDIE excels in systematic design, measurable objectives, targeted materials, and effective evaluation. Yet, it demands significant resources, a lengthy design process, and is less adaptable to change. Despite their differing approaches, the 70-20-10 and ADDIE models can complement each other, with the 70-20-10 enriching contextual learning and ADDIE providing a structured evaluation framework. Integrating these two models creates a holistic approach that blends the strengths of formal (ADDIE) and informal (70-20-10) learning. This integration, using a Hybrid Learning concept, is highly relevant to the principles of a Learning Ecosystem, offering a solution to address learning challenges in the public sector during the digital era.

REFERENSI

Adeoye, Moses Adeleke, Kadek Adrian Surya Indra Wirawan, Made Shania Satya Pradnyani, and Nyoman Intan Septiarini. 2024. "Revolutionizing Education: Unleashing the Power of the ADDIE Model for Effective Teaching and Learning." *JPI (Jurnal Pendidikan Indonesia)* 13(1):202–9. doi: 10.23887/jpiundiksha.v13i1.68624.

Aini, Kamilatul, Irsad Rosidi, Laila Khamsatul Muharrami, Yunin Hidayati, and Ana Yuniasti Retno Wulandari. 2023. "Uji Kelayakan Media Pembelajaran Videoscribe Berbasis Animation Drawing Menggunakan Model Addie Pada Materi Pencemaran Lingkungan." *Natural Science Education Research* 6(1):112–21. doi: 10.21107/nser.v6i1.11527.

Amenumey, Edinam Bernice, and Yaw Agyeman Badu. 2023. "Leaders' Experiences of Integrated Leadership Development in Higher Education: Kolb's Experiential Learning Theory and the 70:20:10 Model." *International Journal of African Higher Education* 10(2):113–37. doi: 10.6017/ijahe.v10i2.17617.

Amini, Erika Nur, and Bambang Sujatmiko. 2024. "Rancang Bangun LMS Berbasis Web Mengimplementasikan Project Based Learning Untuk Meningkatkan Kompetensi Dasar-Dasar Pengembangan Perangkat Lunak Dan Gim Pada Siswa Program Keahlian RPL (Studi Kasus Siswa Kelas X RPL Di SMKN 10 Surabaya)." *IT-Edu : Jurnal Information Technology and Education* 9(2):199–207. doi: 10.26740/it-edu.v9i2.62495.

Arets, Jos. 2016. *Vier Business Modellen Die L & D Herdefiniëren Met 70 : 20 : 10*.

Arini, Yestina, Tiara Anggia Dewi, and Fajri Arif Wibawa. 2024. "Pengembangan E-Modul Ekonomi Berbasis Kurikulum Merdeka Kompetensi 4C Semester Ganjil Kelas X SMAN 2 Metro." *Edunomia: Jurnal Ilmiah Pendidikan Ekonom* 5(1):106–12.

Armizawati, Armizawati, and Asmendri Asmendri. 2022. "Desain Pelatihan Pegawai Perpustakaan Model ADDIE Dalam Meningkatkan Kinerja Pegawai Perpustakaan." *AL Maktabah* 7(2):80. doi: 10.29300/mkt.v7i2.7432.

Aromataris, Edoardo, and Alan Pearson. 2014. "The Systematic Review: An Overview." *American Journal of Nursing* 114(3):53–58. doi: 10.1097/01.NAJ.0000444496.24228.2c.

Atmojo, Idam Ragil Widianto, Matsuri Matsuri, Chumdari Chumdari, Fadhil Purnama Adi, Roy Ardiansyah, and Dwi Yuniasih Saputri. 2023. "Pelatihan Integrasi Model Pembelajaran Dalam Learning Management System (LMS) Berbasis Project Untuk Meningkatan Kompetensi Pedagogi Guru Sekolah Dasar." *Jurnal Pengabdian UNDIKMA* 4(2):412. doi: 10.33394/jpu.v4i2.7694.

Bagley, Charles M. 2018. *An Evaluation of The 70: 20: 10 Framework for Workplace Learning*. Plymouth State University.

Cahyadi, Rahmat Arofah Hari. 2019. "Pengembangan Bahan Ajar Berbasis Addie Model." *Halaqa: Islamic Education Journal* 3(1):35–42. doi: 10.21070/halaqa.v3i1.2124.

Chatti, Mohamed Amine, Arham Muslim, and Ulrik Schroeder. 2017. "Toward an Open Learning Analytics Ecosystem. Big Data and Learning Analytics in Higher Education: Current Theory and Practice." *Big Data and Learning Analytics in Higher Education: Current Theory and Practice* 195–219.

Clardy, Alan. 2018. "70-20-10 And the Dominance of Informal Learning: A Fact in Search of Evidence." *Human Resource Development Review* 17(2):153–78.

Van Dinter, Raymon, Bedir Tekinerdogan, and Cagatay Catal. 2021. "Automation of Systematic Literature Reviews: A Systematic Literature Review." *Information and Software Technology* 136:106589.

Dopson, Sue, Ewan Ferlie, Gerry McGivern, Michael D. Fischer, Mahima Mitra, Jean Ledger, and Sonja Behrens. 2019. "Leadership Development in Higher Education: A Literature Review and Implications for Programme Redesign." *Higher Education Quarterly* 73(2):218–34.

Eichinger, Robert, and Michael Lombardo. 2015. *Twenty-Two Ways to Develop Leadership in Staff Managers*. Center for Creative leadership.

Frimousse, S. 2018. "Apprenticeships: The First Learning Experience."

Garaas, Marianne. 2016. "70: 20: 10-Rammeverket: Tolkning Og Materialisering Av et Lærings-Og Utviklingsrammeverk På Arbeidsplassen."

Guo, Hailong, and Xiuling Yang. 2021. "Application Status of ADDIE Model in Nursing Field." *Nursing Science* 10(06):755–61. doi: 10.12677/ns.2021.106122.

Harding, Richard. 2022. "Debate: The 70:20:10 'Rule' in Learning and Development—The Mistake of Listening to Sirens and How to Safely Navigate Around Them." *Public Money and Management* 42(1):6–7. doi: 10.1080/09540962.2021.1951517.

Hidayat, Fitria, and Muhamad Nizar. 2021. "Model Addie (Analysis, Design, Development, Implementation and Evaluation) Dalam Pembelajaran Pendidikan Agama Islam." *Jurnal Inovasi Pendidikan Agama Islam (JIPAI)* 1(1):28–38. doi: 10.15575/jipai.v1i1.11042.

Johnson, Samantha J., Deborah A. Blackman, and Fiona Buick. 2018. "The 70:20:10 Framework and The Transfer of Learning." *Human Resource Development Quarterly* 29(4):383–402. doi: 10.1002/hrdq.21330.

Junaedi, D. 2019. "Desain Pembelajaran Model ADDIE." *Jurnal Pendidikan Islam* 28:2–18.

Karns, Katherine Bonar. 2024. *ADDIE - Design Interactive Notebook*. Los Alamos National Laboratory.

Khochenkova, Tatiana E. 2023. "Mechanisms for Managing The Processes of Digital Transformation of the School: Development of Digital Competencies of Teachers." *RUDN Journal of Informatization in Education* 20(2):221–33. doi: 10.22363/2312-8631-2023-20-2-221-233.

Kunting, Bimo Wicaksono, Sari Dewi Budiwati, and Reza Budiawan. 2017. "Aplikasi Berbasis Multimedia Pembelajaran Tentang Bumi Kelas X (Studi Kasus : SMA Patra Dharma Balikpapan)." *E-Proceeding of Applied Science* 3(3):1403–28.

Latip, Abdul. 2022. "Penerapan Model Addie Dalam Pengembangan Multimedia Pembelajaran Berbasis Literasi Sains." *DIKSAINS : Jurnal Ilmiah Pendidikan Sains* 2(2):102–8. doi: 10.33369/diksains.2.2.102-108.

Lestari, Seftiani Ayu, and Rindu Puspita Wibawa. 2024. "Rancang Bangun Learning Management System 'Proyekku' Berplatform Website Dengan Model Project Based Learning Untuk Meningkatkan Kompetensi Siswa Dalam Mengelola Basis Data Pada Mata Pelajaran Basis Data (Studi Kasus Siswa Kelas XI RPL Di SMKS Semen Gresik." *IT-Edu : Jurnal Information Technology and Education* 9(2):208–14. doi: 10.26740/it-edu.v9i2.62500.

Moher, David, Larissa Shamseer, Mike Clarke, Davina Ghersi, Alessandro Liberat, Mark Petticrew, Paul Shekelle, Leslley A. Stewart, and PRISMA-P. Group. 2019. *Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols (Prisma-P) 2015 Statement*. Vol. 47.

Mughal, Zubia. 2023. "Optimizing Workplace Training Transfer: A Case Study on Designing the 70:20:10 Training Strategy through SME and L & D Collaboration (Doctoral Dissertation)." University of Wisconsin--Stout.

Najafi, Ali, Hamid Rahimian, Abbas Abbaspour, and Mortaza Taheri. 2022. "Redesign Development and Learning Model 70:20:10 At National Petrochemical Company : Formative Reasearch." *Quarterly Management & Human Resources in Oil Industry* 14(54):7–29.

Page, Matthew J., Joanne E. McKenzie, Patrick M. Bossuyt, Isabelle Boutron, Tammy C. Hoffmann, Cynthia D. Mulrow, Larissa Shamseer, Jennifer M. Tetzlaff, Elie A. Akl, Sue E. Brennan, Roger Chou, Julie Glanville, Jeremy M. Grimshaw, Asbjørn Hróbjartsson, Manoj M. Lalu, Tianjing Li, Elizabeth W. Loder, Evan Mayo-Wilson, Steve McDonald, Luke A. McGuinness, Lesley A. Stewart, James Thomas, Andrea C. Tricco, Vivian A. Welch, Penny Whiting, and David Moher. 2021. "The PRISMA 2020 Statement: An Updated Guideline for Reporting Systematic Reviews." *The BMJ* 372:1–9. doi: 10.1136/bmj.n71.

Palabıyık, Turan, and Behçet Oral. 2023. "Content Analysis of the ADDIE Education Design Model Used in the Process of Distance Education." *JRES* 10(1):104–13. doi: 10.51725/etad.1233218.

Rachma, Alvina, Tuti Iriani, and Santoso Sri Handoyo. 2023. "Penerapan Model ADDIE Dalam Pengembangan Media Pembelajaran Berbasis Video Simulasi Mengajar Keterampilan

Memberikan Reinforcement." *Jurnal Pendidikan West Science* 1(08):506–16. doi: 10.58812/jpdws.v1i08.554.

Reyvalda, AdolReyki, Yudi Rustandi, and Andi Warnaen. 2019. "Desain Media Penyuluhan Interaktif Berbasis Flash Player Dengan Model ADDIE Pada Materi Probiotik Sebagai Pakan Aditif Sapi Perah." *Jurnal Penyuluhan Pembangunan* 1(1):64–70.

Saifullah, Saifullah, I. Nyoman Nugraha Ardana Putra, and Heriani Heriani. 2023. "Pengaruh Kompetensi Pedagogik, Kompetensi Profesional, Kompetensi Sosial Dan Kompetensi Kepribadian Guru Terhadap Kinerja Guru SMAN Se-Kota Bima." *Inovasi* 10(1):58. doi: 10.32493/inovasi.v10i1.p58-70.30397.

Sari, Indah Purnama. 2018. "Implementasi Model Addie Dan Kompetensi Kewirausahaan Dosen Terhadap Motivasi Wirausaha Mahasiswa." *Jurnal Ekonomi Pendidikan Dan Kewirausahaan* 6(1):83. doi: 10.26740/jepk.v6n1.p83-94.

Suharsono, Agus. 2020. "Konsep Peningkatan Kompetensi Widyaiswara Dalam Penyusunan Karya Tulis Ilmiah Indonesia Dengan Model Pembelajaran 70-20-10." *Jurnal Kewidyaiswaraan* 5(1):11–20. doi: 10.56971/jwi.v5i1.49.

Suharsono, Agus. 2023. "Pengembangan Kompetensi Pegawai Provinsi Jawa Tengah Melalui Implementasi Jateng Corporate University." *Jurnal Litbang Provinsi Jawa Tengah* 20(2):179–93. doi: 10.36762/jurnaljateng.v20i2.934.

Suharto, T. 2024. "Model Pengembangan Kompetensi Keprofesian Widyaiswara Berkelanjutan Dalam Era Digital." *E-Prosiding PITNAS Widyaiswara 2024* 373–89.

Syahid, Ibrahim Maulana, Nur Annisa Istiqomah, and Khoula Azwary. 2024. "Model Addie Dan Assure Dalam Pengembangan Media Pembelajaran." *Journal of International Multidisciplinary Research* 2(5):258–68. doi: 10.62504/jimr469.

Utama, Bambang Chariana, Indri Astuti, and Utari Hesti Lestari. 2022. "Implementasi Desain Model ADDIE Pada Pelatihan Kompetensi Teknik Instalasi Listrik Berbantuan Android." *Jurnal Teknologi Pendidikan (JTP)* 15(2):147. doi: 10.24114/jtp.v15i2.39125.

Zulfqar, Asia, Martin Valcke, Uzma Quraishi, and Geert Devos. 2021. "Developing Academic Leaders: Evaluation of a Leadership Development Intervention in Higher Education." *SAGE Open* 11(1). doi: 10.1177/2158244021991815.