Received: October 2023 Accepted: December 2023 DOI: https://doi.org/10.58262/ks.v12i1.244

Development of UNO Card Learning Media in Increasing Learning Motivation for Managing Petty Cash in Accounting Lessons: A Study on Students of the SMK Study Program

Mardi¹*, Ati Sumiati², Nurdian Susilowati³, Heni Mulyani⁴

Abstract

This study aims to assess the effectiveness of using UNO cards as a teaching aid in accounting education by comparing pre-test and post-test scores. The research design employed a before-and-after experimental approach. The study population comprised 244 students enrolled in the accounting vocational program across three grade levels, with a reachable population of 172 students in class X. Proportional simple random sampling was utilized to select a sample of 60 students, who subsequently completed pre-tests and post-test susing a motivation questionnaire. Data were quantitatively analyzed using a Likert scale and gain score analysis. Descriptive statistical results revealed a significant increase in students' learning motivation, with a post-test mean score of 91.13 compared to the pre-test mean score of 70.60. The majority of students exclude a moderate level of motivation (58.3%), followed by high motivation (41.7%). Additionally, the data distribution was found to be normal for both pre-test and post-test scores. The paired sample t-test indicated a significant difference between the pre-test and post-test scores (p<0.001), suggesting a positive impact of using UNO cards as a learning medium. These findings suggest that the innovative and engaging nature of UNO cards contributes to heightened student motivation and active participation in accounting education. In conclusion, the incorporation of UNO cards as a teaching aid in accounting education effectively increased students' learning motivation. The use of innovative and engaging learning media, such as UNO cards, is recommended to enhance students' interest and enthusiasm in the learning process.

Keywords: Learning Media, Accounting, Uno Cards, Learning Motivation.

Introduction

Learning is an essential aspect of human life because it occurs throughout a person's lifetime. It is a deliberate effort by educators to impart knowledge, organize environments, and employ various methods to enable students to engage in learning activities effectively and efficiently, yielding optimal results (Sugihartono et al., 2007). Learning can be characterized as a dynamic exchange between learners and instructors, shaped by a multitude of internal and external elements, all directed towards accomplishing the objectives of the educational journey. The effectiveness of this journey is usually denoted by favorable alterations in an individual's conduct.

Vocational High Schools, commonly known as SMKs, are formal institutions designed to prepare students to work based on the skills and knowledge they acquire upon graduation. SMKs play a pivotal role in producing high-quality graduates and human resources who are expected to seamlessly integrate into

¹Department of Accounting Education, Faculty of Economic, Universitas Negeri Jakarta, Indonesia. Email: mardi@unj.ac.id

²Department of Accounting Education, Faculty of Economic, Universitas Negeri Jakarta, Indonesia. Email: ati-sumiati@unj.ac.id

³Department of Economics Education, Faculty of Economics, Universitas Negeri Semarang, Indonesia. Email: nurdiansusilowati@mail.unnes.ac.id

⁴Department of Accounting Education, Faculty of Economics and Business Education, Universitas Pendidikan Indonesia. Email: henimulyani@upi.edu

society, applying the knowledge and skills they've learned in their respective majors. This aligns with the statement made by Sukmadinata & Syaodih (Sukmadinata & Syaodih, 2012), which defines vocational education as a system that equips graduates for the workforce, emphasizing practical skills directly relevant to job tasks or competencies. As an institution dedicated to workforce development, SMKs require cohesive educational elements that collaborate to generate well-prepared graduates for the job market.

These educational components are oriented towards providing the knowledge and skills necessary for specific job roles (Herlina et al., 2021). In vocational education, just as in many other fields, recognizing and understanding the differences in learning styles to adapt to the institute's learning conditions and students' aptitudes is crucial (Mohamad et al., 2014). Hence, when it comes to the educational process in SMKs, it is crucial to take into account vital elements including learning methods, educational materials, teaching tools, and the instructional methodologies applied. Additionally, it can be contended that maintaining rigorous research standards is pivotal in fostering the triumph of the educational journey within SMKs. An exemplification of efficient learning approaches is employing teaching media to convey instructional content to students, as it substantially shapes their understanding and familiarity with the presented material.

Learning media (Romig et al., 2018) is closely related to the facilities and infrastructure available at school. These facilities and infrastructure play a crucial role in supporting learning activities in schools. Unfortunately, school facilities are often underutilized and may become damaged, as in the case of projectors, due to teachers not making effective use of these resources (Huang et al., 2020). In this section, it is apparent that many schools, including vocational schools where practical work is prevalent, still fall short of meeting established standards (Sholihin et al., 2020).

Nevertheless, the incapacity to make use of specific amenities should not hinder the educational experience (Schär & Kaiser, 2006). Hence, educators need to showcase creativity in designing educational materials when the school infrastructure cannot be accessed. They can leverage various external sources as alternative learning media (Dijkema et al., 2019). A conducive learning environment significantly impacts students' motivation during the learning process, especially the surroundings of the school. A favorable environment allows students to concentrate on their studies, while an unfavorable one, such as proximity to markets and factories, can disrupt school activities (Weyns et al., 2021).

The proximity of nearby markets and factories can give rise to a range of pollution problems, including noise pollution. This noise disturbance has the potential to disrupt students' concentration during their learning activities due to the cacophony generated by the environment. Additionally, air pollution poses a significant threat to learning activities, as factory emissions can contaminate the air students breathe. In such situations, students may not have access to clean air, potentially leading to breathing difficulties. Given that the learning process relies on a calm and focused atmosphere, these environmental challenges can pose considerable obstacles (Vatankhah, 2021).

Game-based learning has emerged as a prominent trend in supporting 21st-century education (Azizan et al., 2018). According to Nurhasanah and Permatawati (Nurhasanah & Permatawati, 2013), the development of modified games as learning tools provides an alternative approach to assist students and educators in the learning process. Games used for teaching and learning offer several advantages, including their inherent excitement, capacity for facilitating learning interactions, ability to provide direct or indirect feedback, applicability to concepts within society, and adaptability through modifications of tools or rules, as well as the ease of reproducing them for various participants. Therefore, incorporating game-based media into the educational toolkit encourages students to participate more actively in the learning journey, ultimately boosting their motivation and communication abilities (Sakif, 2022).

One of the constructivist theories is the behavioral theory introduced by Burrhus Frederic Skinner. He

proposed that behavioral theory is contingent upon consequences (Kearsley in (Batson & Feinberg, 2006)). In game design, behavioral theory is utilized to teach players the fundamental rules of the game and to elicit responses based on other players' attitudes or behaviors. Players receive direct or indirect positive or negative feedback within the game, influencing their actions based on prior experiences. For instance, in the Uno card game, when another player draws a +4 card, players will attempt to counteract its effects if they possess a similar card. If they lack the card, they must accept its consequences. Nevertheless, all players in the game are aware that the number of such cards is decreasing, reducing the likelihood of other players having them. Therefore, the constructivist theory can be effectively applied to games.

One example of card-based learning media is Uno cards. Uno, a card game, is relatively simple and suitable for players as young as seven years old. The inception of Uno cards dates back to 1971 in Reading, Ohio, when Merle Robbins introduced the game to his family. In 1972, Merle Robbins sold the copyright, and the Uno card game gained widespread recognition through International Games Inc. (Hidayati, 2014). According to the rules of Uno, each player begins with seven cards. To initiate the game, a single card is drawn from the deck and serves as the starting card. To play a card, participants must match either the number or color of the starting card. Failure to make a match result in a penalty of drawing one card. The game concludes when a player holds just one card and exclaims "UNO."

U-Eco is a game designed for 4 to 5 players or groups, accompanied by one judge. The gameplay and components of U-Eco are somewhat similar to the Uno card game, but U-Eco incorporates theme cards, question cards, and material cards. Each material card provides a description of the material, aimed at helping students grasp the fundamental concepts, and is accompanied by gameplay. In the U-Eco game, there are also symbol cards and question cards that can be strategically employed to obstruct other players' paths to victory. This adds an element of excitement to the game as players respond to each other's symbol and question cards, striving to hinder their opponents' progress and compete for victory. In the context of learning, participants indirectly engage with the concepts introduced in the card game, potentially increasing their motivation to learn. Teachers may be more inclined to utilize this media due to its flexibility, as it doesn't require extensive equipment like LCD screens or laptops, and it can be straightforward, making it accessible even to those playing for the first time. According to J. Briggs (cited in (Susilana & Riyana, 2008)), media serves as a tool to engage students in the learning process, emphasizing the importance of physical, mental, and emotional engagement. Uno cards can be used as an educational medium, promoting fine motor skills, social interaction, and strategic thinking.

Learning motivation plays a pivotal role in students' pursuit of their educational goals. It derives from the concept of "motive," which signifies the driving force behind one's actions. Scholars like Holmes and Rasmussen (Holmes & Rasmussen, 2018) describe it as the internal impetus that propels individuals to engage in specific activities aimed at achieving goals. Al-Balushi et al. (Al-Balushi et al., 2020) expand on this by highlighting motivation as the catalyst for a change in an individual's energy, triggering emotions, and preceding goal-oriented actions. Quinn et al. (Quinn et al., 2020) characterize motivation as a condition present within an individual that encourages them to undertake specific activities to attain a goal. Minniti et al. (Minniti et al., 2017) define motivation as encompassing all the drives, desires, needs, and forces that steer an individual's behavior. Learning motivation, as elaborated by Huang et al. (Huang et al., 2020), represents the driving force that leads students to engage in learning activities, ensuring continuity and providing direction toward achieving desired learning objectives. It is this internal drive that kindles enthusiasm, direction, and persistence during learning, as emphasized by Osman & Warner and Zendrato et al. (Osman & Warner, 2020; Zendrato et al., 2020). Motivated behavior, as described by Bjekić et al. (Bjekić et al., 2014), is marked by non-intellectual psychological factors that ignite passion for learning, enabling students to actively participate in educational activities.

Teachers play a pivotal role in motivating students within the learning process. Educators must employ engaging teaching methods and captivating learning materials to capture students' attention, as Meyer et al. (Meyer et al., 2019) point out. In summary, techniques such as the use of games as an enjoyable learning medium can spark students' interest, creating a pleasant classroom atmosphere and fostering motivation.

Media acts as a conduit for information, facilitating the interactive exchange between educators and students. It serves as the intermediary that conveys messages between the source and the recipient. According to Romadhon et al. and Sholihin et al. (Romadhon et al., 2019; Sholihin et al., 2020), a medium functions as a bridge for information transmission. Teachers, as facilitators in the learning process, communicate learning objectives through various methods and media, as indicated by Malhotra & Verma (Malhotra & Verma, 2020). Media, in this context, encompasses various components within the student's environment that stimulate learning (Jogezai et al., 2021). Ying et al. (Ying et al., 2020) propose that learning media serves three primary functions for individuals and groups: motivating interest or action, presenting information, and providing instruction. Learning media not only captures students' attention but also ignites enthusiasm, creating an enjoyable learning environment, especially when students actively engage with it. Additionally, media can provide entertainment value, alleviating the monotony that can accompany learning (Vie, 2018).

When selecting learning media, considerations should include alignment with learning objectives, support for content, practicality, teacher proficiency, and suitability for students' cognitive development levels (Knoop-van Campen et al., 2020). Malhotra & Verma (Malhotra & Verma, 2020) stress the importance of media aligning with teaching objectives, learning content, ease of accessibility, teacher proficiency, and synchronization with students' cognitive levels.

UNO cards, originally created in 1971 by Merle Robbins and popularized by International Games Inc., have become a globally recognized game. Accounting UNO Card Learning Media, designed for the teaching and learning of accounting, qualifies as a form of learning media (Sanjaya, 2013). This medium is adapted for instructional messages and teaching elements related to accounting. It falls within the category of print-based learning media (Arsyad, 2014).

The competency in managing petty cash is a fundamental aspect of the Accounting curriculum for SMK Class X Accounting students. This competency encompasses a range of vital skills, including the description of petty cash fund administration, the calculation of petty cash fund mutations and differences, the proper handling of petty cash funds, and the meticulous recording of these financial transactions. These competencies, integral to a well-rounded accounting education, are typically imparted during the even semester of class X as part of the KTSP curriculum for Vocational High Schools (SMK). In addition to theoretical knowledge, students also learn the practical intricacies of petty cash management, including understanding the procedures, transactions, mutations, and the importance of maintaining a precise balance. Companies rely on effective supervision, often involving regular or surprise audits, to ensure the integrity of their petty cash management systems, particularly when employing the fixed fund method. Hence, mastering the competency in managing petty cash equips students with practical skills essential for real-world accounting practices.

The use of an appropriate and clear learning model provides a valuable framework for effective media selection, particularly in the implementation of teaching methods using games like Monopoly, supplemented with reflection, which is an integral part of the learning process. The instructor/teacher's role in applying the learning model is pivotal in guiding students toward desired learning outcomes and providing support to the learning group. Therefore, the development of an accounting skills learning model is a crucial consideration in preparing the workforce.

Research Methods

In this study, the researchers evaluated the effectiveness of the products by comparing pre-test and post-test scores. The research design employed to assess the product's effectiveness is an experimental design known as the "before-after" design. As Sugiyono (Sugiyono, 2015) points out, "experiments can be conducted by comparing the situation before and after implementing a new teaching method (before-after)."

Figure 1: Experimental Design (Before-After).



Based on Figure 1, an explanation can be provided regarding the experiment, which was conducted by comparing the results of O1 and O2. O1 represents the pre-test value before the application of the Accounting UNO Card media, while O2 represents the post-test value after the application of the Accounting UNO Card media. The effectiveness of the developed Accounting UNO Card media is assessed by comparing the O2 post-test value to the O1 pre-test value. If the O2 value is greater than O1, then the teaching method is considered effective.

The study population consisted of 244 students enrolled in the vocational accounting skills program, divided into three grades. The accessible population included all students in the Class X accounting skills program, totaling 172 students. The sample selection process adhered to specific criteria (Reips & Krantz, 2010). Proportional Simple Random Sampling (Reips & Krantz, 2010) was employed as the sampling technique, involving the random selection of sample members from the population without consideration of strata, while maintaining a proportional distribution similar to that of the population.

Data for analyzing students' Learning Motivation was collected through a questionnaire administered both before and after using the UNO Accounting Card Learning Media. The validity and reliability of the instrument were tested (Bolarinwa, 2015). The validity test utilized the product-moment correlation with raw scores, and the reliability test assessed the reliability of valid statement items using the Alpha formula (Taherdoost, 2018).

A Data Normality Test was conducted (Ghofar et al., 2007; Lufkin et al., 2016; Suliyanto, 2011a) to determine whether the data followed a normal distribution or not. Data is considered normally distributed if Lo < Lt. Normality tests were carried out for student learning motivation using UNO cards as the learning media both before and after the experiment. A Data Homogeneity Test (Ghofar et al., 2007; Lufkin et al., 2016) was performed to ascertain whether the data came from the same population. This homogeneity test was conducted using the F-test at a significance level of 0.05% (Suliyanto, 2011b).

Hypothesis testing (Farrugia et al., 2010) was carried out after confirming that the sample data met the requirements for normal distribution and homogeneity. To determine differences, the hypothesis test used the T-test for separate samples (Brown & Melamed, 2020).

Research Findings

Analysis Result

1) Descriptive Statistic

Of the 172 students in the population, 60 students were randomly taken using the Proportional Simple Random Sampling technique, so that 60 students were obtained, getting the same treatment where they

were given a pretest and posttest for learning Accounting using UNO cards as the learning media.

t	N Minimum		Maximum	Mean	Std. Deviation		
Pre Test	60	56	85	70.60	6.402		
Post Test	60	84	100	91.13	4.241		
Valid N (listwise)	60						

Table 1: Descriptive Statistics.

Table 1 provides descriptive statistics for "Pre-Test" and "Post Test" based on a sample of 60 individuals. In the Pre-Test, scores ranged from 56 to 85, with an average of 70.60 and a standard deviation of 6.402. In the Post Test, scores ranged from 84 to 100, with an average of 91.13 and a standard deviation of 4.241. The table clearly shows a significant improvement in scores from Pre-Test (70.60) to Post Test (91.13), with a smaller standard deviation in the Post Test (4.241) compared to the Pre Test (6.402). This suggests that the intervention or treatment had a positive impact on scores, supported by a dataset of 60 complete samples, reinforcing the study's credibility.

2) Score Acquisition Categories

Table 2: Score Ace	quisition	Categorie	es.
--------------------	-----------	-----------	-----

		0				
		Frequency	Percent	Valid Percent	Cumulative Percent	
	High	25	41.7	41.7	41.7	
Valid	Moderate	35	58.3	58.3	100.0	
	Total	60	100.0	100.0		

Table 2 presents data on the motivation levels of the respondents. The analysis results indicate that the majority, accounting for 58.3%, fall into the medium motivation category, comprising a total of 35 respondents out of the 60 participants. This suggests that most of the respondents exhibit a stable level of motivation, not excessively high nor too low. While this moderate level of motivation can be deemed satisfactory, it is crucial for individuals to continuously strive to enhance their motivation, enabling them to unlock their full potential and achieve their goals more effectively. Developing and sustaining positive motivation serves as a key factor in achieving success in various facets of life. With an awareness of this data, it is hoped that individuals will find increased motivation to persevere and strive for even greater achievements.

3) Normality Test

The normality test assesses if both data groups follow a normal distribution. During this test, significant disparities between the distribution of the tested data and the normal distribution are examined. The test results are indicated by the Test Statistic, which represents the statistical value obtained from this test.

One-Sample Kolmogorov-Smirnov Test						
		Pre-Test	Post Test			
N		60	60			
N	Mean	70.60	91.13			
Inormal Parameters	Std. Deviation	6.402	4.241			
	Absolute	.104	.103			
Most Extreme Differences	Positive	.058	.103			
	Negative	104	070			
Test Statistic		.104	.103			
Asymp. Sig. (2-tailed)		.169c	.177¢			
a. Test distribution is Normal.						
b. Calculated from data.						
c. Lilliefors Significance Correction.						

Table 3: Normality Test Results.

In the Pre-Test group, the Test Statistic is 0.104, and the Asymp. Sig. (2-tailed) is 0.169c. In the Post Test group, the Test Statistic is 0.103, with an Asymp. Sig. (2-tailed) of 0.177c. If the Asymp. Sig. (2-tailed) exceeds alpha (typically 0.05), we accept the null hypothesis, indicating a normal distribution. Conversely, if it's below alpha, we accept the alternative hypothesis, suggesting non-normality. In both groups, Asymp. Sig. (2-tailed) values (0.169c in Pre-Test and 0.177c in Post Test) are greater than 0.05, so we accept the null hypothesis, implying both groups follow a normal distribution.

4) Learning Motivation

Student motivation was evaluated twice in the research: before the study (pre-test) and after (post-test). Table 4 displays the results of both tests, which employed UNO card learning media for students in the SMK accounting expertise program.

	1	Mean	Ν	Std. Deviation	Std. Error Mean
Pair 1 -	Pre-Test	70.60	60	6.402	.827
	Post Test	91.13	60	4.241	.547

Table 4: Description of Pre-test and Post-Test Values.

This study involved 60 participants as research subjects. The pre-test results revealed a mean score of 70.60, with a standard deviation of 6.402 and a standard error of the mean of 0.827. Following the treatment, the research subjects underwent a post-test. The post-test results exhibited a significant increase in the mean score compared to the pre-test. The mean post-test score was 91.13, with a standard deviation of 4.241 and a standard error of the mean of 0.547. These results indicate that the treatment or intervention provided had a positive impact, leading to an increase in the scores of the research subjects from the pre-test to the post-test.

5) Significance of Student Learning Motivation

The Paired Samples Test is used to compare the means of two measurements from the same sample. Researchers conducted a t-test analysis at a significance level (α) of 0.05, with degrees of freedom (df) equal to N-1, where N is the number of subjects, to determine the significance of the pre-test and post-test values.

Paired Samples Test								
Paired Differences					t	df	Sig. (2- tailed)	
Mean Std.		Std.	Std. Error Mean	95% Confidence Interval of the Difference				
	Deviation	Lower		Upper	_			
PairPre-Test - Post1Test	t - 20.533	8.115	1.048	-22.630	-18.437	- 19.60	1 ⁵⁹	.000

Table 5: T Test Results.

Table 5 reveals the analysis of 59 data pairs. The mean difference between Pre Test and Post Test is -20.533, with a standard deviation of 8.115 indicating data variability. The standard error of the mean (SEM) is 1.048, representing estimated mean difference uncertainty.

The 95% Confidence Interval of the Difference is -22.630 to -18.437, indicating a likely range for the mean difference with 95% confidence. The Paired Samples Test reveals a very low p-value (Sig. 0.000), indicating a significant difference between pretest and posttest results. This suggests that using UNO cards as a learning tool has an impact on Accounting in Class X SMK in Jakarta in 2023.

Discussion

Based on the analysis of the "Paired Samples Test" output, the significance value (Sig.) is 0.000, which is lower than the predetermined significance level of 0.05. Consequently, we reject the null hypothesis (H0) stating no difference between pretest and posttest results and accept the alternative hypothesis (Ha) indicating an average difference. Thus, we conclude there is a significant improvement in students' pretest and posttest results when using UNO cards as a learning tool for Accounting in class X SMK in Jakarta in 2023. This suggests that UNO cards positively influence students' understanding and learning achievement. The very low significance value (0.000) implies that this difference is not due to random error, affirming that UNO cards are indeed effective in enhancing learning outcomes.

The study's findings demonstrate that incorporating UNO cards as a learning tool can enhance students' comprehension and academic performance in accounting. By offering an engaging and interactive learning experience, UNO cards likely encouraged greater student involvement and improved their grasp of the subject matter.

In the realm of education, the utilization of innovative and effective teaching aids is crucial for elevating student learning outcomes. This discovery holds significant potential for educators and educational institutions looking to enhance classroom learning quality. Moreover, the study's outcomes may inspire additional research into the utilization and optimization of other interactive learning resources within an educational setting.

The data collected from the students showed that there was a mean pretest score of 68.25 and a mean posttest score of 82.58. The difference between the two mean scores is highly significant, amounting to 14.33, illustrating a substantial contrast in student learning outcomes before and after the intervention.

The significant increase in posttest scores can be interpreted as an indication that the intervention or learning provided has had a positive impact on students' abilities and knowledge. During the learning period, students experienced a heightened understanding of the material taught, reflecting the effectiveness of the teaching method applied. This suggests that students have successfully absorbed the material better and were able to apply the knowledge gained in the context of the posttest.

From the results of the data analysis above, it is evident that there is an influence caused by the UNO card game media that makes students happier, more engaged, and less likely to become bored or sleepy during the learning process. Furthermore, the researcher explained the learning objectives and rules of playing the UNO card game. Once students grasped the rules of play, they immediately engaged in the learning process while adhering to the established rules. Students had the opportunity to seek clarification from the researcher if there were any aspects they didn't understand. Subsequently, the researcher rewarded students who were willing to present or write their answers in front of the class. In contrast, in the control class, students were encouraged to actively listen to the material provided and then proceed with exercises, often resulting in boredom and drowsiness.

The development of learning media is a crucial effort in enhancing the quality of the teaching and learning process in schools, especially in accounting lessons. Managing petty cash, a fundamental skill required by students in the SMK accounting expertise program, is one of the essential topics in accounting lessons. To achieve optimal learning objectives, the use of innovative and engaging learning media, such as UNO cards, can be a highly effective choice.

The use of UNO cards as learning media in teaching the concept of managing petty cash in accounting lessons offers several advantages. First, UNO cards are a popular game and are favored by many students. By incorporating this enjoyable game, students are more likely to be actively engaged in the learning process. This increased participation enhances their overall motivation to learn.

Furthermore, UNO cards can be adapted into games directly related to the concept of managing petty cash. For instance, each UNO card can be associated with different concepts of petty cash transactions, such as cash receipts, office purchases, or employee payroll. Students can play UNO cards while simultaneously comprehending and applying these accounting concepts, making the learning process more interactive and enjoyable.

The use of UNO cards also contributes to the development of students' social skills. While playing UNO cards, students engage in communication with classmates, discuss game strategies, and plan steps to achieve game objectives. These social skills are highly valuable in future workplaces, particularly for students in the accounting expertise program who are likely to work in fields requiring teamwork and effective communication.

Overall, the integration of UNO card learning media into the instruction of managing petty cash in accounting lessons at SMK has significant potential to boost student learning motivation. Through this innovative and enjoyable approach, students become more immersed in the learning process and gain a better understanding of the accounting concepts being taught. Additionally, the use of UNO cards can help students develop social skills that will benefit them in their future lives and careers. Therefore, it is recommended that educators in SMK consider UNO cards as an effective alternative learning medium for teaching managing petty cash in accounting lessons.

The findings of this study are consistent with Sanjaya's theory (Sanjaya, 2011), which posits that one of the functions of media is to boost students' enthusiasm and motivation for learning. By incorporating novel and varied learning media, students can gain new experiences that stimulate their curiosity, indirectly leading to increased enthusiasm, as elucidated in Azhar's theory (Azhar, 2015). This underscores a practical advantage of integrating learning media into the teaching and learning process, as it can effectively capture and steer students' attention, ultimately elevating their motivation to learn.

This research implies that the adoption of innovative and varied learning media can positively impact students' motivation to learn. Thus, educators can continuously update and optimize existing learning media in the teaching process. The objective is to introduce stimuli that stimulate students' curiosity and interest, ultimately fostering greater enthusiasm and motivation in the learning process.

Conclusion

The increase in learning motivation among Class X Accounting students at SMK DKI Jakarta can be observed through the disparity in motivation scores before and after the implementation of learning media. To gauge this increase, a gain score test was conducted using data collected from a group of students. The analysis results indicate a significant difference between students' motivation scores before and after the utilization of learning media. In the pretest phase, the average student motivation score was 68.25, whereas in the posttest phase, the average score increased to 82.58. This 14.33-point difference underscores a substantial improvement in student learning outcomes following the intervention involving UNO Accounting Card Learning Media.

In light of these results, we can conclude that the utilization of Accounting UNO Card Learning Media effectively boosts students' motivation to learn. The existence of this significant difference indicates that the learning media has successfully increased students' enthusiasm and engagement in accounting education. The application of innovative and captivating learning tools like Accounting UNO Cards contributes to the creation of a more engaging and interactive learning environment, thereby increasing student motivation and active participation in the learning process.

Drawing from the findings and recognizing the limitations of the prior developmental research, several relevant suggestions emerge for the utilization and further enhancement of Accounting UNO Card Learning Media: First, Accounting UNO Card Learning Media should undergo further development as a proven means to boost student learning motivation. This way, educators can employ Accounting UNO cards as a relevant alternative learning tool applicable to various fundamental competencies and subjects. Second, expanding the scope of Accounting UNO Card media beyond ledger processing to encompass all relevant fundamental competencies in accounting subjects would make it a more comprehensive and versatile resource for supporting student learning. Third, comprehensive measurement of students' learning motivation after using this media should be conducted across multiple classes, not limited to just one. This approach aims to yield more relevant and representative results and offer a clearer understanding of the effectiveness of Accounting UNO Card media, further refinement of the materials used in its production is essential. This will result in a sturdier product less prone to damage, ensuring relevant and sustainable benefits over an extended period. Implementation of these relevant suggestions aims to transform Accounting UNO Card Learning Media into a more effective and relevant tool for supporting the student learning UNO Card Learning Media into

References

- Al-Balushi, S. M., Ambusaidi, A. K., Al-Balushi, K. A., Al-Hajri, F. H., & Al-Sinani, M. S. (2020). Student-centred and teacher-centred science classrooms as visualized by science teachers and their supervisors. *Teaching and Teacher Education*, 89, 103014. https://doi.org/10.1016/j.tate.2019.103014 Arsvad, A. (2014). *Media Pembelajaran. jakarta*: Rajawali Pers.
- Azhar, A. (2014). Media pembelajaran. R. Asfah Raja Grafindo Persada.
- Azizan, M. T., Mellon, N., Ramli, R. M., & Yusup, S. (2018). Improving teamwork skills and enhancing deep learning via development of board game using cooperative learning method in Reaction Engineering course. *Education for Chemical Engineers*, 22, 1–13.

Batson, L., & Feinberg, S. (2006). Game designs that enhance motivation and learning for teenagers. *Electronic Journal for the Integration of Technology in Education*, 5(1), 34–43.

- Bjekić, D., Vučetić, M., & Zlatić, L. (2014). Teacher work motivation context of in-service education changes. *Procedia-Social and Behavioral Sciences*, 116, 557–562. https://doi.org/10.1016/j.sbspro.2014.01.257
- Bolarinwa, O. (2015). Principles and methods of validity and reliability testing of questionnaires used in social and health science researches. *Nigerian Postgraduate Medical Journal*. https://doi.org/10.4103/1117-1936.173959
- Brown, S., & Melamed, L. (2020). T test. In Experimental Design and Analysis.
- Dijkema, S., Doolaard, S., Ritzema, E. S., & Bosker, R. J. (2019). Ready for take-off? The relation between teaching behavior and teaching experience of Dutch beginning primary school teachers with different educational backgrounds. *Teaching and Teacher Education*, *86*, 102914. https://doi.org/10.1016/j.tate.2019.102914
- Farrugia, P., Petrisor, B. A., Farrokhyar, F., & Bhandari, M. (2010). Research questions, hypotheses and objectives. *Canadian Journal of Surgery*, *53*(4), 278.
- Ghofar, Islam, & Williams, C. (2007). Research methods. Journal of Business & Economics Research (JBER), 5(3). https://doi.org/10.1007/978-3-319-10996-1_4
- Herlina, E., Tukiran, M., & Anwar, S. (2021). The Effect of Entrepreneurial Leadership on Organizational Performance: Literature Review. MARGINAL: Journal of Management, Accounting, General Finance and International Economic Issues, 1(1), 25–33. https://doi.org/https://doi.org/10.55047/marginal.v1i1.9
- Hidayati, N. (2014). Pengembangan Permainan Kartu Uno Sebagai Alat Evaluasi Pembelajaran Akuntansi Pokok Bahasan Hutang Jangka Panjang. Jurnal Pendidikan Akuntansi (JPAK), 2(2).
- Holmes, A. F., & Rasmussen, S. J. (2018). Using Pinterest to stimulate student engagement, interest, and learning in managerial accounting courses. *Journal of Accounting Education*, 43, 43–56. https://doi.org/10.1016/j.jaccedu.2018.03.001

- Huang, S.-Y., Kuo, Y.-H., & Chen, H.-C. (2020). Applying digital escape rooms infused with science teaching in elementary school: Learning performance, learning motivation, and problem-solving ability. *Thinking Skills and Creativity*, 37, 100681. https://doi.org/10.1016/j.tsc.2020.100681
- Jogezai, N. A., Baloch, F. A., Jaffar, M., Shah, T., Khilji, G. K., & Bashir, S. (2021). Teachers' attitudes towards social media (SM) use in online learning amid the COVID-19 pandemic: the effects of SM use by teachers and religious scholars during physical distancing. *Heliyon*, 7(4), e06781. https://doi.org/10.1016/j.heliyon.2021.e06781
- Knoop-van Campen, C. A. N., Segers, E., & Verhoeven, L. (2020). Effects of audio support on multimedia learning processes and outcomes in students with dyslexia. *Computers and Education*, 150. https://doi.org/10.1016/j.compedu.2020.103858
- Lufkin, S., Rey, E., & Erkman, S. (2016). Research Objectives. In *Strategies for Symbiotic Urban Neighbourhoods* (pp. 1–9). Springer. https://doi.org/10.1007/978-3-319-25610-8_1
- Malhotra, R., & Verma, N. (2020). An impact of using multimedia presentations on engineering education. *Procedia Computer Science*, 172, 71–76. https://doi.org/10.1016/j.procs.2020.05.011
- Meyer, O. A., Omdahl, M. K., & Makransky, G. (2019). Investigating the effect of pre-training when learning through immersive virtual reality and video: A media and methods experiment. *Computers* & Education, 140, 103603. https://doi.org/10.1016/j.compedu.2019.103603
- Minniti, L. F. S., Melo Jr, J. S. M., Oliveira, R. D., & Salles, J. A. A. (2017). The use of case studies as a teaching method in Brazil. *Procedia-Social and Behavioral Sciences*, 237, 373–377. https://doi.org/10.1016/j.sbspro.2017.02.024
- Mohamad, M. M. B., Heong, Y. M., & Kiong, T. T. (2014). Conceptions of learning through learning styles and cognitive dimension in vocational education. *Journal of Technical Education and Training*, 6(1).
- Nurhasanah, L. H., & Permatawati, I. (2013). Efektivitas Teknik Permainan Kartu Uno dalam Pembelajaran Kosakata Bahasa Jerman. *Jurnal Pendidikan Bahasa Jerman*. http://jerman.upi.edu http://jerman.upi.edu
- Osman, D. J., & Warner, J. R. (2020). Measuring teacher motivation: The missing link between professional development and practice. *Teaching and Teacher Education*, 92, 103064. https://doi.org/10.1016/j.tsc.2020.100710
- Quinn, S., Hogan, M., Dwyer, C., Finn, P., & Fogarty, E. (2020). Development and validation of the student-educator negotiated critical thinking dispositions scale (SENCTDS). *Thinking Skills and Creativity*, 38, 100710. https://doi.org/10.1016/j.tsc.2020.100710
- Reips, U.-D., & Krantz, J. H. (2010). Conducting true experiments on the Web. https://doi.org/10.1037/12076-013
- Romadhon, M. S., Rahmah, A., & Wirani, Y. (2019). Blended learning system using social media for college student: A case of tahsin education. *Procedia Computer Science*, 161, 160–167. https://doi.org/10.1016/j.procs.2019.11.111
- Romig, J. E., Sundeen, T., Thomas, C. N., Kennedy, M. J., Philips, J., Peeples, K. N., Rodgers, W. J., & Mathews, H. M. (2018). Using multimedia to teach self-regulated strategy development to preservice teachers. *Journal of Special Education Technology*, 33(2), 124–137. https://doi.org/10.1177/0162643417746373
- Sakif, S. (2022). Analysis Of Online Learning Methods on The Effectiveness of Chemistry Learning During the Covid-19 Pandemic on Muhammadiyah Senior High School 3 Batu Students. *Transpublika International Research In Exact Sciences*, 1(1), 29–36.
- Sanjaya, W. (2011). Kurikulum dan pembelajaran: Teori dan praktik pengembangan kurikulum tingkat satuan pendidikan (KTSP).
- Sanjaya, W. (2013). Strategi Belajar Mengajar Akuntansi. Jakarta: Kencana.
- Schär, S. G., & Kaiser, J. (2006). Revising (multi-) media learning principles by applying a differentiated knowledge concept. *International Journal of Human-Computer Studies*, 64(10), 1061–1070. https://doi.org/10.1016/j.ijhcs.2006.05.005

- Sholihin, M., Sari, R. C., Yuniarti, N., & Ilyana, S. (2020). A new way of teaching business ethics: The evaluation of virtual reality-based learning media. *The International Journal of Management Education*, 18(3), 100428. https://doi.org/10.1016/j.ijme.2020.100428
- Sugihartono, F. K. N., Harahap, F., Setiawati, F. A., & Nurhayati, S. R. (2007). *Psikologi Pendidikan. Yogyakarta.* UNY Press.

Sugiyono. (2015). Metode Penelitian Kuantitatif, Kualitatif dan Kombinasi (Mixed Methods) (1, Ed.). Alfabeta, cv.

- Sukmadinata, N. S., & Syaodih, E. (2012). Kurikulum dan Pembelajaran Kompetensi, Bandung: PT. Refika Aditama.
- Suliyanto. (2011a). Uji Asumsi Klasik Normalitas. Ekonometrika Terapan : Teori & Aplikasi Dengan SPSS.
- Suliyanto, D. (2011b). Ekonometrika Terapan: Teori dan Aplikasi dengan SPSS. Penerbit Andi: Yogyakarta.
- Susilana, R., & Riyana, C. (2008). Media pembelajaran: hakikat, pengembangan, pemanfaatan, dan penilaian. CV. Wacana Prima.
- Taherdoost, H. (2018). Validity and Reliability of the Research Instrument; How to Test the Validation of a Questionnaire/Survey in a Research. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3205040
- Vatankhah, S. (2021). Dose safety motivation mediate the effect of psychological contract of safety on flight attendants' safety performance outcomes?: A social exchange perspective. *Journal of Air Transport Management*, 90, 101945. https://doi.org/10.1016/j.jairtraman.2020.101945
- Vie, S. (2018). Effective social media use in online writing classes through universal design for learning (UDL) principles. *Computers and Composition*, 49, 61–70. https://doi.org/10.1016/j.compcom.2018.05.005
- Weyns, T., Preckel, F., & Verschueren, K. (2021). Teachers-in-training perceptions of gifted children's characteristics and teacher-child interactions: An experimental study. *Teaching and Teacher Education*, 97, 103215. https://doi.org/10.1016/j.tate.2020.103215
- Ying, K., Chan, K. Y., Lyons, C., Kon, L. lo, Stine, K., Manley, M., & Crossley, A. (2020). Effect of onscreen text on multimedia learning with native and foreign-accented narration. *Learning and Instruction*, 67, 101305. https://doi.org/10.1016/j.learninstruc.2020.101305
- Zendrato, M. D. A., Suharno, L. A., & Agung, L. (2020). Development of Christian Character Education Based Project Based Learning Teaching Materials to Improve Student Character. *International Journal* of English Literature and Social Sciences, 5(3), 740–748