Development of Differentiated Learning Media Based on Google Sites in the Implementation of the Independent Curriculum to Improve Learning Outcomes in Informatics Subjects at SMP Negeri 16 Medan

Minar Evalina Julianti Aritonang[1], Sriadhi[2], Baharuddin[3]

{evalinaaries198@gmail.com}

Educational Technology study program, UniversitasNegeri Medan, Indonesia

Abstract. This study aims to: (1) produce learning media that are suitable for use, easy to learn and can be used for learning (2) to determine the effectiveness of google sites-based differentiated learning media. This type of research is development research that uses the ADDIE product development model. This research was conducted on students of SMP Negeri 16 Medan. The method used in this study is a quasi-experimental method. The research sample consisted of 68 students consisting of 34 students as an experimental class who were taught using differentiated learning media based on Google sites and 34 students as a control class who were taught using the power point learning media. The results of the research hypothesis testing prove that there is a significant difference between students' informatics learning outcomes taught using google sites-based differentiation learning media and informatics learning outcomes taught using the power point learning media. This is indicated by the acquisition of data, namely t_count = 3.77 while t_table = 1.77 with dk = N_1 + N_2-2 at a significant level of α = 0.05. It was concluded that the effectiveness of using differentiated learning media based on google sites was 77.05% while the effectiveness of using the Constructivism learning model was 71.32%.

Keywords: Google sites-based differentiated learning media, powerpoint learning media, Informatics learning outcomes.

1 Introduction

Education is a life process to develop all of an individual's potential to be able to live and be able to live life as a whole so that he becomes an educated human being, both cognitively, affectively and psychomotorically. The government pays serious attention to the education sector because a country's progress starts from the education sector. The policies that have been made by the government over time have undergone changes or improvements, one of which is the policy in the Curriculum.

The curriculum was developed with the aim of improving the quality of education because the heart of education is the curriculum. [1]. Currently the curriculum developed by the Government is an independent curriculum. One of the advantages of the independent curriculum, namely, independence in terms of lessons called independent learning, namely

AISTEEL 2023, September 19, Medan, Indonesia

DOI 10.4108/eai.19-9-2023.2340531

learning program policies to restore the national education system which gives freedom to schools, teachers, students and all school resources to innovate, free to learn independently and creatively, which can be started through teachers as the driving force of education. [2].

The independent curriculum gives freedom to students to choose subjects according to their interests, abilities and aspirations. The independent curriculum is also considered more meaningful and interactive.

The independent learning curriculum issued by the Ministry of Education, Culture, Research and Technology (Kemendikbudristek) aims to create a more enjoyable education for both students and teachers. The independent curriculum gives independence to students to develop their potential according to their interests. The independent learning curriculum emphasizes giving more active opportunities to students. Like Ki HajarDewantara's philosophy regarding the among system where teachers are emphasized to guide students to develop according to their nature, because each student is a different and unique individual, be it background, abilities, needs, personality or interests, which gives birth to different attitudes. also regarding learning itself. Effective teachers recognize that these differences influence students' interest and motivation to learn in the classroom.

According to research [3], implementing an independent curriculum will be more relevant and interactive, where learning using projects will provide ample opportunities for students to actively explore factual issues. The implementation of the independent curriculum is felt to provide opportunities for students to construct knowledge independently (self directed) and mediated by peers (peer mediated instruction). The independent curriculum creates active and creative learning. However, in reality, teacher-focused learning currently dominates in Indonesia. Teachers deliver learning using the lecture method and pay little attention to the needs of students. It is not surprising that so far students have not enjoyed and found meaning in learning. The impact is that student achievement decreases.

One of the curriculum changes, from the 2013 curriculum to the Merdeka curriculum, is to make Informatics a compulsory subject in junior high schools. The Informatics Subject in even semester consists of five chapters, namely: Data Analysis, Algorithms and Programming, Social Impact of Informatics, Computer and Internet Networks, and Cross-Sector Practices. Each chapter is given a different time allocation according to the characteristics of the material being taught. Implementation of learning in the Informatics subject is 18 meetings in one semester. Informatics subjects introduce computational thinking (Computational Thinking). This computational thinking is a way of problem solving or solving problems that relies on informatics sciences. Informatics subjects also develop students' skills in logic, data analysis and interpretation needed for literacy, numeracy and basic science skills, as well as modeling and simulation in print science (computational science) using ICT equip students with programming skills that support the subject learning process informatics is explored by students (student centered learning) using the principles of learning using questions, learning using problems, and learning using projects. Teachers can organize topics and cases according to local conditions, especially data analysis topics and cases.

Informatics subjects are expected to hone students' critical and creative thinking skills and train students to connect one element of their knowledge with other elements of knowledge. By studying various informatics sources, students learn how to work independently on assignments given by their teachers. Students also develop the ability to collaborate, reason

critically and creatively in discussions, as well as creatively in solving problems and doing projects among students.

Based on the results of the analysis of the Informatics subject above, in the learning process in the independent curriculum a learning approach is needed that pays attention to the needs of students from various aspects. Differentiated Instruction is claimed as an approach that can make individual differences the basis for learning planning. In this approach, the student's individual differences are used as student strengths to help facilitate understanding in learning.[4] Differentiated Instruction generally refers to the use of various learning strategies, learning activities and work assessments, in order to accommodate the various needs, academic abilities and learning styles of students.[5]

Humans are individual creatures that are different from each other because their speed and needs are different and the end result will be different too, even though the teacher and subject are the same [6]. Each student has a unique way of learning, depending on their individual learning style, some like to write down all the teacher's explanations, some prefer to listen to the teacher's explanations without writing them, some like to learn by making small strokes. According to Bobby De Potter [7] everyone has a different tendency to learn or process information. There are three types of student learning styles, namely: (1)visual, where students more easily understand information by seeing or observing; (2)auditory, where students understand information more easily by listening; and (3)kinesthetic where students understand information more easily by doing something or moving [8].

Researchers observed data about students' learning styles . Based on mapping the learning styles of students at SMP Negeri 16 Medan class VII which was the subject of research conducted through online tests http://akupintar.id-gaya-belajar. The student learning style mapping data is shown in table 1.

Table 1. Mapping of learning styles of class VII students at SMPN16 Medan

No	Learning style	Frequency	Percentage
1	Auditory	5	7%
2	Visual	53	78%
3	Kinesthetic	10	15%
	Total	68	100%

Based on the learning style mapping table above, it can be seen that the tendency for auditory learning styles is 7%, visual learning styles are 53% and kinesthetic are 15%. Students' learning styles are dominated by a visual learning style tendency . Therefore, differentiated learning is needed that accommodates students' needs. [9], it is important for teachers to know students' tendencies in learning. This is useful for increasing students' awareness of suitable learning activities, so that it can lead to effective learning.

In implementing differentiated learning, the teacher has an important role in exploring the interests of students, in order to support the achievement of a meaningful learning.

In the 21st century, the appropriate use of ICT in teaching changes the learning environment from teacher-centered to student-centered, just as it changes all aspects of human life. [10]. The application of technology ensures the delivery of highly productive, engaging, motivating, interactive and quality classroom instruction while meeting the needs of diverse learners. [11]. The role of teachers in creating and developing learning media is very necessary, considering

that it can be said that teachers play a very important role in the teaching and learning process in the classroom, and must be able to develop their ability to be creative in creating effective and efficient learning media. The challenges of education in the industrial era 4.0 include providing understanding or knowledge to all educators to be able to utilize ICT (Information and Communications Technology), adapting the curriculum to students' learning readiness so that information and communication technology in learning is expected to guide students in using ICT and make it easier implementation of education throughout Indonesia. [12]

Considering the diversity of learning styles that students have, teachers need to create learning media that contains content/material that suits the needs of students' learning styles. To make it easier to convey information to students. The effectiveness of using media in the teaching and learning process in the classroom can improve student achievement. Learning media that is appropriate to the industrial revolution 4.0 era is media that utilizes technology in its creation and implementation, such as the web. Learning using the web, which is popularly known as Web-Based Education or sometimes called e-learning (electronic learning), is an application of web technology in the world of learning for an educational process [13]. Google Sites is a product from Google that can be used by anyone to create a website. The ease of the creation and management process makes Google Sites a recommendation media that is starting to be developed by educators. One of the software tools using websites that can be used to help develop interactive multimedia is Google Sites. Using Google Sites makes it easier to run a website, especially for users who are unfamiliar with programming codes.

Initial observations carried out by researchers at SMP Negeri 16 Medan revealed that the school was located in the middle of the city and had adequate learning facilities. Facilities that support the learning process include a projector, computer laboratory, and the availability of a WiFi network to assist teachers and students in finding material information and knowledge needed in learning activities. In the learning process, researchers found a lack of interest in teaching staff in using technology as an innovative learning medium that suits students' needs, students' mastery of the material was still low, it was found that teachers still used lecture activities and still used teacher centered, teachers still applied the 'one-size fits' method. -all', one lesson for all students, so it is unable to meet the demands of student diversity. The reality is that students have not developed fully, students have not received learning that suits their needs, which are owned by different students, so that there is a gap between children who have above abilities and those with lower abilities. Teachers prefer to carry out learning with uniformity even though in reality they face various characteristics of students who are different both in terms of cognitive, psychomotor abilities and the attitudes of the students themselves.

Based on an analysis of the problems that arise in Informatics learning in the implementation of the independent curriculum , differentiated learning is needed that accommodates students' needs. Google sites must contain learning media that facilitates students who have different needs. Media that contains learning material/content to meet students' auditory, visual and kinesthetic learning styles , it is hoped that students will be able to be motivated to build their own knowledge differentiated learning is a solution to solving problems regarding the diversity of students' abilities when studying in one class, namely a pleasant learning atmosphere, collaborative learning and selection of materials in the learning process.

Google sites are considered very suitable for education in an era of increasingly sophisticated technology. Students are not only monotonous with what they get at school, through content appropriate to their learning style which is input using Google sites they are able to understand the subject matter provided. The positive knowledge that students get on Google sites can make students smarter in their studies. Google Sites has a positive relationship with learning outcomes. In contrast to previous research, in previous research Google sites were only used as a learning medium without paying attention to students' learning needs. Based on the problems explained above, the researcher wants to conduct media development research to implement differentiated learning using Google Sites in implementing the independent curriculum to improve learning outcomes in Informatics subjects at SMP Negeri 16 Medan. This research develops Google Sites as a website that fulfills differentiated learning which contains material/content according to students' needs.

2 Research Method

This research uses the type of development research (research and development). Research and development methods are research methods used to produce certain products, and test the effectiveness of these products. This type of research is different from other educational research because the aim is to develop a product based on trials and then revise it to produce a product that is suitable for use .

This research was conducted at SMP Negeri 16 Medan which is located at JalanKarya II No. 3 KarangBerombak District, West Medan, North Sumatra, This research was conducted at class VII level for the 2022/2023 academic year. Time This research was carried out in May-June 2023.

The subjects in this research were Class VII students at SMP Negeri 16 Medan for the 2022/2023 academic year, while the research object was Google Sites- based differentiated learning media containing learning material for Learning Achievements that students must master.In research on the development of differentiated learning media using Google Sites , the researcher chose the ADDIE (Analysis, Design, Development, Implementation, and Evaluation) development model. The ADDIE model is a model that is easy to apply where the process used is systematic with a clear framework to produce effective, creative and efficient products. The stages of the ADDIE model development procedure are as follows: Analysis,design, development, implementation, evaluation.

3 Results And Discussion

3.1 Analysis of Material Expert Assessment Data

Learning material experts assess that the differentiated learning media using Google Sites that has been developed is appropriate with assessment percentages on 3 aspects of feasibility assessment indicators for the material aspect, learning aspect and discussion aspect. The average percentage of material expert assessments of the learning media developed is shown in table 2

Table 2. Average percentage of material expert assessment results for differentiated learning media based on Google sites

No	Assessment Indicator	Average percentage	Criteria
1	Material Aspect	80%	Very good
2	Learning Aspects	90%	Very good
3	Linguistic Aspect	75%	Very good
	Average	**81.66%**	**Very good**

Diagrammatically, the average score of the results of the assessment of differentiated learning media using Google sites by material experts can be seen in the picture below:

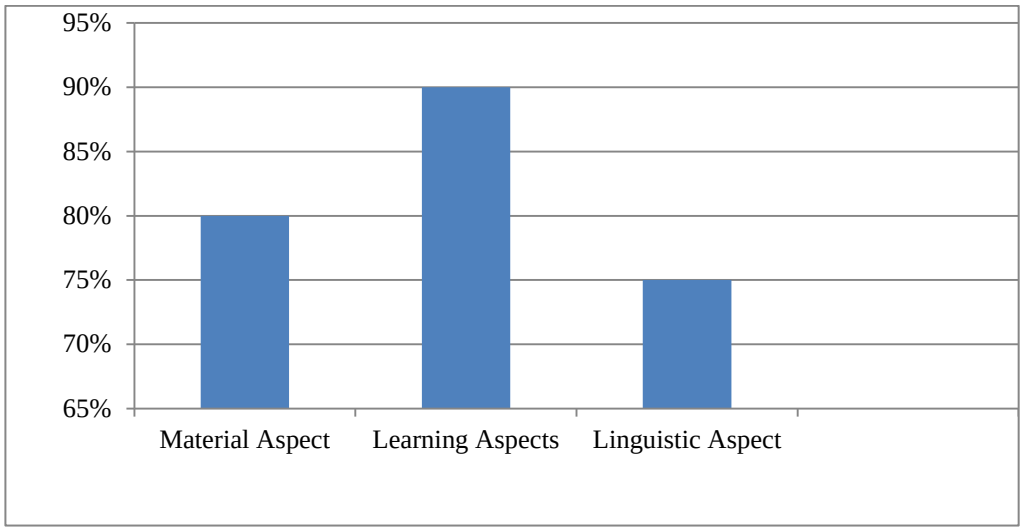

Fig 1. Bar diagram of the average percentage of assessments by material experts

The results of the study of material experts on differentiated learning media using google sites compiled show an average percentage of 81.6%, including in the very good category, which means that the presentation of material on learning media is differentiated using google sites which is very good in material aspects by 80%, learning aspects by 90 %, the linguistic aspect is 75% and can be used in the learning process. These percentage results show that differentiated learning media using Google Sites can meet learning needs.

3.2 Analysis of Learning Design Expert Assessment Data

Learning design experts assess differentiated learning media using google sites which have been developed to have eligibility with the percentage of assessments on 4 aspects of feasibility assessment indicators for feasibility aspects, presentation aspects, graphical aspects and liveliness aspects. The average percentage of material expert assessments of the learning media developed is shown in table 3.

Table 3. Average percentage of design experts' assessment results for differentiated learning media based on Google sites

No	Assessment Indicator	Average percentage	Criteria
1	Eligibility of content	100%	Very good
2	Presentation	97.2%	Very good

3	Graphics	95%	Very good
4	Liveliness	100%	**Very good**
	Average	**98.1%**	**Very good**

Diagrammatically the total average score of the results of the assessment of differentiated learning media using Google sites by design experts can be seen in Figure 2

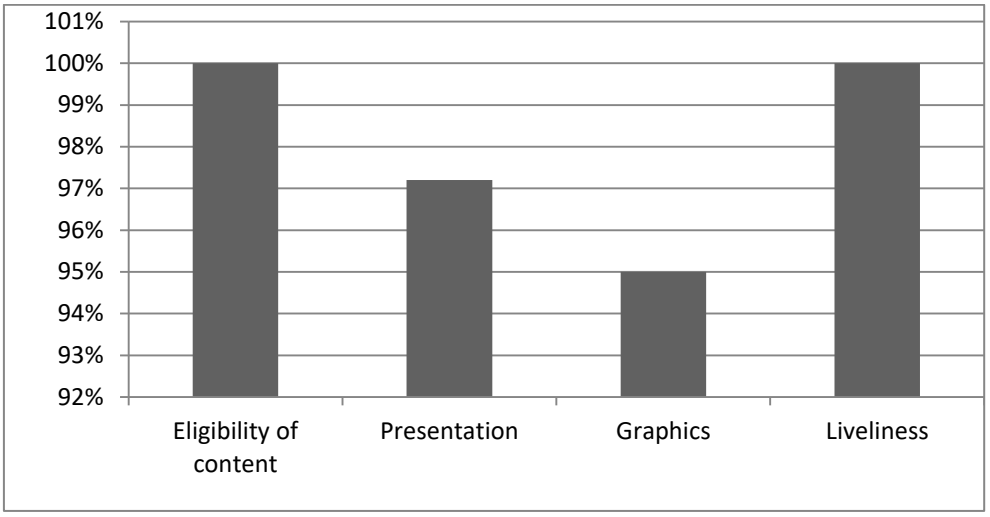

Fig.2. Bar diagram of the average percentage of assessments by learning design experts

The results of the design expert's research on differentiated learning media using google sites compiled show an average percentage of 98.1% including the very good category, which means that the presentation of material on google sites- based differentiated learning media is very good at content feasibility of 100%, presentation of 97, 2%, graphic aspect 95%, active aspect 100% and can be used in the learning process. These percentage results show that learning media is differentiated basedGoogle Sites can meet learning needs.

3.3. Analysis of Media Expert Assessment Data

Learning media experts assess that the differentiated learning media using Google Sites that has been developed is appropriate with the percentage of assessments on 3 aspects of feasibility assessment indicators for the suitability of content, presentation and graphics. The average percentage of media experts' assessment of the learning media that has been developed can be seen in table 4

Table 4. The average percentage of the results of the media expert's assessment of differentiated learning media based on Google sites

No	Assessment Indicator	Average percentage	Criteria
1	Guide and information	100%	Very good
2	Software operations	100%	Very good
3	Presentation quality graphics, *google*	87%	Very good

sites view		
Average	**95.6%**	**Very good**

Diagrammatically, the average score of the assessment results for differentiated learning media is based onGoogle sites by media experts can be seen in the image below:

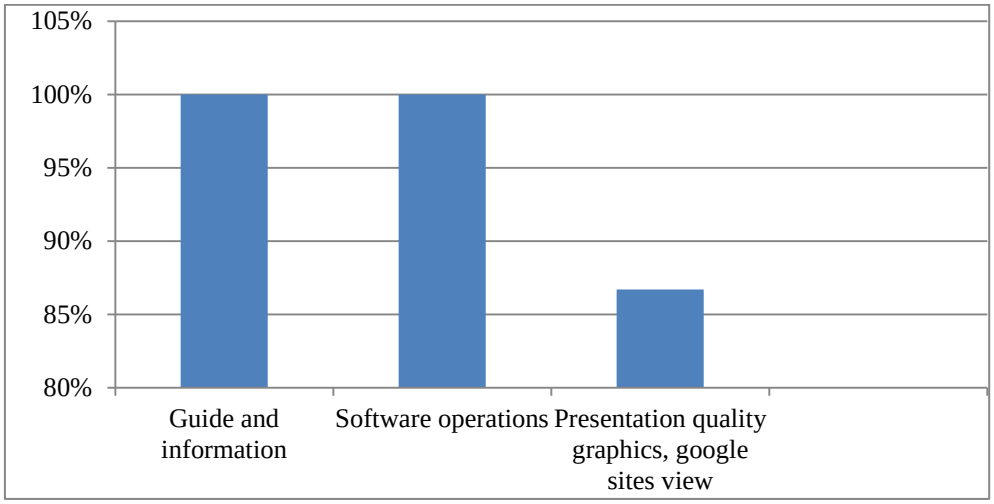

Fig. 3. Bar diagram of the average percentage of assessments by media experts

The results of ahi material research on differentiation- based learning mediaThe compiled Google Sites show an average percentage score of 95.6% for 100% content feasibility, 100% presentation and 87% graphics. This means that the learning media is based on differentiationGoogle sites that have been developed can meet the demands of learning needs.

3.4 Product Effectiveness Test Results

The pretest learning outcomes of students who were taught using differentiated learning media based on Google sites obtained the lowest score of 50 and the highest score of 80, the average value of 67.29 and the standard deviation of 7.17. The distribution of the frequency of students' pretest learning outcomes taught using google sites- based differentiated learning media can be seen in table 5

Table 5. Frequency Distribution of Pretest Learning Results for Students Taught Using Differentiated Learning Media Based on Google Sites

No	Interval Class	Fi	Percentage
1	50-54	2	5.89%
2	55-59	3	8.82%
3	60-64	6	17.64%
4	65-69	9	26.47%
5	70-74	8	23.54%
6	75-80	6	17.64%
total		34	100%

Based on the table above, it can be seen that the pretest learning outcomes of students are taught using differentiation- based learning mediagooglesites , namely as many as 11 students with a percentage of 32.35% below the average, as many as 9 students with a percentage of 26.47% right on average, and as many as 14 students with a percentage of 41.18% on above average. Furthermore, it can be described in a histogram the distribution of the frequency of scores of students' pretest learning outcomes taught with google sites- based differentiated learning media.

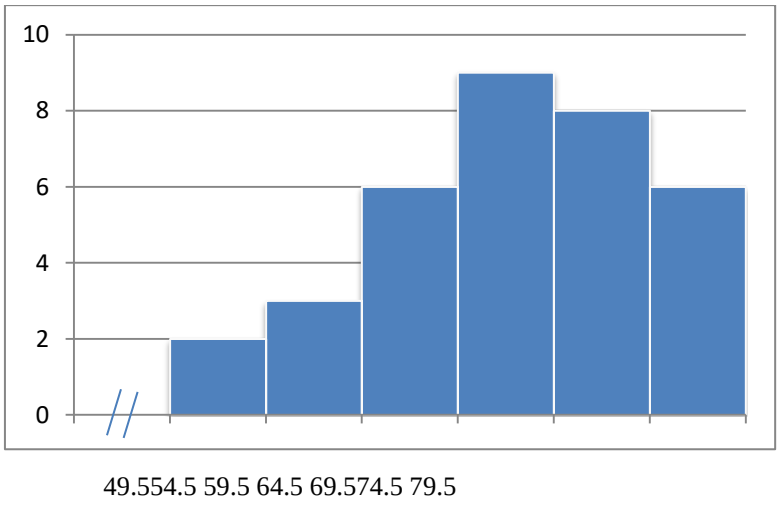

Fig. 4. Histogram of students' pretest learning results taught with using differentiated learning media based on Google Sites

Furthermore, the students' post-test learning results were taught using differentiated learning media based on Google Sites . The pretest learning results of students who studied using differentiated learning media based on Google Sites obtained the lowest score of 60 and the highest score of 90, the average score was 78.91 and the standard deviation was 6.39. The frequency distribution of post-test learning outcomes for students taught using differentiated learning media based on Google Sites can be seen in table 6.

Table 6. Frequency distribution of post-test learning outcomes for students taught using differentiated learning media based on Google Sites

No	Interval Class	Fi	Percentage
1	60-64	1	2.94%
2	65-69	2	5.88%
3	70-74	4	11.76%
4	75-79	10	29.41%
5	80-84	10	29.41%
6	85-90	7	20.59 %
total		34	100%

Based on the table above, it can be seen that the post-test learning outcomes of students are taught using differentiation- based learning mediagooglesites , namely as many as 7 students with a percentage of 20.58% below the average, as many as 10 students with a percentage of

29.41% right on average, and as many as 8 students with a percentage of 50% above the average -flat. Furthermore, it can be described in a histogram the distribution of the frequency of scores of students' post-test learning outcomes that are taught using differentiation- based learning mediagoogle sites.

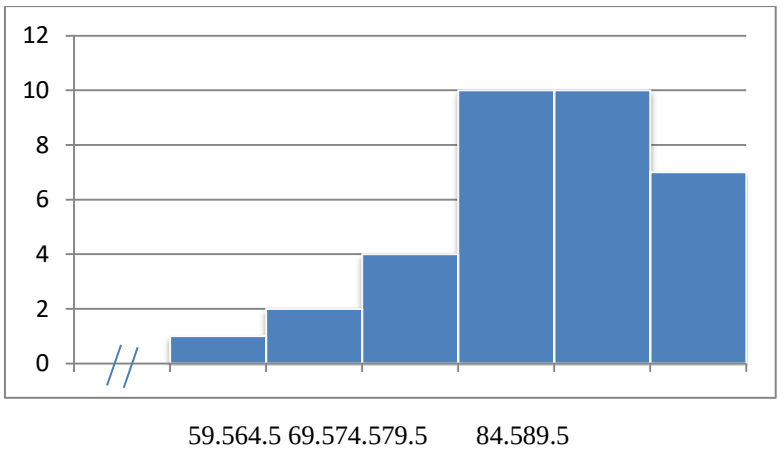

Fig. 5. Histogram of post-test learning outcomes for students taught using differentiated-based learning media google sites

The pretest learning outcomes of students who were taught using PowerPoint obtained the lowest score of 45 and the highest score of 75, the average score of 62 and the standard deviation of 9.12. The frequency distribution of students' pre-test learning outcomes taught using PowerPoint learning media can be seen in table 7

Table 7. Frequency Distribution of Pretest Learning Results for Students Taught Using Powerpoint Learning Media

No	Interval Class	Fi	Percentage
1	45 -4 9	5	14.70 %
2	5 0 -5 4	4	11.76 %
3	55 - 59	3	8.82 %
4	6 0 -6 4	6	17.64%
5	65 - 69	6	17.64 %
6	7 0 - 75	10	29.4 %
Total		**34**	**100 %**

Based on the table above, it can be seen that the value of students' pretest learning outcomes is taught using PowerPoint learning medianamely 12 students with a percentage of 35.28 % below the average, 6 students with a percentage of 17.6 4 % just on average, and 16 students with a percentage of 47.04 % above average. Furthermore, it can be described in a histogram the frequency distribution of scores of students' pretest learning outcomes that are taught using PowerPoint learning media.

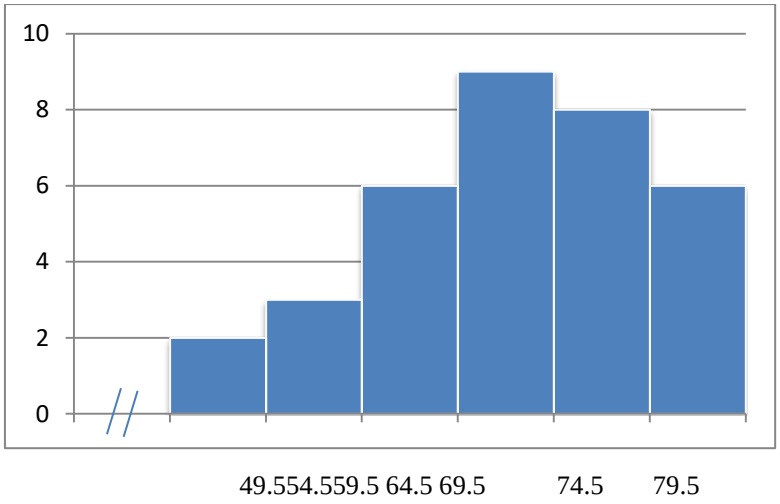

Fig. 6. Histogram of students' pre-test learning results taught using Powerpoint learning media

Furthermore, the students' post-test learning results were taught using PowerPoint learning media. Posttest learning outcomes of students who were taught using PowerPoint learning media obtained the lowest score of 55 and the highest score of 85, the average value of 73.03 and the standard deviation of 6.12. The frequency distribution of students' post-test learning outcomes taught using PowerPoint learning media can be seen in table 8.

Table 8. Frequency Distribution of Post-Test Learning Results for Students Taught Using Powerpoint Learning Media

No	Interval Class	Fi	Percentage
1	55-59	1	2.94%
2	60-64	1	2.94%
3	65-69	8	23.53%
4	70-74	9	21.88%
5	75-79	10	29.41%
6	80-85	5	14.70
Total		34	100%

Based on the table above, it can be seen that the post-test learning outcomes of students taught using PowerPoint learning medianamely as many as 10 students with a percentage of 29.41% below the average, as many as 9 students with a percentage of 21.88% right on average, and as many as 5 students with a percentage of 44.11% above the average -flat. Furthermore, it can be described in a histogram the distribution of the frequency of scores of students' post-test learning outcomes taught using PowerPoint learning media.

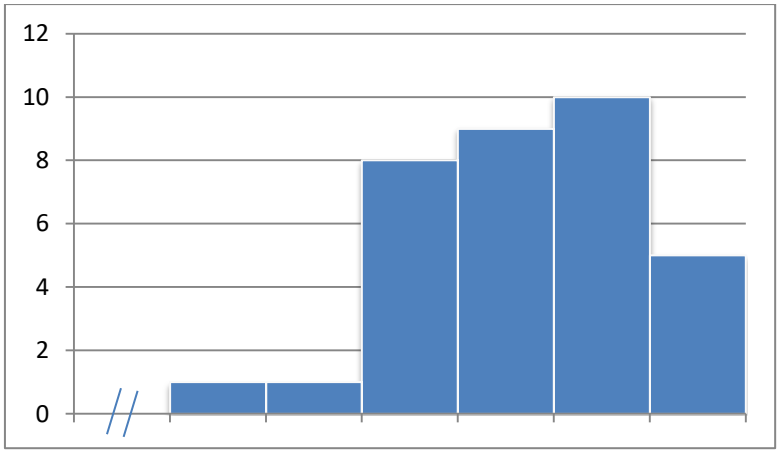

Fig.7. Histogram of students' post-test learning results taught using PowerPoint learning media

3.5 Hypothesis test

To declare whether a product is suitable or not, a validation test is carried out. Product validation aims to provide the opinion of material, design and media experts regarding the content of the material, learning aspects, content validity, media and learning design. Aspects that were revised and refined based on data analysis and trials as well as input from material experts, learning design experts as well as media experts and students as users of differentiated learning media using Google sites aim to explore some common aspects in the process of developing a product.

The following is a summary of the average percentage of assessment results for differentiated learning media using Google Sites in informatics subjects by material experts, design experts, media experts, individual trials, small group trials and field trials, which can be seen from the table below .

Table 9. Summary of Average Percentage of Assessment Results for Differentiated Learning Media Based on Google Sites in Informatics Subjects

No	Respondent	Average Percentage	Criteria
1	Materials Expert	81.66%	Very good
2	Learning Design Expert	98.1%	Very good
3	Media Expert	95.6%	Very good
4	Individual trial	94.4%	Very good
5	Small Group Trial	92.9%	Very good
6	Field Test	89.5%	Very good
	Average	**92.03%**	**Very good**

Based on the table above, it can be concluded that differentiated learning media using Google Sites in Informatics subjects is proven to be suitable for use because it has passed material experts, design experts, media experts, individual trials, small group trials and field trials and the results are declared "Very good ”.

The learning outcomes of students who use differentiated learning media based on Google Sites in the Informatics Subject at SMP Negeri 16 Medan are higher than the learning outcomes of students using Powerpoint learning media.

The hypothesis testing used is a different test. From the calculation results obtained t_{hitung}= 3.77 while t_{tabel}= 1.67. Because t_{hitung}= 3.77> 1.67 t_tabel, it can be concluded that the learning outcomes of students using differentiated learning media based on Google sites are higher than the learning outcomes of students using PowerPoint learning media. A summary of hypothesis testing can be seen in table 10.

Table 10. Summary of Hypothesis Test Calculations

Average posttest score		t_{count}	t_{table}	Conclusion
Using differentiated learning media using Google sites 77.05%	Using powerpoint learning media 71.32%	3.77	1.67	There are significant differences

From the results of hypothesis testing, empirical evidence is obtained that student learning outcomes using differentiated learning media based on Google sites are higher than student learning outcomes using PowerPoint learning media.basedlearning media google sites in Informatics subjects , namely 77,05%%. Meanwhile, the effectiveness of learning using PowerPoint learning media , namely71,32%

Thus, the effectiveness value of differentiated learning media based on Google Sites for Informatics at SMP Negeri 16 Medan is higher than PowerPoint learning media.

The development research carried out aims to produce a variety of learning media products on Google sites that are tailored to the needs of different students.Media that contains learning material/content to meet students' auditory, visual and kinesthetic learning styles .The material presented in differentiated learning media using Google sites is informatics learning material for class VII students of junior high school. The material presented is a learning support material that contains an explanation of the learning achievements of computer networks and the internet, which is equipped with a variety of material/content in the form of text, video, audio that supports students' learning styles and learning interests. Audio material for children who have an auditory learning style contains audio sound recordings , videos that have been uploaded to YouTube for visual students and video tutorials for kinesthetic students. The audio, video and tutorial recording material/content that is published is material/content that explains the material on Internet connection, data and file protection based on the Learning Outcomes of "Computer Networks and the Internet".

From the results of the research data processing carried out, there are differences in the learning outcomes of students who use learning media, the effectiveness of differentiated learning media using Google Sites in Informatics Subjects and students who use PowerPoint learning media, namely the average value of Informatics taught using differentiated learning media using Google Sites . Informatics subjects were higher than those using PowerPoint learning media from the test results using the t test, obtained t_{hitung}= 3.77 while t_tabel= 1.67. Because t_{hitung}= 3.77 > 1.67 t_{tabel}, it can be concluded that the learning outcomes of students who use learning media, the effectiveness of differentiated learning media based on Google

sites in informatics subjects is higher than the learning outcomes of students using PowerPoint learning media.This can be seen from the average value of informatics taught using differentiated learning media based on Google Sites , namely 77.05% higher than those using PowerPoint learning media, namely 71.32%. This data proves that differentiated learning media using Google Sites can increase results. studying Informatics students. What makes the advantages of differentiated learning media using Google sites compared to PowerPoint learning media is that students become more active in the learning process. The difference in students' informatics learning outcomes using differentiated learning media based on Google sites using PowerPoint learning media is 5.73%.

4 Conclusions, Implications And Suggestions

4.1 Conclusion

Base on the formulation , discussion objectives, results and discussion of research on the development of differentiated learning media using Google Sites . in informatics subjects in students of SMP Negeri 16 Medan , it can be concluded as follows:

Media using Google sites are stated to be good in terms of product and suitable for use in students of SMP Negeri 16 Medan. The use of differentiated learning media using google sites is more effective in improving student informatics learning outcomes compared to using powerpoint learning media.

4.2 Implications

Based on the conclusions and findings in research on the development of learning media, this has higher implications compared to the learning media so far used by teachers and students in the learning process, while the implications in question are as follows :

1. Differentiated learning media using Google sites will facilitate the informatics learning process where differentiated learning media based on Google sites are equipped with content that varies according to the needs of the learning profile/learning style of students.
2. This Google Sites -based differentiated learning media really makes a positive and practical contribution, especially in implementing the learning process for teachers, where the Google Sites -based differentiated learning media makes it easier to carry out learning so that it has an impact on the effectiveness of the learning process and can improve student learning outcomes. In this way, differentiated learning media using Google Sites can be used as consideration for teachers in delivering material.
3. To improve the quality of learning, school principals must further encourage teachers to produce better learning products by facilitating the addition of teachers' knowledge by providing facilities and involving teachers in improving skills in fields of study and learning technology.

References

[1] Siregar, Nazliah, Hasibuan, Julyanti, & M, S. (2021). *Manajemen Peningkatan Kualitas Pembelajaran Matematika pada SMA Labuhan Batu*. Jurnal educational and Development, 9(2), 285-290.

[2] Aiman Faiz, Anis Pratama, Imas Kurniawaty (2022). *Pembelajaran Berdiferensiasi dalam Program Guru Penggerak pada Modul 2.1*. PendidikanDasar 6,(2) 2846-2853.
[3] Restu Rahayu, Rita Rosita, Yayu Sri Rahayuningsih, Asep Herry Hernawan, Prihantini. 2022. *Implementasi Kurikulum Merdeka Belajar di Sekolah Penggerak.* BASICEDU: Journal of Elemtaru Education. 6(4), 6313- 6319.
[4] Lindawati. (2022). *Pendekatan Differentiated Instruction Dalam Meningkatkan Hasil Belajar Caption Siswa Kelas XII* MIPA Jurnal Real Riset, 1(4), 6-11.
[5] Huebner, Tracy, A. (2010). *Differentiated Instruction. Educational Leadership:* Journal Of The Department Of Supervision And Curriculum Development. N.E.A 67 (5): 79-81
[6] Suwartiningsih. (2021). *Penerapan Pembelajaran Berdiferensiasi untuk Meningkatkan Hasil Belajar Siswa pada Mata Pelajaran IPA Pokok Bahasan Tanah dan Keberlangsungan Kehidupan di Kelas IXb Semester Genap SMPN 4 Monta Tahun Pelajaran 2020/2021*. Jurnal Pendidikan Dan Pembelajaran Indonesia (JPPI), 1(2), 80–94.
[7] Alhafizh, N. (2022). *Analisis Profil Gaya Belajar Siswa Untuk Pembelajaran Berdiferensiasi di SMP Negeri 23 Pekanbaru.* Jurnal Pengabdian Kepada Masyarakat. 1(8), 1913-1922
[8] Fitriani, CH (2017). *Gaya Belajar Siswa Kelas III B SDN Tukangan Yogyakarta* .Jurnal Pendidikan Guru Sekolah Dasar.Edisi 1:18-27
[9] Faiz, Anis, Kurniawaty (2022), *Pembelajaran Berdiferensiasi dalam Program Guru Penggerak pada Modul 2.1*, Jurnal Basicedu (6) 2:2846-2853.
[10] Coleman, et all., (2016).*Integrating computing across the curriculum: the impact of internal barriers and training intensity on computer integration in the elementary school classroom.* J. Educ. Comput. Res. 54 (2), 275– 294.
[11] Keengwe, J., & Georgina, D. (2012). *The digital course training workshop for online learning and teaching.* Education and Information Technologies, 17(4), 365- 379.
[12] Hafizh, N. (2022). *Analisis Profil Gaya Belajar Siswa Untuk Pembelajaran Berdiferensiasi di SMP Negeri 23 Pekanbaru.* Jurnal Pengabdian Kepada Masyarakat. 1(8), 1913-1922
[13] Hilir, A. 2021.*Teknologi Pendidikan Di Abad Digital.* Semarang: Lakeish Jurnal Departemen Pengawasan Dan Pengembangan Kurikulum. NEA 67 (5): 79-81