



Development of Poster-Based Learning Media in the Information and Communication Technology Subject at State Middle School 1 BPR Ranau Tengah

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Abstract

This study aims to develop poster-based learning media for Information and Communication Technology subjects at SMP 1 BPR Ranau Tengah to improve student motivation and understanding. This study uses the Research and Development (R&D or RnD) method to develop poster-based learning media. This development research uses the ADDIE (Analyze, Design, Development, Implementation, and Evaluation) model, which includes the stages of analysis, design, development, implementation, and evaluation. The focus of this study includes the process of identifying learning needs in the classroom, developing media that suits those needs, and analyzing the effectiveness of its use in improving student understanding. This research was conducted at SMP Negeri 1 BPR Ranau Tengah. Data collection techniques in this study used observation and semi-structured interviews. The data obtained were then analyzed descriptively qualitatively. The results of the study indicate that the development of poster media at SMP Negeri 1 BPR Ranau Tengah proved to be effective. The developed poster media successfully achieved the stated objectives of increasing knowledge, changing attitudes, increasing participation, and improving students' understanding in Information and Communication Technology lessons. As some students have better understood the poster media effectively and have achieved the goal of presenting Information and Communication Technology information visually, helping students understand abstract concepts such as computers and internet networks. Teachers' creative designs and the use of graphic design technology increase learning interest and flexibility of use, both inside and outside the classroom, and can be an example for innovative Information and Communication Technology learning.

Keywords: Learning Media, Posters, ICT Subjects, BPR Ranau Tengah State Middle School.

Abstrak

Penelitian ini bertujuan untuk mengembangkan media pembelajaran berbasis poster pada mata pelajaran Teknologi Informasi dan Komunikasi di SMP 1 BPR Ranau Tengah guna meningkatkan motivasi dan pemahaman siswa. Penelitian ini menggunakan metode penelitian *Research and Development* (R&D atau RnD) untuk mengembangkan media pembelajaran berbasis poster. Penelitian pengembangan ini menggunakan model ADDIE (*Analyze, Design, Development, Implementation, and Evaluation*), yang meliputi tahap *analyze* (analisis), *design* (desain), *development* (pengembangan), *implementation* (pelaksanaan), dan *evaluation* (evaluasi). Fokus penelitian ini mencakup proses identifikasi kebutuhan pembelajaran di kelas, pengembangan media yang sesuai dengan kebutuhan tersebut, serta analisis terhadap efektivitas penggunaannya dalam meningkatkan pemahaman siswa. Penelitian ini dilaksanakan di SMP Negeri 1 BPR Ranau Tengah. Teknik pengumpulan data dalam penelitian ini menggunakan teknik observasi dan wawancara semi-terstruktur. Data yang diperoleh kemudian dianalisis secara deskriptif kualitatif. Hasil penelitian menunjukkan bahwa pengembangan media poster di SMP Negeri 1 BPR Ranau Tengah terbukti efektif yang dikembangkan berhasil mencapai tujuan yang telah ditetapkan meningkatkan pengetahuan mengubah sikap meningkatkan partisipasi meningkatkan pemahaman siswa dalam pelajaran Teknologi Informasi dan Komunikasi. Seperti sebagian siswa sudah lebih memahami Media poster efektif dan sudah mencapai tujuan untuk menyajikan informasi Teknologi Informasi dan Komunikasi secara visual, membantu siswa memahami konsep abstrak seperti komputer dan jaringan internet. Desain kreatif guru dan pemanfaatan teknologi desain grafis meningkatkan minat belajar dan fleksibilitas penggunaan, baik di dalam maupun luar kelas, serta dapat menjadi contoh untuk pembelajaran Teknologi Informasi dan Komunikasi yang inovatif.

Kata Kunci: Media Pembelajaran, Poster, Mata Pelajaran TIK, SMP Negeri BPR Ranau Tengah.

INTRODUCTION

Education is a crucial process in human life because it serves as a means of developing an individual's overall potential, both physically and spiritually. Education is conscious guidance provided by educators to shape the core personality of students through physical and spiritual development (Maritsa et al. 2021). Furthermore, Law of the Republic of Indonesia No. 20 of 2003 concerning the National Education System defines education as a conscious and planned effort to create a learning environment that enables students to actively develop their potential, including spiritual aspects, self-control, intelligence, noble character, and the skills needed in social and national life. Thus, education is not merely the transfer of knowledge, but also the formation of character and a holistic personality (Nurfadillah et al. 2021).

The goals of education are broad and strategic, encompassing the development of students' psychological, emotional, and motoric potential, as well as the transmission of cultural values from generation to generation. Sudarwan Danim states that education also aims to increase students' adaptability to rapid changes, particularly advances in science and technology, and to foster good morals so that students can distinguish between right and wrong (Subroto et al. 2023).

This concept of education aligns with Ki Hajar Dewantara's view, which emphasizes education as a process of guiding children's natural strengths so they can achieve the highest salvation and happiness as human beings and members of society. Therefore, education has a crucial social function in creating an intelligent, noble society, and one that is ready to face future challenges (Alifah 2021).

In today's digital era, access to educational information and learning resources has become increasingly easier through various online platforms that provide free learning materials and educational information. Several popular

sites in Indonesia, such as Ruangguru, Zenius, and the Ministry of Education and Culture's Rumah Belajar (Learning House), provide online tutoring services, learning videos, and teaching materials accessible to students at various educational levels (Alifah 2021).

These platforms support a more flexible and interactive learning process, helping students develop their full potential in the information technology era. With technological advancements, education is no longer confined to conventional classrooms but can be accessed anytime and anywhere, opening up broader opportunities for equitable education throughout Indonesia (Trenggono Hidayatullah et al. 2023).

Technological advancements have dramatically transformed the world of education. Now, teachers and students can learn using computers, smartphones, or tablets, allowing them to access digital textbooks, developmental videos, and engaging e-learning platforms. Technology also enables distance learning, virtual collaboration, and adapting materials to meet student needs. Advanced technologies like artificial intelligence and virtual reality are even making learning more engaging and enjoyable (Suyuti et al. 2023).

However, despite these benefits, the use of technology in education also presents its own challenges. Not all students have adequate access to digital devices and a stable internet connection. This creates a digital divide between urban and rural areas, as well as between students from different economic backgrounds (Iskandar et al., 2023). Furthermore, excessive, unsupervised use of technology can also impact students' physical and mental health, leading to problems such as eye strain, lack of social interaction, and even device dependency (Bikinkarya 2023).

Learning media is a crucial innovation that has brought significant change to the world of education. By utilizing various tools and resources, learning media can

increase the effectiveness of the teaching and learning process, make material easier to understand, and create a more engaging and interactive learning environment (Febriani Putri 2021). The presence of learning media also opens up opportunities for more varied and adaptive teaching methods tailored to the needs of learners in this modern era. Through the use of learning media, education becomes more inclusive and can reach various groups in a more efficient and enjoyable manner (Fitriyani et al., 2023).

Currently, many learning media are developing and simplifying the teaching and learning process. Examples include the use of learning videos, digital presentations, and online modules that can be accessed anytime and anywhere. These media help students understand the material more clearly because they are presented visually and interactively, making learning more engaging and less boring (Nurfadillah et al. 2021).

Furthermore, learning media such as e-books, online practice exercises, and simple learning apps are also increasingly used. These media facilitate teachers in delivering material and assigning assignments, while also enabling students to learn independently at their own time and pace. This convenience makes the learning process more effective and efficient for all parties (Putri and Saputra 2022).

In any subject, engaging learning media is crucial. Teachers must be able to create a learning environment that is not boring so that students can more easily understand the material being taught (Sari et al., 2023). For example, in Information and Communication Technology (ICT) lessons, the use of visual media and interactive animations can help students learn technological concepts more clearly and enjoyably. Media such as images allow students to see visuals, thus accelerating their understanding.

With engaging learning media, which can increase student motivation and engagement, teachers can also utilize manipulative media or educational games in ICT lessons. For example, by using interactive quiz applications or computer simulations, students can learn while actively participating, making the learning process more effective and enjoyable (Miftahul Jannah et al., 2023). This allows students not only to passively receive information but also to directly apply knowledge in relevant contexts (Wulandari et al., 2023).

Posters are a frequently used learning medium due to their ability to visually capture students' attention and present information in a simple, easy-to-understand manner. Posters are effective because they motivate students, clarify learning materials, and enhance creativity and memory through a compelling combination of images and text. Posters enable teachers to convey learning concepts more clearly and interactively, making the learning process more enjoyable and effective (Putri and Saputra 2022).

Taking these various aspects into consideration, the development of poster-based learning media at SMP Negeri 1 Ranau Tengah is a strategic step that is highly appropriate and relevant to the demands of the digital era and the Industrial Revolution 4.0. Posters not only facilitate the visualization of complex and abstract ICT material but also significantly increase student motivation and understanding. Furthermore, this media can be a fun and varied learning tool, making the teaching and learning process more effective and efficient. The implementation of poster-based learning media also supports the development of students' digital literacy competencies and critical and creative thinking skills, which are highly needed in the future (Miftahul Jannah et al. 2023).

Therefore, the development and utilization of posters as a learning medium at SMP Negeri 1 Ranau Tengah can serve

as a model for learning innovation that can be adapted by other schools to improve the quality of education. Research by Nurfadillah et al. (2021) concluded that learning media such as posters play a crucial role in improving student learning outcomes. Posters containing easy-to-understand images and explanations can capture students' attention and help them understand the material presented by the teacher. In a fifth-grade science lesson on changes in the state of matter, the use of posters proved effective because it increased student interest, prevented boredom, and made it easier for students to retain the material for a longer period.

Therefore, posters are an appropriate solution to address these issues. By utilizing posters, teachers can present learning materials visually in a more engaging and easily understood way. Posters can also increase student interest and active participation in the learning process, so that students not only passively receive information but are also encouraged to participate actively and creatively (Nurfadillah et al., 2021).

With the wider implementation of posters at SMP Negeri 1 BPR Ranau Tengah, it is hoped that the learning process will be more effective and enjoyable. This aligns with the school's vision of producing a generation of high quality and noble character, as well as supporting students in better understanding subject matter through innovative and engaging media. The use of posters as a learning medium can be a strategic step towards improving the quality of education at this school.

RESEARCH METHODS

This research employed the Research and Development method, commonly known as the R&D method. Research using this development model is a method used to produce a specific product and test its effectiveness. Furthermore, the R&D method was chosen as a systematic methodology for scientifically creating innovative products (Sugiyono 2017).

This development research employed the ADDIE (Analyze, Design, Development, Implementation, and Evaluation) model. Furthermore, the ADDIE model consists of five stages: analysis, design, development, implementation, and evaluation.

The analysis stage is the stage for analyzing needs in the learning process to identify problems and appropriate solutions, as well as determine student competencies. The design stage is the stage for determining specific competencies, methods, teaching materials, and learning. The development stage is the stage for producing programs and teaching materials to be used in the learning program. The implementation stage is the stage for implementing the learning program by applying the design or specifications of the learning program. The evaluation stage is the stage for evaluating the learning program and evaluating learning outcomes (Maydiantoro 2021).

This research, employing the R&D method, was used to develop poster-based learning media for information and communication technology (ICT) at SMP Negeri 1 BPR Ranau Tengah. The focus of this research included identifying classroom learning needs, developing media tailored to those needs, and analyzing its effectiveness in improving student understanding. The research also included the active involvement of teachers as partners in media development and evaluation, ensuring that the research results were more applicable and aligned with real-world conditions in schools.

Data collection techniques in this study employed observation and semi-structured interviews. The data obtained were then analyzed descriptively and qualitatively. The tools and materials used in this study included interview guidelines, observation sheets, and supporting devices for developing learning media, such as computers/laptops, design software (if necessary), and printed or digital materials for use in the learning process. These tools

were used to document field data and develop learning media tailored to the identified needs.

RESULTS AND DISCUSSION

In the process of developing poster-based learning media for Information and Communication Technology (ICT) subjects at SMP Negeri 1 BPR Ranau Tengah, Based on this,

- 1) stage (analysis) at this stage the needs analysis was carried out through interview activities and learning observations of interviews with teachers of SMP Negeri 1 BPR Ranau Tengah to find out the needs of students, teachers, learning environments and teaching materials used. The analysis stage showed that students need an innovative learning environment and pay more attention to learning, especially in ICT subjects, the development of poster learning media was considered very appropriate to support the continuity of the student learning process in
- 2) The design phase of this research begins with the design and development of the product to be developed according to needs. Data collection encompasses the material established in the analysis phase, in accordance with the indicators and learning objectives. One tool that can be used is the Canva application, which simplifies the editing process and offers a variety of template options to choose from. Next, create a sketch in the Canva application to create the poster background and select images appropriate to the material. There are six motivational principles in the design of the material text and images. First, create a positive impression of the learning media designed according to student characteristics. Second, improve readability. Sufficiently Adequate. Next, the next step is to create a sketch in the Canva application to create the poster background and select images appropriate to the material. There are six motivational principles in the design of

the material text and images. First, create a positive impression of the learning media designed according to student characteristics. Second, improve readability of the material text by using simple and easy-to-understand language. Third, ensure clarity of images by using appropriate illustrations. Fourth, create an attractive layout so readers can enjoy the learning media. Fifth, create attractive images that can motivate students. And sixth, stimulate student interest in learning using the Digital Poster learning media.

- 3) The (development) research stage continues the design stage which was previously designed and is realized in the form of a developed product, namely a digital poster media which is in accordance with needs and to carry out validity testing by creating a product validity questionnaire for media experts and material experts.
- 4) Product Implementation Stage (Implementation) The fourth stage carried out, namely implementation, is the stage of applying digital poster media to assess the feasibility of the digital poster media that has been developed, as well as to find out the responses of students as users of digital poster media. The digital poster media that has been developed will be applied to students to find out whether the digital poster media meets the good criteria or not by filling out the questionnaire that has been given. After a validation assessment by material experts and media experts and a few revisions and declared valid, the media is ready to be tested on 15 students of class VII of Smp Negri 1 Bpr Ranau Tengah through a learning outcome test using digital poster media. The product trial aims to determine the effectiveness and feasibility of digital poster media. At this stage, the activities carried out are to assess the results of the development that has been carried out, which are then applied in ICT learning for class VII.

The results of the development applied in the learning process to determine its effect on the quality of learning. Respondent data that has been successfully collected can be used as a reference to improve product quality so that the developed digital poster media becomes more optimal.

- 5) tahap (evaluation) ini penelitian Tahap terakhir yang dilakukan yaitu penilaian. Langkah akhir yang diperlukan adalah melakukan penilaian pada data yang telah terkumpul. Tujuannya adalah untuk mengetahui evaluasi dari respon siswa, hasil belajar, efektivitas produk dan keterlaksanaan produk dalam meningkatkan minat belajar siswa, kualitas belajar mengajar serta pengembangan produk itu sendiri. Setelah melakukan penelitian melalui angket terhadap 15 siswa kelas VII di Smp Negeri 1 Bpr Ranau Tengah untuk mengetahui kepraktisan produk dengan mengisi angket respon siswa, menunjukkan bahwa para siswa tersebut tertarik dengan media pembelajaran Poster Digital sebagai alat pembelajaran. Berdasarkan data tabel yang diberikan, dari 15 indikator yang tersedia, semua hasil angket menunjukkan rata-rata diatas nilai 3. Hal ini membuktikan bahwa media Poster Digital sangat layak untuk digunakan sebagai media pembelajaran untuk meningkatkan kualitas belajar mengajar. Terlebih lagi, tidak ada media berbasis digital yang digunakan sebelumnya, sehingga media pembelajaran ini merupakan alternatif yang sangat baik. Hasil respon dari siswa juga sangat positif, dengan hasil skor rata-rata diatas 3. Therefore, digital poster media as a learning medium is very suitable for use. Based on the results of the validation of the implementation and effectiveness of the development of digital poster learning media that has been validated by one of the VII class teachers at Smp Negeri 1 Bpr Ranau Tengah. Showing that the average value obtained is 3.5 with a percentage of 88%.

These results indicate that the product that has been developed is very effective and suitable for use in learning to improve the quality of teaching and learning. The application of the learning media that has been developed can increase the effectiveness of the teaching and learning process in the classroom. In addition, through the use of digital poster learning media, overall learning activities can also be achieved well. The development of digital poster learning media that has been developed in this study obtained a category that is suitable for use as a tool in the learning process.

it shows that teacher involvement in the media development process has an important role in creating more meaningful learning. The results of the interviews showed that teachers welcomed the use of poster-based learning media because they were considered to provide a more interesting learning atmosphere and help students understand the material in a more visual way. Teachers stated that poster media has great potential to convey information concisely and clearly, and is easy for students to remember. In addition, teachers also emphasized the importance of an attractive design appearance, the right color selection, and the content of the material that is adjusted to the level of student understanding. Based on the results of the interviews, researchers gained many insights that are very useful for improving the design and content of poster media. The following is a summary of the interview results in the form of a table containing questions and answers from teacher.

Table 1. Teacher Interview Questions and Answers

No	Pertanyaan	Jawaban Guru
1	Bagaimana pendapat Bapak/Ibu tentang penggunaan media poster dalam pembelajaran TIK?	Menurut saya, penggunaan poster sangat baik karena bisa menarik perhatian siswa karena dilengkapi gambar dan warna yang cerah.

2	Apakah selama ini sudah pernah menggunakan media sejenis dalam mengajar?	Sejauh ini belum pernah. Biasanya saya hanya menggunakan buku paket, papan tulis, atau slide PowerPoint. Poster bisa jadi alternatif baru yang menyenangkan.
3	Menurut Bapak/Ibu, bagian materi TIK mana yang cocok disampaikan lewat poster?	Saya rasa materi pengenalan komputer, seperti bagian-bagian komputer atau jaringan internet dasar sangat cocok disajikan lewat poster karena lebih mudah divisualisasikan.
4	Apakah Bapak/Ibu merasa media poster bisa membantu meningkatkan pemahaman siswa?	Bisa sekali. Karena poster biasanya menampilkan poin-poin penting, siswa bisa lebih mudah mengingat informasi. Apalagi kalau posternya ditempel di kelas, mereka bisa lihat terus.
5	Apakah Bapak/Ibu memiliki saran untuk pengembangan media poster ini?	Saya sarankan desainnya dibuat semenarik mungkin, jangan terlalu banyak tulisan, lebih banyak gambar atau ilustrasi.

The interviews revealed that teachers consider posters effective because they capture students' attention. With their bright images and colors, posters provide a more engaging learning experience than traditional methods.

Furthermore, although teachers had never used posters in ICT teaching, they recognized that they could be an innovative alternative. Typically, teachers rely solely on textbooks, whiteboards, or PowerPoint slides, which often lack variety. The use of posters is expected to make learning more enjoyable.

Furthermore, appropriate material presented through posters is an introduction to computers and basic internet connections. This material is easier to understand with the aid of images or illustrations. Posters provide a visual aid that facilitates comprehension.

Teachers believe that posters can strengthen students' understanding. These interviews demonstrate the importance of posters in ICT learning. By displaying posters in the classroom, students can repeatedly see the information, which helps them remember and understand the material better. This increases the effectiveness of ICT learning.

The teacher's suggestion for poster development was to make the design more engaging, with more images or illustrations than text. An engaging design will make it easier for students to understand the material and make the poster an effective tool for conveying learning information.

Thus, these findings provide an important basis for developing more engaging learning media tailored to the needs of students at SMP Negeri 1 BPR Ranau Tengah.

Development of Poster-Based Learning Media at SMP Negeri 1 BPR Ranau Tengah

The presence of technology in education has significantly impacted the way learning is conducted at various levels, including junior high school. In today's digital era, technology is no longer merely a tool but also an integral part of innovative and effective learning strategies. With advances in information and communication technology, teachers and students have broader access to a variety of learning resources and more interactive and engaging learning media (Iskandar et al., 2023).

This is crucial given the demands of the Industrial Revolution 4.0, which demands digital literacy skills and critical and creative thinking skills from students. Therefore, the use of technology in education not only improves the quality of learning but also motivates students to be more active and independent in their learning process. One form of learning media that is developing rapidly and has great potential to support learning is posters, which can present information visually and concisely, making it easier for students to understand the subject matter (Subroto et al., 2023).

In the context of developing poster-based learning media at SMP Negeri 1 Ranau Tengah, interviews with teachers indicated that the use of posters in ICT learning was considered very positive and

effective. Teachers reported that posters have the advantage of attracting students' attention because they feature bright images and colors, making learning more enjoyable and less boring. Although these teachers had never used posters in their lessons before, they saw them as a new alternative that could enrich the variety of teaching methods compared to conventional media such as textbooks, whiteboards, or PowerPoint slides. Furthermore, teachers stated that the ICT material most suitable for presentation via posters is introductory computer material, including computer parts and basic internet networking concepts, because this material is easier to visualize graphically.

Posters are also considered very helpful in improving student understanding because they can present key points concisely and clearly, making it easier for students to remember the information, especially if the posters are displayed in the classroom and can be seen continuously. Teachers' suggestions for developing these posters include making the posters attractive by prioritizing informative images or illustrations and reducing the amount of text to avoid overwhelming students when reading.

The development of poster-based learning media has been extensively researched and proven to have a positive impact on the teaching and learning process. Posters designed with visual aspects and content aligned with core competencies can increase student learning motivation because they present information concisely, concisely, and easily understood (Putri and Saputra 2022).

Furthermore, posters also help teachers deliver material in a more engaging and varied manner, enabling students to receive information not only verbally or in writing, but also visually. Clarity of writing, easy-to-understand grammar, and proportional image presentation are crucial factors in the

success of posters as learning aids. Posters enable students to review their learning independently because the material presented is easy to remember and can be used as a learning reference at any time (Sari et al., 2023). This significantly contributes to effective and efficient learning, especially for materials requiring visualization, such as ICT.

Furthermore, technological advances have made it possible to create posters using modern graphic design applications like Canva, making it easier for teachers to create engaging and professional learning materials without requiring in-depth design skills. The use of this application allows posters to be created with various visual elements that can be adapted to the material needs and characteristics of students (Miftahul Jannah et al. 2023).

The following is an example of the development of poster-based learning media in the ICT subject that researchers carried out at SMP Negeri 1 BPR Ranau Tengah by presenting material related to computers and the internet as a basis.



Figure 1. Computer Device Poster This poster discusses the introduction of computer devices.

Basic computer hardware, such as the computer itself, mouse, keyboard, and CPU, and their functions, are presented. Posters are excellent for their visuals; engaging visuals facilitate comprehension. Concise presentation of information in bullet points, supported by illustrations, makes the material easier to digest and remember, leading to a deeper understanding of ICT.



Figure 2. Computer Parts Poster

This poster discusses the main components of a computer. The poster is very engaging because of its attractive, colorful illustrations, which facilitate visual understanding of various computer components, such as the monitor, CPU, keyboard, mouse, speakers, and headset. This helps students quickly identify and understand the basic functions of each component.



Figure 3. Poster of the Benefits of Learning Computers for the Future

This poster discusses the benefits of learning computers for the future. The use of illustrations such as laptops, monitors, and the internet supports key points in the material, such as self-improvement, productivity, critical thinking, and access to information. The concise presentation and engaging visuals also make this poster effective and easy to understand.



Figure 4. Poster of the Positive Impact of the Internet on Life

This poster concisely discusses the positive impact of the internet on life, including its role as a learning tool, business development, job search, information,

communication, entertainment, and expanding connections. The use of bright, representative illustrations, combined with concise, clear bullet points, conveys positive information about the internet.



Figure 5. Poster of the Negative Impact of Informatics

This poster concisely explains the negative impacts of informatics, such as addiction, the spread of inaccurate information, the risk of cybercrime, lack of social interaction, and potential health problems. The use of expressive illustrations and contrasting colors effectively illustrates the negative aspects, while the concise and structured material facilitates understanding of these potential risks.

The positive response from students, particularly 11th graders, to this poster demonstrates that it is not only practical to use but also increases student interest and motivation in learning. Therefore, utilizing technology to create poster learning media is an innovative solution for improving the quality of learning in schools.

This is consistent with research by Putri & Saputra (2022), which found that the use of digital posters in learning offers benefits beyond traditional print media, as they can be combined with multimedia elements such as animation and video, making learning more interactive and enjoyable. This is crucial for improving teachers' teaching skills while enriching students' learning experiences, enabling

them to be more active and creative in understanding the subject matter.

Validation conducted by media and material experts on digital poster media showed a very high level of feasibility, the form of validation by media experts evaluated the poster design of color selection, font selection and visual composition to be easy and attractive. The validation results varied with an average of 80% to 90%. Meanwhile, student responses to poster media were categorized as very feasible, the results of the effectiveness data obtained 88% with a very effective category and were suitable for use in learning and student learning outcomes increased with an average score of 90 above the minimum competency criteria (KKM). and their memory of ICT materials. And with digital poster media, teachers can also more easily update materials according to technological developments and learning needs, so that learning media is always relevant and up-to-date (Nurfadillah et al. 2021). Considering these various aspects, the development of poster-based learning media at SMP Negeri 1 Ranau Tengah is a strategic step that is very appropriate and relevant to the demands of the digital era and the industrial revolution 4.0.

Posters not only facilitate the visualization of complex and abstract ICT material, but also significantly increase student motivation and understanding. Furthermore, they can be a fun and varied learning tool, making the teaching and learning process more effective and efficient. The implementation of poster-based learning media also supports the development of students' digital literacy competencies and critical and creative thinking skills, which are highly needed in the future (Miftahul Jannah et al. 2023).

Therefore, the development and utilization of posters as a learning medium at SMP Negeri 1 Ranau Tengah can serve as a model for learning innovation that can be adapted by other schools to improve the quality of education.

Student interest in Information and Communication Technology (ICT) subjects plays a crucial role in supporting the success of the learning process and mastery of 21st-century competencies. ICT subjects not only provide basic knowledge of technology but also equip students with essential digital skills to face global challenges and rapid technological developments. (Yusniah, et al., 2022) According to several studies, a high level of interest in ICT subjects can improve learning outcomes and students' creativity in applying technology productively and responsibly. Therefore, it is crucial for schools to create a supportive learning environment and use innovative learning media to ensure students' interest in ICT continues to grow and develop (Wahyudin 2010).

Furthermore, the integration of technology into ICT learning in junior high schools is key to increasing student motivation and interest in learning. A curriculum that accommodates the active and contextual use of technology helps students understand ICT concepts more deeply and effectively. This aligns with the Indonesian government's commitment to improving the quality of adaptive, innovative, and skilled human resources through technology-based education (Yusniah et al., 2022). Teachers, as facilitators, also play a strategic role in guiding and guiding students to utilize technology effectively and appropriately, thereby significantly increasing student interest in ICT subjects.

Based on observations at SMP Negeri 1 Ranau Tengah, student interest in ICT is quite high, especially when learning is presented using engaging methods and varied learning media. Students appear more enthusiastic and active, as measured by instruments such as observations and interviews conducted when teachers use visual media like posters and interactive

presentations to facilitate their understanding.

Observations also indicate that students understand the introduction to computers and internet networks more easily when presented visually and practically. However, some students still experience difficulties due to limited computer facilities and internet access at the school, which presents a challenge that must be addressed to maintain and develop their interest in learning.

Furthermore, observations in a classroom at SMP Negeri 1 Ranau Tengah revealed that conducive teacher-student interactions and a pleasant learning environment supported student interest in ICT. Teachers who were able to connect the material to students' daily needs and lives made learning more relevant and meaningful. However, the limited learning time of only two hours per week also hampered optimal understanding. Therefore, developing effective learning media and improving ICT facilities in schools was essential to support a more optimal teaching and learning process.

Ahmad et al. (2020) also stated that ICT subjects can help students better understand and master emerging technologies in the current digital era. Through ICT, students learn how to use technological devices such as computers and gadgets wisely to search for information, process data, and communicate effectively. ICT also fosters student creativity in creating presentations, graphic designs, and other digital content. Furthermore, ICT learning makes students less technologically illiterate and better prepared to face the challenges of a digital future. In this way, ICT becomes an important lesson that not only increases knowledge, but also improves students' skills and readiness in the modern world (Achmad P. 2022).

A strong interest in learning ICT subjects has a broad positive impact, not only on improving academic outcomes but

also on the development of 21st-century skills such as critical thinking, creativity, and problem-solving (Achmad & Pramudiani, 2022). Students with a strong interest tend to be more active in seeking information and innovating using technology, which ultimately improves their readiness to face the world of work and future challenges (Ahmad et al., 2020). Therefore, strengthening interest in learning through engaging and relevant learning approaches is crucial for every educational institution, including SMP Negeri 1 Ranau Tengah.

The use of digital learning media and interactive technology has also been shown to increase student interest in ICT subjects. Media such as digital posters and learning videos are more effective and innovative, so students feel more motivated and actively engaged in the learning process (Achmad P. 2022). This presents a significant opportunity for SMP Negeri 11 Ranau Tengah to continue developing ICT learning media tailored to the needs and characteristics of its students.

Thus, student interest in ICT at SMP Negeri 1 Ranau Tengah shows good potential but still requires further attention and development. Through improving the quality of learning, developing innovative media, and enhancing technological facilities at the school, student interest and learning outcomes can continue to improve. Furthermore, the role of teachers and the support of a conducive learning environment are crucial for the success of the ICT learning process. Therefore, a collaborative effort between schools, teachers, students, and parents is essential to creating effective and enjoyable ICT learning, enabling students to master essential digital competencies in this modern era.

Development of Poster Learning Media for ICT Subjects at SMP Negeri 1 Ranau Tengah

The development of poster-based learning media at SMP Negeri 1 Ranau Tengah helps students understand ICT

concepts that may be difficult to grasp through verbal explanations or text alone. Posters are also engaging and informative, increasing student motivation to learn. Using posters allows students to practice critical and analytical thinking and understand ICT concepts. Posters are a highly potential innovation for improving the quality of learning in Information and Communication Technology (ICT). Posters, as a learning aid, have the advantage of presenting information visually in an engaging and easily understood way for students (Intaha et al., 2020). This is crucial considering that ICT material, particularly that related to computer and internet networking, is often abstract and requires clear visualizations for students to grasp the concepts. Interviews with teachers at SMP Negeri 1 Ranau Tengah revealed that the use of posters is considered highly effective because they capture students' attention through bright images and colors, significantly increasing their learning interest.

Student interest in ICT at SMP Negeri 1 Ranau Tengah increased when engaging and interactive learning media were used. Posters, developed with creative and informative designs, motivated students to be more active in the learning process. Teachers stated that previously, ICT learning media were limited to textbooks, whiteboards, and PowerPoint slides. With the introduction of posters as an alternative, students experienced a different and more enjoyable learning experience. This aligns with Megawati's (2017) opinion that engaging learning media can increase student motivation and interest, thus making the learning process more effective.

Teacher creativity plays a crucial role in the development and utilization of posters as a learning tool. Intaha et al. (2020) stated that teachers at SMP Negeri 1 Ranau Tengah strived to design posters with the most engaging designs possible, prioritizing the use of informative images

and illustrations and minimizing excessive text to avoid overwhelming students. This approach is highly appropriate because, according to Sari et al. (2023), effective learning media presents information concisely and visually, making it easier for students to understand the material. Teachers' creativity in packaging ICT materials through posters also helps students to more easily remember the important points conveyed, especially if the posters are displayed in the classroom as visual reminders that students can always access.

Students' understanding of ICT material has significantly improved with the use of posters. This medium is able to present material systematically and visually, allowing students to grasp basic computer and internet network concepts more easily (Darung et al., 2020). Observations at SMP Negeri 1 Ranau Tengah showed that students were more active in asking questions and discussing when learning using posters, compared to conventional methods. This indicates that posters are not only visually appealing but also effective in improving students' understanding of the subject matter. Posters can also be an effective tool in improving students' understanding and retention, especially for material that requires visualization (Kaffah et al., 2023).

Furthermore, posters offer the advantage of flexibility. Developed posters can be reused repeatedly and posted in various corners of the classroom, allowing students to view and review the material at any time (Yusandika et al., 2018). This significantly assists students in their independent learning process outside of class hours. Learning media that is easily accessible and repeatedly used can increase learning effectiveness because students have the opportunity to review the material regularly.

Thus, posters become a learning tool that is not only used during lessons but also serves as an additional learning resource for students (Susanto &

Radiallahuanha 2021). The development of posters at SMP Negeri 1 Ranau Tengah is also supported by the use of graphic design technology, which makes it easier for teachers to create attractive and professional posters. Applications like Canva allow teachers to creatively combine various visual elements, resulting in high-quality learning media. This demonstrates that the development of learning media depends not only on content but also on the quality of design that can attract students' attention. With technological support, teachers can more freely innovate in presenting complex ICT material in a simpler and more understandable way.

Based on observations at SMP Negeri 1 Ranau Tengah, the use of posters in ICT learning has received a positive response from students and teachers. Students feel more motivated and enjoy participating in lessons because the media used is not monotonous and boring. Teachers also feel helped in conveying material that is usually difficult to understand with conventional methods. This proves that posters are not only a visual aid, but also a medium that can improve the quality of interaction and communication in learning. Thus, the development of posters can be an effective solution to increase learning interest, teacher creativity, and student understanding in ICT subjects.

Overall, the development of poster-based learning media at SMP Negeri 1 Ranau Tengah is a strategic step that is highly relevant to the learning needs of today's digital era. Poster media not only facilitates the visualization of abstract ICT materials, but also significantly increases student motivation and understanding. With the support of teacher creativity and design technology, poster media can be developed into an innovative and effective learning medium. Therefore, the development and utilization of poster media as a learning medium at SMP Negeri 1 Ranau Tengah can be used as a

model that can be adapted by other schools in an effort to maintain and improve the quality of education, especially in the field of ICT.

CONCLUSION

The development of poster-based learning media in ICT subjects at SMP Negeri 1 BPR Ranau Tengah has proven to be an effective innovation. According to media expert analysis, the validity of the media expert questionnaire reached 84%, which is included in the fairly feasible category. While the material expert analysis showed that the validity of the material expert questionnaire reached 94%, which is included in the feasible category. In addition, the results of the practicality questionnaire from student responses during field trials on 15 students in class VII showed that this poster learning media was very feasible to use. The results of the implementation data for this digital poster learning media in class VII at Smp Negri 1 Bpr Ranau Tengah were also useful and feasible with a result of 88%. In addition, the results of the effectiveness data show that the product that has been developed is very effective and suitable for use in learning with a result of 88%. Based on the evaluation of the learning outcome test with a total of 33 exercises of 20 questions, it shows that all students have achieved scores above the minimum completeness criteria (KKM) with a score of 90 which indicates very good learning effectiveness. This digital poster media is presented in digital form so that students can learn by easily accessing poster media anywhere and anytime. With this digital poster media, it is expected to make it easier for teachers and students to carry out the teaching and learning process, increase student interest and learning outcomes, and improve the quality of learning by utilizing technological developments in the current era.

Posters present information visually and engagingly, helping students understand abstract ICT concepts such as computers and the internet. Teachers' creativity in

designing informative posters and utilizing graphic design technology further enhances the effectiveness of this medium. In addition to increasing student interest and motivation, posters also enhance learning interactions and can be used flexibly both inside and outside of class. With positive implementation results, this poster development can serve as a model for other schools to support more innovative and enjoyable ICT learning.

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