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Advancing Fashion Design Education: Evaluating the Eligibility of Video Tutorial Media for Basic Pattern Content in Vocational High School

Widya Rahma Wati[1*], Sariyatun[2], Sudiyanto[3]

[1,2,3] Master Program in Educational Technology, Faculty of Education and Teacher Training, Sebelas Maret University, Surakarta, Indonesia

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ABSTRAK

Inovasi teknologi seharusnya bisa diterapkan dengan optimal pada semua mata Pelajaran, tanpa terkecuali pendidikan seni dan desain di SMK. Kehadiran teknologi dan media pembelajaran disitu juga seharusnya tidak hanya memperbaiki metode pembelajaran tetapi juga membuat orang lebih mudah mendapatkan informasi. Penelitian ini bertujuan untuk menciptakan sebuah inovasi teknologi berupa Video Tutorial untuk pembelajaran Menggambar Pola bagi siswa sekolah menengah kejuruan. Penelitian ini termasuk jenis penelitian dan pengembangan (R&D) dengan mengadopsi 7 langkah dari 10 langkah yang dikemukakan Borg & Gall. Subjek yang terlibat didalam riset ini terdiri atas 2 ahli media, 2 ahli materi, dan 3 guru. Teknik pengumpulan datanya non-test yakni wawancara, pengamatan dan angket. Instrument penelitian yang digunakan yakni daftar pertanyaan, lembar pengamatan dan kusioner kelayakan media video. Data yang terkumpul dianalisis dengan mencari rata-rata, lalu dideskripsikan dalam bentuk paragraph untuk memberikan gambaran tentang temuan lapangan dan kelayakan media. Hasil penelitian menunjukkan perolehan rata-rata ahli media I, II, II secara berturut turut mendapatkan kategori Baik. Sementara untuk hasil penilaian praktisi, didapatkan skor rerata oleh guru I dan II secara berturut turut termasuk dalam kategori Baik. Dengan demikian, media video tutorial untuk pembelajaran menggambar pola dinyatakan layak digunakan sebagai media belajar. Temuan penelitian berhasil menunjukkan bahwa video tutorial memberdayakan siswa untuk belajar mandiri dan meningkatkan kemampuan membuat pola, serta memungkinkan guru menyampaikan pembelajaran yang menarik secara visual, sehingga mendorong penyerapan informasi yang lebih baik di kalangan siswa.

ABSTRACT

Technological innovation should be optimally applied to all subjects, without exception art and design education in SMK. The presence of technology and learning media there should also not only improve learning methods but also make people easier to get information. This research aims to create a technological innovation in the form of Video Tutorials for learning Drawing Patterns for vocational high school students. This research is a type of research and development (R&D) by adopting 7 steps from 10 steps proposed by Borg & Gall. The subjects involved in this research consisted of 2 media experts, 2 material experts, and 3 teachers. The data collection techniques were non-test, namely interviews, observations and questionnaires. The research instruments used were a list of questions, an observation sheet and a video media feasibility questionnaire. The collected data were analyzed by finding the average, then described in paragraph form to provide an overview of the field findings and media feasibility. The results showed that the average acquisition of media experts I, II, II respectively received the Good category. As for the results of the practitioner's assessment, the average score obtained by teachers I and II consecutively fell into the Good category. Thus, video tutorial media for learning to draw patterns is declared feasible to use as learning media. The research findings successfully show that video tutorials empower students to learn independently and improve their pattern making skills, as well as enable teachers to deliver visually appealing learning, thus encouraging better information absorption among students.

1. INTRODUCTION

Learning activities in vocational high schools are constantly evolving, and complex challenges often arise when these activities are implemented. one of the subjects taught in vocational high schools is how to make patterns in fashion design. Clothing patterns serve as the foundation of every garment created, ensuring that the clothing produced meets the requirements in terms of size, proportion, and shape (Ayulisa Maulika & Prabawati, 2022; Rapitasari & Ganing, 2022). Through meticulous pattern-

*Corresponding author.
E-mail addresses widyarahma939@student.uns.ac.id (Widya Rahma Tika)

making, designers are able to craft garments that are well-fitted, comfortable, and visually appealing. Aspiring fashion designers can deepen their understanding of human body structure, garment construction techniques, and the ability to bring designs to life through the study of pattern-making (Desvianasari & Prasetyaningtyas, 2022; Rosidah et al., 2021). In the realm of pattern making education, this reference epitomizes the image that is authentically employed in fashion design, thereby ensuring efficiency and peak performance in garment manufacturing (Sawitri et al., 2023; Yanita et al., 2023). Hence, a strong understanding of pattern making plays a vital role in laying a solid foundation for attaining excellence in producing cutting-edge and exceptional garments. The basic pattern-making lessons at vocational schools provide a solid foundation for students to enter the fashion industry. With these skills, they can create garments that adhere to standard measurements and body proportions, resulting in comfortable and aesthetically pleasing products (Masrur, 2020; Yılmaz, 2021). By employing a practical methodology in education at vocational schools, students can promptly apply their comprehension of fundamental pattern-making in their fashion design endeavors.

But unfortunately, students' understanding of basic pattern-making is still low. The majority of students were identified as lacking in terms of creativity ability, which implies their inability to generate new concepts, explore different design options, and adopt innovative techniques when making basic garment patterns. This highlights the gap between the demand for creative skills in the fashion sector and the constraints faced during the educational journey in pattern making (Ardian et al., 2020; Rapitasari & Ganing, 2022). A lack of creativity can hinder an individual's ability to produce innovative designs that meet evolving market demands (Karnoto, 2022; Yılmaz, 2021). A significant challenge faced in learning basic pattern-making, particularly in Vocational High Schools (SMK), lies in the lack of creativity and motivation among students (Hidayati & Ismail, 2018; Ummah et al., 2019). Field observations in the classroom at SMK Sahid Surakarta have revealed that the learning activities in basic clothing pattern making have not been optimal, leading to difficulties for students in understanding the material. In response to this issue, teachers have conducted a survey among eleventh-grade students to identify the challenges they face. The survey results indicated that the use of instructional media, particularly videos, could be a beneficial solution to enhance students' learning outcomes in basic pattern making (Nurwati et al., 2022; Yanita et al., 2023).

Based on these problems, it is necessary to take a learning approach that motivates and inspires students to develop their creativity so that they can overcome these challenges and improve the quality of basic pattern making learning in vocational high schools. Various approaches are available upon analysing the techniques used for pattern-making education in art and design programs at Vocational High Schools (VSH) in Indonesia. Conventional methods, such as using paper patterns and dress forms, remain essential foundations in the learning process of pattern-making (Heriyati & Abror, 2023; Lee, 2023). Nevertheless, digital media, particularly video media, plays an increasingly dominant role in enhancing the learning experience as technology advances. Integrating technology and digital media in art and design education within vocational schools introduces innovative approaches to pattern-making learning activities (Alfalah, 2018; Qu, 2018). Design software like CAD (Computer-Aided Design) allows students to digitally create patterns, speed up the design process, and improve accuracy in fashion pattern making (Ma, 2021; Roemintoyo et al., 2022). In addition, digital media facilitates the availability of a broader array of educational materials via online platforms, video tutorials, and other digital resources that enhance students' comprehension of fashion design principles. The integration of technology and various digital media, including video tutorials, has significantly benefited the art and design education field in vocational high schools (Aisyah et al., 2023; Kumar et al., 2022). Video tutorials enable students to learn independently and better understand basic pattern-making techniques (Chairani, 2023; Septiantoro & Widaningsih, 2022). In addition, video media allows educators to deliver instructional content visually and interactively, thereby enhancing students' information retention. Furthermore, there are numerous advantages that can be obtained from utilizing video tutorials in the learning of pattern making. For instance, video tutorials enable students to visualize more intricate concepts and assist them in comprehending the fundamental pattern-making process more effectively (Rosidah et al., 2021; Yanita et al., 2023). Furthermore, this aids students in understanding complex methods that may be difficult to grasp through verbal explanations or static visuals. Additionally, video tutorials enable students to actively engage in lessons at their own convenience, regardless of their location, thus enhancing accessibility and promoting student involvement (Prehanto et al., 2021; Yanita et al., 2023). Furthermore, video tutorials enhance students' technical understanding of basic pattern making and stimulate their creativity by showcasing a wide range of design ideas and pattern-making techniques in a dynamic format (Makagingge et al., 2022; Septiantoro & Widaningsih, 2022). Video tutorials not only improve students' technical comprehension of basic pattern making, but also stimulate their creativity as they learn.

This research is supported by previous research related to the development of learning videos. The research revealed that there are benefits of using videos in learning, namely increasing learners' competence and significantly improving their technical skills in vocational education (Aisyah et al., 2023; Rahman et al., 2022). In line with this, another study effectively showed that video media has the potential to foster character in learners by modifying the content and considering learners as the intended audience (Prehanto et al., 2021; Wisada et al., 2019). In addition, this research also shows how research on video media can be transformed into video tutorials that serve as valuable educational tools. This is exemplified by research into the creation of short, effective 2-minute instructional videos that are shared on the social media platform TikTok and used as educational aids during the learning process. The results showed that the incorporation of videos could enhance the development of participants' general skills (Septiantoro & Widaningsih, 2022). This research offers a new contribution by exploring the relationship between the use of video tutorials in learning basic fashion pattern making and the development of students' creativity. In contrast to previous studies that tend to focus on technical aspects, this study highlights the importance of video tutorials in stimulating student creativity (Apostolou, 2020; Nurwati et al., 2022). Based on this explanation, this research was conducted with the aim of developing digital learning media products in the form of video tutorials that are suitable to illustrate and facilitate students in drawing pattern designs that they learn at SMK. This research provides new insights in understanding how technology can enrich the learning experience and facilitate the development of students' creativity in the context of basic fashion pattern making.

2. METHODS

This study employs the Research and Development (R&D) approach, the selection of this research approach is certainly based on the research goal of developing products that have been tested and adapted to the existing field problems (Mursid et al., 2023). This research will develop a video tutorial for pattern design learning in vocational high schools. The development model in this research will adhere to the Borg and Gall model (Sulistyo & Kurniawan, 2020) The process consists of 10 stages: (1) Identification of potential and issues, (2) Data collection, (3) Product design, (4) Design validation, (5) Design revision, (6) Product testing, (7) Product revision, (8) Product testing, (9) Product revision, and (10) Mass production. However, this research will only be carried out until step 7, which is the final product revision based on the feasibility test results of the media by subject matter experts, media experts, and teachers. The following is an overview of the research and development procedure from steps 1 to 7 showed in Figure 1.

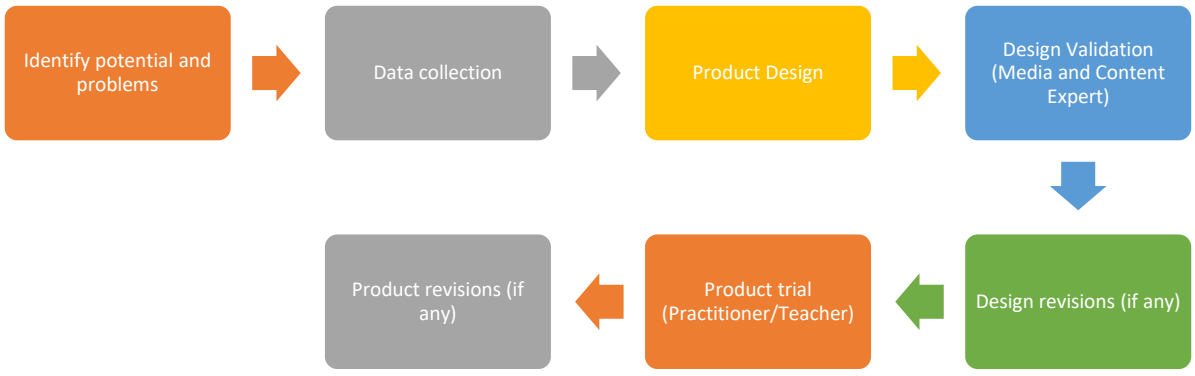

Figure 1. Research design

The subjects involved in this research consist of two media experts, two material experts, and two vocational high school teachers located at Sahid Surakata Vocational High School. The selection of research subjects was purposive, based on their qualifications relevant to the field of study and the main topic of the research (Andriyani & Suniasih, 2021; Perdana et al., 2021). The data collection technique used in this research is a non-test technique, namely observation, interviews and questionnaires (Rejekiningsih et al., 2021; Salim, 2019). Each technique will utilize the appropriate instrument, such as observation using an observation sheet as the instrument, and a list of questions will be used as the instrument for the interview method. Meanwhile, the items of questions/statements regarding the

suitability of video media will be used as the instrument for the questionnaire. The questionnaire adopted for this research is a graded questionnaire with 5 levels, ranging from 1 to 5 (Rasiman et al., 2020; Saintika et al., 2021). The grid of material experts, learning media experts, and practitioners are presented in Table 1, 2, 3.

Table 1. Media Expert Instrument Grid

No	Aspect	Indicator
1	Presentation Aspect	1) Suitability and attractiveness of appearance 2) Display layout 3) Background proportionality
2	Technical Aspects	1) Operational 2) Can help students learn independently 3) Can be used with available devices 4) The media does not contain advertising

Adapt from (Rapitasari & Ganing, 2022)(Bustanil S et al., 2019)

Table 2. Content Expert Instrument Grid

No	Aspect	Indicator
1	Aspects of Learning Material Quality	1) Content Coverage 2) Content Accuracy 3) Factual and contextuality of material
2	Aspects of Feasibility of Presentation	4) Presentation Technique 5) Supporting the Presentation of Content 6) Completeness of Material Presentation

Adapt from (Rachmawati, 2020)(Bustanil S et al., 2019)

Table 3. Instrument Grid for Practitioners

No	Aspect	Indicator
1	Substance Eligibility	1) Content Coverage 2) Content Actuality
2	Feasibility of Presentation	3) Presentation Technique 4) Supporting the Presentation of Content
3	*Usability* Media	5) Ease of use
4	Pembelajaran (*learnability)*	6) Learning Process 7) Effectiveness

Adapt from (Rachmawati, 2020) (Maulana et al., 2019)

Meanwhile, the instruments that have been created for each validator undergo validation by consulting with experts. This validation process involves selecting an expert from each type of instrument to consult on the quality and validity of the electronic module assessment questionnaire from various perspectives (Sugiyono, 2018; Yılmaz, 2021). Next, the data obtained from the questionnaire results will be analyzed. In this study, data analysis will be conducted using descriptive techniques, specifically focusing on assessing the average rating of the total validation results. The analysis of the feasibility level of video tutorial media must obtain an average score of $2.60 < X \leq 3.40$ to be declared suitable as a learning media. The following table shows the conversion criteria for the feasibility of video media based on research from (Andriyani & Suniasih, 2021; Ramdani et al., 2021). Media Video eligibility criteria are presented in Table 4.

Table 4. Media Video eligibility criteria

Eligibility Level	Interpretation	Decision
$X > 4,21$	Very Good	Very Feasible
$3,40 < X \leq 4,21$	Good	Feasible
$2,60 < X \leq 3,40$	Enough	
$1,79 < X \leq 2,60$	Less	Not Worth It
$X \leq 1,79$	Very Less	Not Feasible

Adapt from (Ramdani et al., 2021)

3. RESULT AND DISCUSSION

Results

Conducting in-depth interviews with teachers and directly observing how Fashion Design learning is carried out in Vocational High Schools (SMK), the findings indicate that although pattern design material is an important part of the Fashion Design curriculum, there is an issue with the lack of media usage. To convey complex ideas, more interactive and visual resources are needed. It is known that in situations like this, the use of digital learning media such as videos has the potential to significantly enhance students' understanding and improve their practical skills. By delivering lesson materials in a more interactive and dynamic format, video media can help overcome communication barriers that may arise in pattern design learning, while also enriching students' learning experiences and improving their learning outcomes. Additionally, the results of interviews and observations also reflect similar views from several other teachers at the Vocational High School. They consistently highlight the challenges in teaching pattern design using conventional approaches, which are limited to whiteboards and manual drawings. Some observation meetings show that students often struggle to understand abstract concepts related to pattern making solely relying on verbal explanations and static images. Nevertheless, when students receive instruction through video media, their responses are noticeably more positive and enthusiastic. They exhibit heightened engagement in the learning process, a heightened interest in comprehending the material, and greater strides in applying the concepts learned to real-world scenarios. As such, this study underscores the significant potential of utilizing digital learning media like videos to improve the efficacy of pattern design education in vocational schools. This aligns with the contemporary trend towards integrating technology into the realm of education. Furthermore, based on the identified potential and issues, a product design is formulated. One of the products that has great potential for utilization is a video tutorial media. This design begins with gathering learning materials, core competencies, basic competencies, learning indicators, and learning objectives that are suitable for fashion technology materials. After the design is developed into an initial product, testing is conducted on the initial product design. The assessment results of the media conducted by media experts and material experts are described in Table 5.

Table 5. Expert Assessment Results

No	Validator	Score	Interpretation	Decision
1.	Media Expert I	3,83	Good	Feasible
2.	Media Expert I	3,67	Good	
3.	Content Expert I	3,64	Good	
4.	Content Expert I	3,82	Good	

Based on the analysis of the initial product validation data by experts, it was identified that Media Expert I gave a rating score of 3.83 out of a scale of 5.0, which falls into the category of good. Similarly, Media Expert II also gave a total score of 3.67 with an interpretation of good. The evaluation continued to the material experts, where Material Expert I and II gave ratings with an average total of 3.64 and 3.82 out of a maximum average of 5.0, which falls into the interpretation of good scores. Referring to the feasibility analysis of the video media product, the evaluations from each expert indicate that the tutorial video media product is eligible for a decision to be used as a learning media for Fashion Patterns in vocational high schools. The media received feedback from experts for improvement and revision, after which the revised product was tested with teachers as practitioners who will utilize the media in the classroom. There were 2 teachers involved in this assessment, and the analysis of the ratings given by the teachers is depicted in Figure 2.

Referring to the illustration depicted in Figure 2, it can be observed that both Teacher I and Teacher II have provided assessments on the developed video media. It has been identified that there are four aspects that serve as measurement criteria for the feasibility instrument, namely Substance, Presentation, Usability, and Learning. Overall, Teacher I's assessment obtained a total average score of 3.53 out of a maximum score of 5.0, which falls under the category of good interpretation. Furthermore, Teacher II provided an assessment with a total average score of 3.67 out of a scale of 5.0, which is categorized as good. The final product of this development research can be seen in Figure 3.

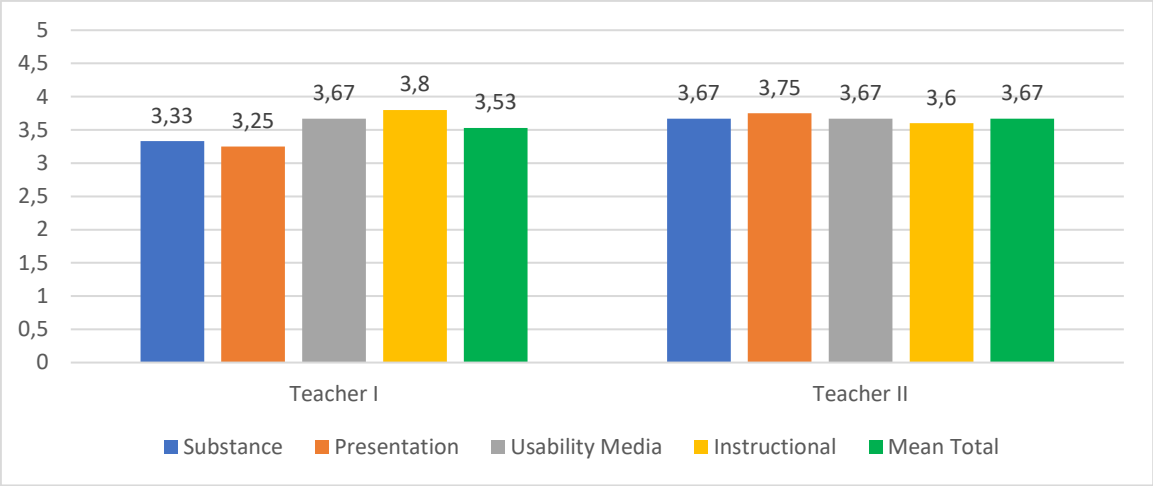

Figure 2. Video Media Assessment Results by Teachers

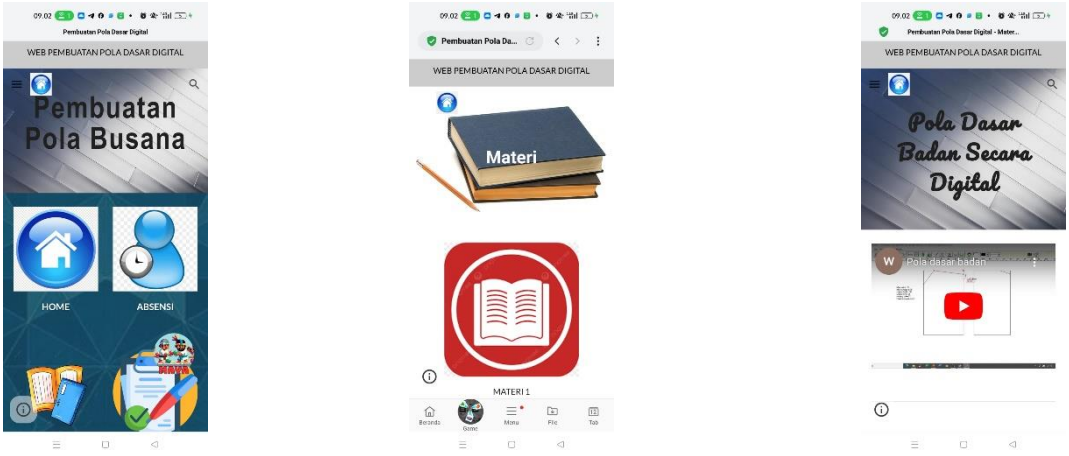

Figure 3. Media Video Tutorial for Fashion Design Learning

Discussion

Based on the research results, video tutorials for learning fashion pattern design can be applied in the learning process with validation or assessment results included in the appropriate category by the assessors. Thus, this media can make it easier for students to understand the material on how to draw clothing patterns and increase their desire to practice drawing patterns independently. Therefore, this video tutorial media successfully fulfills the specific needs of students during the learning process and their individual characteristics (Budiarto et al., 2021; Rosidah et al., 2021). Furthermore, the assessment of appropriateness is intricately linked to the provision of captivating resources. These resources serve as a motivating factor for students to actively participate in the educational journey and enhance their focus, as they have a predilection for the presented content (Prasetya et al., 2021; Safitri et al., 2021). The careful selection of material on pattern drawing in fashion design learning aims to address the challenges encountered by students. Moreover, this selection of learning materials not only acts as a basis for creating captivating media but also caters to the specific requirements of students and their individual characteristics. Consequently, this study endeavors to develop appropriate media, specifically video tutorial resources, to facilitate effective learning (Rasiman et al., 2020; Wijaya et al., 2021). The achievement of media assessment scores, as evidenced by analysis findings, shows that effective media must meet various validity criteria. Initially, in terms of educational value, the clarity of the learning objectives communicated in the video, the clarity of the content presented in the video, and the way the content is delivered in the video to increase student engagement were assessed by media experts. Meanwhile, regarding content, the material presented in the video is assessed by essential competencies and is considered helpful for students as assessed by material experts. It is proven that these criteria have been carefully considered by the creators, resulting in media products that achieve valid results and are

suitable for use (Nurwati et al., 2022; Octavyanti & Wulandari, 2021). Furthermore, this feasibility result is also based on the quality aspect of the media, which is assessed by media experts covering several evaluation aspects with results falling into the good category. These results align with the research objectives, which are expected to develop media that carries criteria suitable for use as learning media based on the results of expert validation as a determinant of its suitability (Lacey & Wall, 2021; Yanita et al., 2022). The appropriateness of incorporating various supporting elements like text, images, audio, color, and supplementary illustrations in creating this video tutorial as a cohesive learning tool clearly demonstrates the careful consideration given to selecting the appropriate media for instructional purposes (Lacey & Wall, 2021; Safitri et al., 2021). Incorporating audiovisual learning materials, such as videos, can enhance the dynamism and activeness of the classroom environment (Djannah et al., 2020; Rachmawati, 2020). Consistent with this, another study successfully developing a suitable video tutorial medium for students to create comics, also research tool from (Ardian et al., 2020; Rapitasari & Ganing, 2022). The research findings suggest that the effective utilization of video media can aid elementary school students in comprehending information related to the human body. Including images in video content provides important benefits for viewers, such as increasing the overall clarity of the communicated message and ultimately increasing student engagement during the educational experience (Abate et al., 2022; Djannah et al., 2020). This indicates that the utilization of text, images, audio, colors, and other illustrations in this instructional video has been appropriate and fitting, thereby enhancing the clarity of the instructional message.

The effective creation of the instructional video in this study can be credited to the valuable insights from prior research that emphasized the significance and benefits of using educational videos on a broader scope. The progress achieved in this investigation lies in the innovation of video content for the topic of pattern design, which was traditionally reliant on printed materials, but has now evolved into a more versatile option for learning (Yip et al., 2019; Zhu et al., 2020). Overall, the results of this study are in line with previous research related to the development of learning videos. The research revealed that there are benefits of using videos in learning, namely increasing learners' competence and significantly improving their technical skills in vocational education (Aisyah et al., 2023; Rahman et al., 2022). In line with this, another study effectively showed that video media has the potential to foster character in learners by modifying the content and considering learners as the intended audience (Prehanto et al., 2021; Wisada et al., 2019). In addition, this research also shows how research on video media can be transformed into video tutorials that serve as valuable educational tools. This is exemplified by research into the creation of short, effective 2-minute instructional videos that are shared on the social media platform TikTok and used as educational aids during the learning process. The results showed that the incorporation of videos could enhance the development of participants' general skills (Septiantoro & Widaningsih, 2022). The advantages of the video media produced include different elements essential for helping students in developing patterns in fashion design materials, with the support of audio and visuals to guide students in creating patterns inspired by their creativity. This research, of course, provides an overview of the preferences of clothing design teachers in vocational schools so that they can start utilizing video tutorial media to teach clothing pattern design skills. Furthermore, the media creation process includes understanding design theory, graphic components, and student characteristics. However, this research is limited as it mainly focuses on product creation and media usability assessment, without exploring the testing of its effectiveness and impact on student educational achievements. The research indicates that the educational videos generated can aid students in mastering pattern creation within the field of fashion design. Moving forward, future research endeavors should consider adopting a comprehensive approach to assess the broader impact of integrating this video tutorial into students' learning experiences. This will pave the way for potential advancements in educational methodologies.

4. CONCLUSION

Based on the presented findings and the issues discussed, it is clear that this research has effectively accomplished its objectives. As a result, a video tutorial media product specifically designed for fashion design learning in vocational schools has been developed and included in feasible category to be used in learning activities. The success of this product can be attributed to the extensive support received during its development, as well as the valuable insights provided by experts who have affirmed its validity and practicality in educational settings. This video tutorial is expected to improve students' proficiency in pattern drawing while stimulating their creative impulses in the pattern design process, both within academic assignments and beyond.

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