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Comparative Analysis of Creative Assignments, Participatory Collaborative Learning, and Students' Satisfaction in Digital & Non-Digital Learning Media

Iffah Budiningsih[1]*, Marliza Oktapiani[2], Widio Rijanto[3], & Mowafg Abrahem Masuwd[4]

[1]Department of Teaching & Educational Sciences, As-Syafi'iyah Islamic University, Indonesia

[2]Department of Ismaic Religion, As-Syafi'iyah Islamic University, Indonesia

[3]Department of Science & Technology, As-Syafi'iyah Islamic University, Indonesia

[4]Department of Islamic Studies, University of Zawia, Libya

*Corresponding email: iffah_budiningsih@uia.ut.ac.id

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Abstract: Study Comparative of Creative Assignments, Participatory Collaborative Learning, and Learning Satisfaction in Digital & Non-Digital Learning Media. Objectives: This study aims to comparative of creative assignments, Participatory Collaborative Learning, and learning satisfaction in Digital & Non-Digital Learning. **Methods:** The study employed experimental and survey methods with a sample of seven State Aliyah Madrasah schools in East Jakarta. Each school consisted of two groups using digital learning media and two groups using non-digital media, randomly selected in the twelfth grade. Research instruments were previously tested for validity and reliability, and data analysis was conducted using the mean difference test (t-test). **Findings:** The findings are: (1) The creative assignment results in the group using digital media are higher than the non-digital media. (2) The participatory-collaborative learning activity is more active in the group using non-digital media than the digital media. (3) The student learning satisfaction in the group using non-digital media is higher than the digital media. **Conclusion:** This indicates that both digital and non-digital learning media have their respective advantages and disadvantages. Teachers are required to design creative tasks that follow learning objectives because different learning objectives will produce different learning outcomes even though the learning media is the same. Teachers must focus on determining the learning objectives of creative assignments and selecting the appropriate media.

Keywords: creative assignment, participatory collaborative learning, learning satisfaction, digital and non-digital media.

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INTRODUCTION

Almost all educational institutions in the era of ICT (Information and Communication Technology) advancement are striving to integrate the use of ICT into the learning process. This requires a complex understanding of learning concepts, which leads to the development of human resources capable of working creatively and generating new ideas, theories, products, and knowledge. Some findings on student-center learning include (1) the need for collaborative learning; (2) students need to learn independently; (3) curiosity and creativity are increasingly important; (4) learning strategies related to technology mastery; (5) the need for contextual conditions and different values; (6) technology is

seen as an intelligent tool to support learning (CERI, 2008). The above aspects are relevant to the demands of diversity in the 21st century. The development of ICT in the context of learning has brought significant impacts on the ease of daily life, expanding communication access between individuals without time and place limitations, and transforming lifestyles to be more efficient, and fast. Additionally, this also influences the learning culture, where the practice of copying and pasting (copy-paste) has become a habit in answering teachers' questions or completing other written assignments. The act of copying using the copy-paste menu is an action in learning that lacks exploration of critical thinking, creativity, and innovation aspects. However, in the digital era, students are expected to have HOTS (High Order Thinking Skills) such as communication, collaboration, critical thinking, creative thinking, computational logic, empathy, and social responsibility (Junaidi, et al*.,* 2021). Completion of high-quality assignments, if students can build knowledge & develop ideas broadly and deeply; furthermore, the assignment of creative assignments in the digital era to students is characterized by the use of digital tools such as graphic design, web, and android (Midun et al., 2020).

Therefore, teachers need to be creative and innovative in selecting learning media that can be used by students in the digital era, such as computers, YouTube, WhatsApp, email, Instagram, and various other learning applications. This approach makes learning more efficient, effective, and engaging, meeting the needs of the millennial generation (Ulfa & Purnamaningsih, 2022). Learning media function as tools to transfer messages or information from educators to students, to facilitate the learning process so that it proceeds smoothly. Moreover, the use of these media is expected to stimulate students' thoughts, feelings, attention, and interest, enabling them to receive and understand the lesson material from the teacher effectively, ultimately providing learning satisfaction for the students.

Student Satisfaction

Student satisfaction is an important instrument for creating a reputation and serves as a key performance indicator for an educational institution (Al-Sheeb et al., 2018) The fulfillment of 'student satisfaction' in learning contributes to the emergence of high student loyalty toward the school, subsequently enabling students to serve as a word-of-mouth promotional tool for the school. Furthermore, student satisfaction can be defined as the positive attitude of students towards the teaching process conducted by teachers because there is a match between expectations and the reality experienced (Redhana, 2019). Student satisfaction can be enhanced by improving elements that can change students' attitudes and perceptions, making them feel happier and more satisfied during the learning process. The most critical factors related to student satisfaction are associated with the quality of learning, including (1) teaching skills; (2) the content of the learning offered; (3) the learning environment; and (4) classroom facilities (Al-Sheeb *et al.*, 2018). Learning that utilizes multimedia provides high student satisfaction, as evidenced by the responsive feedback from students regarding the learning process (Choe et al., 2019) This implies that in student-centered learning, the teacher's role is crucial in providing guidance on how to complete quality tasks, ultimately leading to high levels of student satisfaction. Based on the above explanation, student satisfaction in this article is defined as the feeling of satisfaction or disappointment that students experience when comparing the perceived learning services with the expected services, which include (1) the teacher's teaching skills; (2) the content of the learning offered; (3) the learning environment; and (4) the classroom facilities and equipment (including learning media).

Creativity Assignments

In the digital era, a teacher must be proficient in creating creative and innovative learning media (Akrim, 2018). Creativity is crucial in daily life as it entails the ability to generate novel ideas or methods to address various human challenges, and generally, creativity involves two processes: (1) thinking processes grounded in knowledge and experience; and (2) the process of producing goods or services (Budiningsih et al., 2020). Creativity perseverance and patience, result in various ideas, discoveries, and new methods that benefit human life and the environment (Jamaris, 2015). The high-quality creative assignments allow students to build knowledge by deeply exploring ideas and producing original solutions, thereby increasing engagement and the breadth of learning applications (Sembiring et al., 2017). Based on the previous explanations, creative assignments in the digital era discussed in this article refer to the dynamic condition of assigning supplementary tasks from teachers to students as part of the learning process. These assignments serve as a gauge of mastery in a subject matter, completed individually or in groups using digital or non-digital tools. They provide challenges, enhance self-confidence and self-esteem, increase enjoyment, and improve the ability to construct new knowledge and develop ideas comprehensively and profoundly.

Participatory Learning

Student participation is often less than optimal in the learning process in the classroom is a classic problem since long ago. Student involvement in classroom activities generally consists of active participation and passive participation. Active student participation includes: asking questions, giving opinions, and discussing learning topics; while passive participation includes activities such as writing notes, sitting still, listening to lectures, or doing other things (Abdullah et al., 2012). Participation means student initiative, active role, and involvement that shows the extent to which students involve themselves in activities and contribute their energy and thoughts to learning activities. One of the factors influencing student involvement in the learning process is the teacher-student relationship. In this context, the teacher-student relationship pertains to the transfer of knowledge, utilization of technology, and the behavior of teachers in providing guidance, and motivation, and serving as examples for students to achieve learning objectives. Teachers can serve as leaders in the classroom, with responsibilities that encompass: (1) guiding students to complete assignments; (2) motivating students to complete assignments to the best of their abilities; (3) assisting students to resolve challenges they encounter, along with various other leadership duties (Budiningsih *et al*., 2024).

Participatory learning can be described as students actively engaging in the learning process, marked by their involvement in activities that foster a sense of belonging within a learning community.[14] Participation is regarded as a crucial concept in comprehending classroom learning and fostering students' essential 'critical thinking abilities; students who actively participate tend to perform more effectively compared to those who participate less (Bahmanbijar et al., 2019). Engaging in learning activities significantly can lead to students experiencing happiness, pride, and enthusiasm for their institution (Bowden, et al., 2021). Furthermore, to enhance student participation, teachers must create a classroom atmosphere that promotes motivation, self-confidence, and mutual respect among students. Based on the description provided, participatory learning in this article refers to students actively engaging in the learning process, and feeling fully integrated as members of the classroom community (Gustavo et al., 2017). This involvement is characterized by feelings of

happiness, pride, enthusiasm, and increased self-confidence, all of which are supported by a conducive learning environment. Some of the benefits of student participation in the learning process include (1) active learning: student engagement is necessary because everyone's contribution is important and interactivity is an indicator of active learning; (2) student involvement: activities such as games with the participation of the whole group encourage the development of students' thinking, students are not worried or embarrassed if they give wrong answers; (3) direct feedback: teachers and students receive immediate feedback on the knowledge learned; (4) question-centered learning: question-centered learning, encouraging & training students to think spontaneously and quickly (Maloy et al., 2017). Some factors that can encourage student participation in classroom learning include (1) teacher openness; (2) teacher enthusiasm; (3) positive opinions from 'peers'; (40 less/informal classes; (5) use of strategies, media, and learning methods that can build a pleasant classroom atmosphere (Echiverri et al., 2020).

Collaborative Learning

Collaborative learning is a method wherein students collaborate in groups to solve problems, complete tasks, or create products. In this approach, each group member contributes, and authority and responsibility are distributed among them (Laal & Ghodsi, 2012). Moreover, all group members accept accountability for the collaboration's outcomes. In the current digital era, mobile learning has become a prevalent technology used as an educational tool within classrooms. The utilization of mobile learning, as highlighted can foster and reinforce students' motivation and emotional regulation in collaborative group learning settings (Järvenoja et al., 2020). This research indicates that technology-supported collaborative learning encompasses intricate and multifaceted interactions across different processes, including cognitive, meta-cognitive, motivational, affective, and social aspects, throughout the learning journey. Future-oriented learning encompasses several key characteristics: the learning ensures active engagement from students; this learning places a strong emphasis on collaboration among students; it employs diverse learning methodologies; it leverages intrinsic motivation; this learning is designed to offer a pleasant learning experience; this learning activities are integrated into every aspect of student life (Suryani, 2014). Based on this description, collaborative learning in this context refers to an educational approach where students collaborate in groups to solve specific tasks or problems. In this type of learning, each member of the group shares equal responsibility, authority, and commitment toward improving social skills such as empathy, dedication, positive attitude, individual skill development, self-confidence, and self-esteem.

From the description of some of the research results above, it can be concluded that there has not been much research related to the use of digital and non-digital (conventional) media to optimize the achievement of various learning objectives simultaneously, such as creative assignments, participatory learning processes, collaboration, and student satisfaction. In this study, the research questions are (1) Are there differences in learning outcomes for creative assignments between groups of students using digital and non-digital media? (2) Is there a difference in the level of participation and collaboration during the creative assignment process between groups of students using digital and non-digital media? (3) Is there a difference in student satisfaction with the learning process during creative assignments between groups of students using digital and non-digital media? It is hoped that the results of this study can contribute to choices of using the right learning media for certain learning objectives.

Based on the description and formulation of the research problem, the research hypotheses were established as follows:

Hypothesis 1: The quality of students' creative outputs in creative assignments is higher among groups using digital media compared to those using non-digital media.

Hypothesis 2: The level of active participation and collaboration among students in creative assignments is higher in groups using digital media compared to those using non-digital media.

Hypothesis 3: Student satisfaction with the learning process during creative assignments is higher in groups using digital media compared to those using non-digital media.

METHOD

Participants

Participants of this research are seven State Islamic Senior High Schools, specifically targeting the 12th-grade classes in East Jakarta. The research sample was selected using simple random proportional sampling, employing the Slovin formula. A sample of 7 State Islamic Senior High Schools was drawn from 8 accessible State Islamic Senior High Schools in the East Jakarta region. Each school formed four groups whose members were determined by the teacher so that each group had a characteristic equal, consisting of two groups using digital learning media (experimental), and two groups using non-digital media (control), selected randomly in each twelfth-grade class. Each group comprised approximately 7-8 students, resulting in a total of 14 groups assigned creative tasks using digital media 14 groups assigned creative tasks using non-digital (conventional) media, and a Total Learning Satisfaction Survey of 212 students (7 schools). The creative tasks in this research were related to the subject of 'Crafts and Entrepreneurship', specifically creating 'food product promotion' in digital (video) and non-digital (poster) formats The creative tasks in this research were related to the subject of 'Crafts and Entrepreneurship', specifically creating 'food product promotion' in digital (video) and non-digital (poster) formats.

Research Design & Procedures

This research employs a quantitative method utilizing a 1 x 1 experimental design and a survey for 212 students as participants. For the implementation of the research in the first semester of 2023/2024, for the theme 'promotion of food products', 5 (five) meetings are required. The stages of implementation are as follows:

1. **1st Meeting**: the research began with an MoU with 7 (seven) State Aliyah Madrasah Schools in East Jakarta, which was followed by a Focus Group Discussion (FGD) with 7 teachers of Craft and Entrepreneurship, discussing the preparation for research implementation (research instruments and research implementation guidelines).
2. **2nd Meeting: a)** the division of digital and non-digital creative assignment groups in each grade 12 State Aliyah Madrasah (a total of 28 groups were retrieved whose group members were determined by the teacher, so each group was relatively homogeneous); b) teachers and the research team explained the things that students had to do during the 4 (four) meetings which referred to the creative assignment guidelines that had been distributed to students, namely making food product promotions both digitally and non-digitally; c) the research team and 7 (seven) teachers observed the process of group division and group discussion of activities of the participation & collaboration of the group members.
3. **3rd Meeting**: a) each group is given the freedom to make product promotions, both

digital and non-digital; b) outside of the class meeting schedule (becoming a group homework), and being obliged to make a video during the 2nd meeting process (making digital and nodigital food product promotions).

4. **4th Meeting**: a) each group of presentations about the result of creative assignments, both using digital media (video) and non-digital media (poster); b) teachers and the research team assessed the results of the creative assignment and presentation.; c) at the end of the 3rd meeting session, all groups submitted the results of creative assignments and videos of the making process; d) furthermore, teachers and the research team assessed creative products and the level of student participation and collaboration when the group made creative products.
5. **5th meeting**: a) announcement & awarding of prizes to groups that have high scores for 'creative assignments' in each group the State Aliyah Madrasah; b) At the end of this 4th meeting, all students are required to fill the survey instrument "Student Learning Satisfaction, for creative assignments, with the number of respondents are 212 students from 7 (seven) State Aliyah Madrasah.

Instrument

The research instruments utilized for data collection include (1) an observation form for a participatory-collaborative learning process; (2) a creative product assessment form; and (3) a student learning satisfaction questionnaire instrument. A participatory-collaborative learning process, and creative product assessment using observation instruments. A student learning satisfaction with a questionnaire instrument (Likert scale). Before their use in the research, the instruments must be tested for validity and reliability. These tests included a content validity test by two experts on participatory-collaborative learning observation instruments, and creative product assessment instruments, as well as a construction validity and reliability test for student learning satisfaction instruments. Furthermore, a summary of the research instruments is presented in Table 1, and the results of the validity and reliability test of the instrument can be seen in Table 2.

Table 1. Summary of the research instruments

Research Instruments	Indicator	Information
1. Observation Instruments: a. Member Participation Group	• The group leader allows all group members to give their opinions;	Assessment Description: Good, Enough, Less
	• All group members actively give opinions and discuss together.	
	• In the discussion process, no one is emotional, or angry, but complements the discussion material.	
	• All participants in the group discussion showed enthusiasm, joy, and fun.	
b. Member Collaboration Group	• The duties and authority of each group member to complete detailed tasks clearly;	**Assessment Description:** Good, Enough, Less
	• There is a commitment and spirit of equality to complete tasks;	
	• Helping each other in completing group tasks (caring for others);	
	• The existence of products/services as a result of collaboration	

2. Assessment Instruments: a. Creative Product Evaluation:	• Original idea; • The idea of spontaneity; • Flexible ideas; • Ideas that can be developed & enriched • Digital-based or non-digital	Assessment Description: Score: 80-89. Score: 70-79 Score: 60-69
b. Assessment of Making Poster &Videos Creative Products	• Discussion group members • Working group members complete their respective duties.	Assessment Description**:** Score: 80-89. Score: 70-79 Score: 60-69
c. Achievement Assessment Purpose of Promotional Media	• Introduce the product/service created. • Inviting the community/others to buy	Assessment Description: Score: 80-89. Score: 70-79 Score: 60-69
3. Survey Instruments: Student Learning Satisfaction (Likert Scale): 5 = Strongly Agree 4 = Agree 3 = Quite Agree 2 = Disagree 1 = Strongly Disagree	• Teachers' teaching skills	Number: 1.2.3.4.5.6
	• Learning offered as needed by the student	Number: 7.8.9
	• Conducive Learning Environment	Number: 10.11.12
	• Adequate study room facilities	Number: 13.14.15

Note: The author compiled the indicators for these research variables using the literature review analysis method.

Table 2. Summary of the validity and reliability test of research instruments

Instrument	Indicator	Content Validation	Construct Validation & Reliability	Information
1. Observation of Creative Assignment Learning Process	a. Active participation of group members. b. Collaboration among group members	Two Educational Technology experts	-	Valid Instruments (Eligible to Use)
2. Assessment of Creative Assignment Results.	a. Digital & Non-Digital Creative Products. b. Video Assessment of the Creative Assignment Product Making Process. c. Achievement of Promotional Media Objectives (digital and non-digital).	Media expert, and Marketing expert	-	Valid Instrument (Eligible to Use)
3. Student Learning Satisfaction	a. Teachers' teaching skills. b. Learning is offered	-	Trial to 35 students	Valid and Highly

Instrument	according to student needs. c. Conducive Learning Environment. d. Adequate learning facilities/fun.	with the following results: r Product Moment (> 0,325): 0,342- 0,812 and Reliability: 0.818	Reliable Instruments

Source: Processed Research Data (2023)

Data Analysis

The data analysis employed descriptive statistical analysis (mean) and inferential statistics with the help of the SPSS program, including variance homogeneity tests and mean difference tests or t-tests (independent sample tests). Before conducting the t-test, a data normality test was performed.

■ RESULT AND DISCUSSION

Descriptive Data Analysis

The results of the descriptive research are presented in Table 3 below. These include the mean score of creative product learning outcomes, the average score of participatory-collaborative learning, and the average score of student learning satisfaction.

Table 3. Average descriptive data: creative product score, participatory-collaborative learning score, and student learning satisfaction score

	Group	N	Mean	Std. Deviations	Std. Mean Error
Creative products	Digital (Experiment)	14	82.8729	1.77861	.47535
	Non-Digital (Control)	14	79.5414	3.43587	.91827
Participatory-collaborative learning	Digital (Experiment)	14	78.3629	4.66574	1.24697
	Non-Digital (Control)	14	82.8450	2.80268	.74905
Student learning satisfaction	Digital (Experiment)	14	3.8529	.13338	.03565
	Non-Digital (Control)	14	3.9836	.15697	.04195

Requirement Analysis of T-test

Before conducting the t-test to assess the mean difference between two samples, it is essential to ascertain the requisite analytical conditions which include: (1) The sample size is relatively small, with fewer than 30 individuals; (2) The sample is drawn from a normal or near-normal distribution; (3) The t-count being-calculate base on the potential outcomes: the variance of the two populations being tested is either identical or differs.

Data Normality Tests

Data normality tests were conducted using the Kolmogorov-Smirnov test and Shapiro-Wilk test, as presented in Table 4 below:

The results of the Shapiro-Wilk test and Kolmogorov-Smirnov test (Table 4) indicate that all study data are normally distributed, as evidenced by the value of Sig > 0, 05. Consequently, the analysis of variance homogeneity and the t-test can proceed.

Table 4. Normality test

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Group	**Statistic**	**df**	**Sig.**	**Statistic**	**df**	**Sig.**
Creative products	Digital (Experiment)	.165	14	.200*	.921	14	.227
	Non-Digital (Control)	.176	14	.200*	.923	14	.245
Participatory-collaborative learning	Digital (Experiment)	.193	14	.166	.898	14	.104
	Non-Digital (Control)	.280	14	.054	.769	14	.052
Student learning satisfaction	Digital (Experiment)	.160	14	.200	.972	14	.900
	Non-Digital (Control)	.212	14	.089	.941	14	.432

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction

Homogeneity Test

The homogeneity of variance test, as determined by the Levene test, is designed to ascertain whether the variances of the two population groups under examination are identical or differ. Moreover, the results of the Levene test can be found in Table 5, which indicates that: (1) The average variance of the creative product value data **differs** between the groups using digital and non-digital media. This is evidenced by Sig value = 0,004 < 0,05; (2) The variance of the data on participatory-collaborative learning differs between the groups. The activity score is found to be **"different"** between the groups using digital and non-digital media, with a Significance value = 0,019 < 0,05; (3) The variance of student learning satisfaction data is homogeneous between creative assignment groups using digital and non-digital media, with a Significance value = 0.224 > 0.05.

Table 5. Levene variance homogeneity test results for average creative product score, mean participatory-collaborative learning score, and student learning satisfaction score

		Levene's Test for Equality of Variances		t-test for Equality of Means
		F	**Sig.**	**t**
Creative products	Equal variances assumed	9.874	.004	3.222
	Equal variances are not assumed.	-	-	3.222
Participatory-collaborative learning activities	Equal variances assumed	6.217	.019	-3.081
	Equal variances are not assumed.	-	-	-3.081
Student learning satisfaction	Equal variances assumed	1.549	.224	-2.374
	Equal variances are not assumed.	-	-	-2.374

The t-test (Independent Sample Test)

The t-test aims to analyze the mean differences in the two groups of student's creative assignments using digital and non-digital media. These include (1) The creative products; (2)The difference in the average score of participatory-collaborative learning; and (3) The difference in the average score of student learning satisfaction. The results of the t-test are presented in Table 6 below:

Table 6. Average difference test result (T-Test) creative product score, participatory collaborative learning score, and student learning satisfaction scores

		t-test for Equality of Means			
		Mean	**df**	**Sig. (2-tailed)**	**Mean Difference**
Creative products	Equal variances are assumed.	82.8729	26	.003	3.33143
	Equal variances are not assumed.	79.5414	19.500	**.004**	3.33143
Participatory-collaborative learning	Equal variances are assumed.	78.3629	26	.005	-4.48214
	Equal variances are not assumed.	82.8450	21.301	**.006**	-4.48214
Student learning satisfaction	Equal variances are assumed	3.8529	26	.025	-.13071
	Equal variances are not assumed.	3.9836	25.340	**.025**	-.13071

The Difference in the Average Score of Creative Products;

Table 6 above presents the t-test result for the variable 'creative product value' with a significant value of Sig = 0.004 < 0.05. This implies that the mean value of 'creative product' is significantly different between groups utilizing digital and non-digital media. The average creative product value among students who utilized digital media was significantly higher than that of the group who used non-digital media (mean value: 82.8729 > 79.5414) thereby supporting the validation of hypothesis 1.

The mean value of the creative product of the creative assignment in the group utilizing digital media is demonstrably "higher" than the group utilizing non-digital media (hypothesis 1 is proven). In this study, the creative product, namely the production of "product advertisements/promotions" by the group using digital media in the form of short videos, exhibited a higher average value than the group using non-digital media (posters). This was because the level of accuracy was higher than that of posters, enabling the revelation of objects and events in a manner that more closely resembled the real situation. The findings of this study follow the research that shows students tend to prefer the use of digital media over traditional media and perceive greater learning outcomes when engaging with digital media (empathy, dedication, positive attitude, individual skill development, self-confidence, and self-esteem (Tabor, and Minch. 2013).

In the digital era, students are accustomed to video media (audio and visual) which is a moving medium that can reveal objects and events as they are (Asyhar, 2011). This contrasts with non-digital media (posters), which are static and monotonous. Digital media is therefore perceived as more interesting, entertaining, and preferable for anyone who sees it. The results of another study showed that groups of students who were taught using video tutorial media learning strategies obtained higher learning outcomes than those learned using conventional media learning strategies in students who had high creativity, this implies that video media can be used to strengthen student creativity (Setiawan, and Budiningsih, 2015).

The Difference in the Average Score of Participatory-Collaborative Learning;

Moreover, the t-test value for the variable students 'participatory-collaborative learning' activity reveals a significance level of Sig = 0.006 < 0.05. This implies a significant difference in mean scores between the digital and non-digital

media groups. Notably, the participatory-collaborative learning activity score for the non-digital media group (mean score: 82.8450) exceeds that of the digital media group (mean score: 78.3629), suggesting that hypothesis 2 remains unconfirmed.

Concerning participation and collaboration in learning activities, the results indicated that hypothesis 2 was not proven as evidenced by the finding that the level of participation and collaboration in learning activities of the group of students using non-digital media was "higher" than the group using digital media. Creative assignments for groups using non-digital media (posters) are more challenging than those for groups using digital media. This is because digital media allows for the completion of creative assignments (e.g., advertisements or product promotions) with greater ease, speed, visual appeal, and accuracy. In contrast, non-digital groups require the participation and collaboration of all group members to complete difficult creative tasks, as these are typically done manually (by hand), requiring additional effort and creativity. Furthermore, assignments of a high level of difficulty result in a high level of participation and collaboration among student group members.

This finding demonstrates that in the learning process, student creative assignments with high challenge/high difficulty will result in more active participation and collaboration among students compared to groups using digital media/ technology that are easier and faster to complete and do not require the participation and collaboration of many group members. In other words, creative tasks using technology (digital) can be completed easily, quickly, and accurately by involving only two group or three group members. In the digital era, teachers must be able to use not only conventional learning media but also modern or digital media because the use of mixed learning media can often provide more optimal learning outcomes for specific learning objectives (Akrim, 2018). This demonstrates that even non-digital media must be employed in the digital era to foster collaboration among students, particularly in subjects that necessitate creativity and innovation (arts). Further recommended to increase student engagement, teachers need to make student learning experiences active, by (1) providing relevant and fun activities that promote student-teacher interaction and student teamwork**; (2)** creating a safe, student-centered environment that respects diverse talents; (3) Set clear goals, set high expectations, and provide timely feedback; (4) recommend something based on literature review, and results from student groups (Collaço, 2017).

The Difference in the Average Score of Student Learning Satisfaction

Lastly, the t-test result for the variable of "student learning satisfaction" yields a significance level of 0.025 (Sig = 0.025 < 0.05), revealing a significant difference in mean satisfaction scores between the two media usage groups. Specifically, the satisfaction score for students using non-digital media (mean score: 3.9836) surpasses that of the digital media group (mean score: 3.8529), indicating that hypothesis 3 remains unconfirmed as well. The student learning satisfaction in creative assignments of groups using non-digital media is higher than groups using digital media (hypothesis 3 is not proven as well). This suggests that creative assignments employing non-digital media with challenges or high difficulty levels, requiring significant effort and collaboration among all group members, and resulting in learning satisfaction for all students in the group, are effective. Therefore, teachers should provide creative assignments with high-difficulty challenges since they necessitate the input of ideas, thoughts, and discussions from all group members to facilitate collaboration and ensure the successful completion of the task. The use of multimedia (a

combination of several media) can effectively provide satisfaction for students, and direct feedback to students can be a source of student satisfaction (Choe et al., 2019). Factors that can increase student satisfaction include (1) the organization and structure of educational institutions; (2) student engagement; (3) interaction between students; and (4) optimal teacher attendance. Moreover, teacher expertise is the most influential factor in student satisfaction in the learning process; consequently, in creative assignments in the digital era, teachers are required to have optimal mastery of digital literacy (Butt, and Rehman, 2010).

The Implication

In the digital era, teachers must be able to use not only conventional learning media but also modern or digital media because the use of mixed learning media can often provide more optimal learning outcomes for specific learning objectives. This demonstrates that even non-digital media must be employed in the digital era to foster collaboration among students, particularly in subjects that necessitate creativity and innovation (arts). Further to increase student engagement, teachers need to make student learning experiences active, by (1) providing relevant and fun activities that promote student-teacher interaction and student teamwork**; (2)** creating a safe, student-centered environment that respects diverse talents; (3) Set clear goals, set high expectations, and provide timely feedback; (4) recommend something based on literature review, and results from student groups.

Teachers should provide creative assignments with high-difficulty challenges since they necessitate the input of ideas, thoughts, and discussions from all group members to facilitate collaboration and ensure the successful completion of the task. The use of multimedia (a combination of several media) can effectively provide satisfaction for students, and direct feedback to students can be a source of student satisfaction. Factors that can increase student satisfaction include (1) the organization and structure of educational institutions; (2) student engagement; (3) interaction between students; and (4) optimal teacher attendance. Moreover, teacher expertise is the most influential factor in student satisfaction in the learning process; consequently, in creative assignments in the digital era, teachers are required to have optimal mastery of digital literacy.

■ CONCLUSION

Digital and non-digital learning media have advantages and disadvantages, and students indicated a preference for digital media development over traditional media, citing the ability to learn more effectively with digital media. However, in practice, mixed media (digital and non-digital) may provide more optimal learning outcomes for certain learning objectives. Therefore, it is recommended that teachers design learning/creative assignments that align with the learning objectives, as different learning objectives will produce different learning outcomes even though the learning media are the same. The teachers should prioritize the establishment of learning objectives for creative assignments and the selection of appropriate learning media.

The recommended creative assignments are: (1) To optimize the 'product quality' of student work, preferably using 'digital media'. (2) To optimize the activeness of the participatory-collaborative learning process, it is recommended to use non-digital media (high level of difficulty). (3) To optimize student learning satisfaction, it is recommended to use non-digital media (high level of difficulty).

The limitations of this study include that the research sample is only limited to Madrasah Aliyah Negeri schools in the East Jakarta area, then it is necessary to conduct research at all levels of education with a wider target population.

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