Jurnal Pendidikan Indonesia
Volume 12, Number 4, 2023 pp. 679-689
P-ISSN: 2303-288X E-ISSN: 2541-7207
Open Access: https://doi.org/10.23887/jpiundiksha.v12i4.63638

Basics Fashion Photo Editing Module for Fashion Design Students Based on Indonesian National Work Competency Standards

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ARTICLE INFO

Article history:
Received June 15, 2023
Revised June 20, 2023
Accepted November 23, 2023
Available online December 25, 2023

Kata Kunci:
Modul, Fotografi, Fashion*, SKKNI*

Keywords:
Module, Photography, Fashion, SKKNI

ABSTRAK

Keterbatasan media pembelajaran pada materi editing foto fashion menjadi kendala utama dalam mencapai kompetensi dasar editing foto digital pada mata kuliah Fashion Photography. Oleh karena itu, perlu dikembangkan modul-modul yang relevan. Penelitian ini bertujuan untuk mengembangkan modul editing foto fashion dasar-dasar berbasis SKKNI untuk mahasiswa tata busana yang dapat digunakan dalam kegiatan pembelajaran fotografi fashion. Penelitian ini merupakan penelitian dan pengembangan yang dilakukan dengan menggunakan model ADDIE. Subyek penelitian ini adalah mahasiswa Program Studi Desain Busana yang berjumlah 30 orang. Data diperoleh dari evaluasi produk oleh ahli materi dan ahli media serta uji coba lapangan yang melibatkan subjek penelitian. Data-data ini dianalisis dengan menggunakan teknik deskriptif kuantitatif. Hasil penelitian ini berupa modul dasar editing foto fesyen berdasarkan materi sub unit kompetensi dasar pengolahan foto digital pada Standar Kompetensi Kerja Nasional Fotografi Indonesia. Dari aspek materi, modul yang dikembangkan dinilai valid (0,85) dan reliabel (0,742). Aspek media modul juga dinilai valid (0,82) dan reliabel (0,714). Dengan demikian, dapat disimpulkan bahwa modul yang dikembangkan berkualitas ahli dan layak digunakan. Berdasarkan persentase siswa yang mencapai KKM, modul yang dikembangkan dikategorikan efektif (80%) sebagai media pembelajaran pada materi dasar editing foto fesyen.

ABSTRACT

The limitations of the learning media on fashion photo editing materials become the main obstacle to achieving basic digital photo editing competence in the Fashion Photography course. Therefore, it is necessary to develop relevant modules. This study aims to develop an SKKNI-based basics fashion photo editing module for fashion students that can be used in the learning activities of fashion photography. This study is a research and development conducted using the ADDIE model. The subjects of this study were 30 students of the Fashion Design Study Program. The data were obtained from product evaluation by material experts and media experts as well as field trials involving research subjects. These data were analyzed using descriptive quantitative techniques. The result of this study is a basic module for fashion photo editing based on the basic digital photo processing competency sub-unit materials in the Indonesian National Work Competency Standards of Photography. From the material aspect, the developed module was considered valid (0.85) and reliable (0.742). The media aspect of the module was also regarded as valid (0.82) and reliable (0.714). Thus, it can be concluded that the module developed was of expert quality and feasible to use. Based on the percentage of students achieving the minimum passing grade, the developed module is categorized as effective (80%) as a learning media in the basic materials of fashion photo editing.

1. INTRODUCTION

The creative industry has experienced an unavoidable massive digital transformation. This phenomenon was not only triggered by the rapid developments in technology and science, but it was also affected by the outbreak of the Covid-19 virus. The Covid-19 outbreak forced society to carry out digital transformation prematurely (Battisti et al., 2022; Burlea-Schiopoiu et al., 2023). So the digitalization process went rapidly and massively. The digital transformation that is taking place in the creative industry

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needs to be balanced with improving the quality of human resources related to the mastery of increasingly complex skills in technology (Alrasheedi et al., 2022; Blanka et al., 2022).

In the creative industry, particularly in the fashion sector, digital media plays an important role as a commercial tool and product campaign to build connections with customers (Elena, 2016; Purwar, 2019; Zhao et al., 2022). Photos are one of the most common visual digital media and have had a major influence on the development of the fashion world. Changes in analog photography techniques towards digital are directly proportional to the development of photo presentation skills (Galer & Horvat, 2012; Lu et al., 2022). In digital photography techniques, creating good photos requires not only excellent skills during the photoshoot process but also requires photo editing skills to increase the aesthetic value of the photos to be published. The process of photo editing on fashion photos is something that must be done before the photo is published both digitally and in print. This process aims to increase the appeal of fashion items which are the focus of the photo and to adjust the photo in accordance with the photo concept (Montagna et al., 2022; Perthuis, 2020).

Fashion Photography in the industrial era 4.0 has shifted from analog to digital techniques. As a result of this shift, technology such as software and hardware are applied to increase productivity levels (Mäenpää, 2014; McDonald et al., 2021; Zhang, 2018). Based on this fact, fashion students need to be able to master the technology including fashion photo editing competence (Casciani et al., 2022; Hardabkhadze et al., 2023; Ramadhina & Kharnolis, 2021). Photo editing competence in the world of fashion is closely related to consumer satisfaction because the UI (User Interface) and UX (User Experience) are also related to consumer buying behaviors for fashion products (Hartanto, 2022; Mustikarani & Irwansyah, 2019). Because of this reason, fashion students must master fashion photo editing competence to suit fashion industry requirements.

Yogyakarta State University as one of the higher education institutions that provide education in the field of fashion, the Fashion Design Education Study Program has strived to help its students to be able to create excellent fashion photos by offering a Fashion Photography course. However, in practice, the basic digital photo processing materials for fashion photos are still not included in the learning outcomes of the course even though the Indonesian National Competency Standards (SKKNI) as a reference to develop the learning outcomes for educational institutions are enclosed basic digital photo processing competency as a competency of photography. The limited relevant learning module also hinders the delivery of this material and makes the fashion photo editing material only delivered and taught briefly. Therefore, if this material is not taught in the photography course, students can lack the competencies needed in the fashion industry and its potentially increasing the unemployment rate in the future (Azahari et al., 2019; Na, 2019).

Based on the problem, this research persuades to overcome these problems by developing a relevant module to the Indonesian National Competency Standards (SKKNI) of photography to support fashion photography learning and increase students' fashion photo editing competencies by making a relevant module that can help students to understand and master fashion photo editing competencies. This relevant module can reduce discrepancies between the needs of the fashion industry and student competencies because the module materials are made with guide of Indonesian National Competency Standards (SKKNI). The final developed module can be used in the Fashion Photography course by the lecture, and it can be implemented independently by students to anticipate time constraints in fashion photography course learning activities. This study aims to develop an SKKNI-based basics fashion photo editing module for fashion students that can be used in the learning activities of fashion photography.

2. METHOD

This study is a research and development study conducted using the ADDIE model (Analysis, Design, Develop, Implementation, and Evaluation). The analysis stage is carried out by analyzing the problem and the solution. In the design phase, the material and module format are designed. The development stage is carried out by developing materials, module format, and assessments conducted by material and media experts. The implementation stage is carried out by implementing the module in the learning activities. The evaluation stage is carried out by describing the results of product improvements based on input from media and material experts (Almomen et al., 2016; Tu, 2021). This study described the characteristics and specifications of the developed module, the quality of the developed module, and the effectiveness of the developed module.

The data relating to the quality of the module were collected by distributing a 5-Likert scale questionnaire to material experts, media experts, and users (students). The questionnaires regarding the learning module evaluation instrument (Sungkono, 2012). The questionnaires describe the score of preliminary, learning, content, evaluation, and summary aspects from material expertise; graphic, preliminary, utilization, evaluation, and summary aspects from media expertise; graphic, preliminary,

content, evaluation, and summary aspects from users. Data analysis was conducted using a quantitative descriptive approach. The quality of the module was determined from the results of the validity and reliability assessment conducted by media experts and material experts. Product validity was measured by content validity which was analyzed using Aiken. The value of the Aiken validity index was interpreted with reference to Table 1 to measure the validity of the developed module.

Table 1. The Interpretation of the Aiken Validity Index

Aiken Validity Index (*V*)	Interpretation
$0{,}8 < V \leq 1$	High Validity
$0{,}4 < V \leq 0{,}8$	Moderate Validity
$0 \leq V \leq 0{,}4$	Invalid

The reliability of learning media was analyzed using the Intraclass Correlation Coefficient (ICC) (Zaki, 2017). The ICC value was interpreted with reference to Table 2 to see the reliability of the learning media.

Table 2. ICC Score Interpretation

ICC Value	Interpretation
ICC ≥ 0.75	Excellent reliability
0.40 ≤ ICC < 0.75	Fair to good reliability
ICC < 0.40	Poor reliability

The feasibility of the media was also assessed from the results of users' (students) scores on the developed module after it was implemented. Scoring categorization was conducted by determining the range until the product scoring category was obtained as shown in Table 3.

Table 3. User Scoring Interpretation

Score	Interpretation
$\bar{x} > 4.2$	Very Good
$3.4 > \bar{x} \geq 4.2$	Good
$2.6 > \bar{x} \geq 3.4$	Fair
$1.8 > \bar{x} \geq 2.6$	Poor
$\bar{x} < 1.8$	Very Poor

Product effectiveness was assessed based on the percentage of students achieving the minimum grade on the mastery of basic digital photo editing competencies. Students can be considered proficient if their score in each evaluation is ≥ 71. This value is obtained based on the benchmark reference value set in the fashion photography course. The learning module developed can be regarded as effective if the percentage of the pass rate is ≥ 80%.

3. RESULT AND DISCUSSION

Result

The product developed in this study is an SKKNI-based module on the basic digital photo processing competency unit. The module was developed using the ADDIE model (Analysis, Design, Development, Implementation, and Evaluation).

Analysis Stage

The development of digital technology in this era has made almost all aspects of life to be oriented towards a digital direction or what often referred to as the digitalization phenomenon. In the fashion industry, the demand for fashion design graduates with mastery of digital competencies is very high. This is caused by the phenomenon of digital transformation that occurs and affected digital competencies requirements to face the global competition in the fashion industry. Yogyakarta State University, as one of the higher education state institutions, has attempted to help its students to face the digital transformation that is happening by providing the relevant courses. The fashion design education department, particularly, offers various digital-oriented courses such as the Fashion Photography course. Fashion Photography is one of the many courses that can provide students with the digital competencies needed in the fashion industry.

For this reason, special attention is needed to organize a course that is oriented to digital photography so that students' competencies match the competencies needed in the fashion industry.

There were several problems found in the administration of the fashion photography course. One of the problems was the competency gap between the SKKNI of photography field and the learning outcomes in the Fashion Photography course offered by the Fashion Design Education Study Program, Yogyakarta State University. The SKKNI should become a reference in the learning process because it is oriented to the competency needed in the industrial sector. The competency gap is feared to affect the labor absorption rate. Table 4 shows a comparison between the learning outcomes in the Fashion Photography course and the Competency Standard Mapping based on the main function of the SKKNI competency unit of photography.

Table 4. Comparison Between Learning Outcomes of the Fashion Photography Course and the SKKNI Competency Unit of Photography

The Learning Outcomes in Fashion Photography Course	Competency Standard Mapping of SKKNI of Photography
1. Explaining the basic scope of photography	1. Identifying jobs
2. Describing the elements of photography	2. Analyzing work plans
3. K3 camera operation	3. Coordinating work
4. Pictures composition in fashion photography	4. Preparing for shooting
5. Explaining the shooting of fashion products for children, youth, and adults	5. Performing shooting variable settings
6. Explaining photography in shooting fashion merchandise products	6. Conducting shooting
7. Explaining photography in outdoor model shooting	7. Managing photo files
8. Explaining lighting in indoor model shooting	8. Doing postproduction
	9. Communicating works
	10. Implementing K3
	11. Improving work quality
	12. Developing photography knowledge
	13. Increasing photography knowledge

Base on Table 4 there were several SKKNI competencies of photography that have not been covered in the learning outcomes of the Fashion Photography course, one of which is the competency in managing photo files with basic digital photo processing sub-competencies. The SKKNI of the field of photography describes the sub-competencies for basic digital photo processing which include skills for adjusting brightness and contrast, identifying and correcting colors, and cropping. Seeing the massive digital transformation in the fashion industry, it is certainly important for students to master this competency to keep up with the industry's demand.

In the Fashion Photography courses, students find it difficult to understand fashion photo editing material because it is only delivered briefly caused by limited course time dan unwritten learning outcomes in these courses. It is also exacerbated by the limited of relevant fashion photo editing modules, which makes it more difficult for students to understand the material both classically and independently. From lecture point of view, they find it difficult to deliver the material without a relevant module because it has a specific criterion to editing a fashion photo. They said that the availability of fashion photo editing modules is limited. If this learning problem is not addressed immediately, it will interfere with students for mastering fashion photo editing competencies and create a snowball effect due to a mismatch between the competencies of fashion design graduates and the competency needs of the fashion industry, increasing the unemployment rate for fashion design graduates.

Based on the results of the analysis of the problems that have been described above, a possible solution for this issue is by developing a learning media relevant to the Fashion Photography course, especially in basic digital photo editing materials. A relevant learning media related to basic digital photo editing is needed to help lectures deliver the material. The module must be adapted to the Fashion Photography course where fashion photography is the main subject. The module developed must also be able to be used independently by students to anticipate time constraints in Fashion Photography course learning activities. Thus, the module was created as an alternative solution to resolve the issues regarding the insufficient existing materials in basic digital photo processing. The module format was chosen as the most suitable learning media because of its characteristics which are self-instruction, self-contained, stand-alone, adaptive, and user-friendly.

Design Stage

The form of the developed module in this study is a softcopy module in a ".pdf" format. This format was chosen because of its practicality as softcopy modules can be accessed easily anytime and anywhere with the help of electronic devices. In addition, the digital format can support the digital literacy program that is being promoted by the government. The structure of the module was adapted from the module systematic. The adaptation was conducted to meet the needs of delivering basic digital photo processing learning materials. Based on the adaptation made, the structure of the module is as follows: cover, module information, module material information, preface, table of contents, list of images, instructions for using the module, glossary, the units or materials, bibliography, and back cover.

In terms of content, the materials in the module refer to the performance criteria of the basic digital photo processing competency unit in the SKKNI of photography. There are three main materials contained in the module: brightness and contrast settings, identification and color correction, and cropping. Introductory material is also included in the menu setting and basic tools materials to provide users with the basic knowledge before getting into basic digital photo processing materials. The materials presented in the module were also adapted to the principles and characteristics of fashion photography, so they match the characteristics of the course.

Develop Stage

In the development stage, the media and the basic materials for the fashion photo editing module were developed. The module was developed in ".pdf" format to make it easier for students to access the module because it is compatible with various electronic devices. Various illustrations were included in the module to increase students' understanding of the material presented in the module. In terms of materials, the developed module contains basic digital photography as the introductory material, as well as brightness and contrast settings, color identification and correction, and cropping as the basic digital photo processing materials which refers to the SKKNI of photography. The materials presented in the module are complemented by tutorials on each learning material to make it easier for students to acquire the basic digital photo processing competencies. Figure 1 is a preview of the developed module.

Figure 1. The Preview of Fashion Photo Editing Basics Module

In this stage, an assessment was also conducted by material and media experts to assess the quality of the module developed before the implementation stage. The quality of the module was determined based on the results of the validity and reliability assessment by three media experts and three material experts who are competent in their fields. The results of validity assessment by material experts are shown in Table 5 while the results of validity assessment by media experts can be seen in Table 6.

Table 5. The Results of the Material Expert Assessment

Indicator	Aiken Validity Index Score (*V*)	Interpretation
Preliminary Aspects	0.82	High Validity
Learning Aspects	0.85	High Validity
Content Aspects	0.83	High Validity

Indicator	Aiken Validity Index Score (*V*)	Interpretation
Evaluation Aspects	0.86	High Validity
Summary Aspects	0.88	High Validity
Average Material Aspects	**0.85**	**High Validity**

Table 6. The Results of the Media Expert Assessment

Indicator	Aiken Validity Index Value (*V*)	Interpretation
Graphic Aspects	0.85	High Validity
Preliminary Aspects	0.82	High Validity
Utilization Aspects	0.82	High Validity
Evaluation Aspects	0.80	High Validity
Summary Aspects	0.82	High Validity
Average Material Aspects	**0.82**	**High Validity**

Based on Table 5, and Table 6 show the results of material and media aspects assessment, the developed module can be considered valid and feasible to use. The analysis of the quality of the developed module was conducted by calculating the reliability level using the Intraclass Correlation Coefficient (ICC) based on the assessment results by the material experts and media experts. The ICC processing was performed using SPSS. The ICC processing results were obtained based on the results of the material expert assessment in Table 7 and the results of the media expert assessment in Table 8.

Table 7. Intraclass Correlation Coefficient on Material Aspects

	Intraclass Correlation	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	0.742	0.597	0.850	9.612	33	66	0.000
Average Measures	0.896	0.816	0.945	9.612	33	66	0.000

Table 8. Intraclass Correlation Coefficient on Media Aspects

	Intraclass Correlation	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	0.714	0.559	0.833	8.484	33	66	0.000
Average Measures	0.882	0.792	0.937	8.484	33	66	0.000

The results of the ICC analysis in Table 7, and Table 8 show that the ICC score of 0.742 was obtained on the material aspect and 0.714 on the media aspect. The two coefficients were categorized as medium to high reliability. Thus, in terms of material and media aspects, the module developed was reliable and ready to be implemented.

Implementation Stage

The implementation stage was conducted by using the developed module in learning activities. This stage involved 30 fashion design students as users. The effectiveness of the developed module was assessed from the percentage of students achieving the minimum passing grade or the results of the formative evaluation of each material during which the developed module was used in learning activities. This stage also included student assessment as users of the product to complete the quality assessment of the module.

The effectiveness of the developed module can be seen from the percentage of students achieving the minimum passing grade in basic digital photo editing competencies. Students can achieve the minimum passing grade in the basic digital photo processing sub-unit of the SKKNI of photography when they are able to master the three materials: adjusting brightness and contrast, identifying and correcting color, and cropping. Table 9 shows the distribution of student competency mastery which was obtained from the results of the three materials evaluation.

The data in Table 9 show that 24 students were considered competent in the basic digital photo editing competency sub-unit of the SKKNI of photography. The percentage of students achieving the minimum passing grade of the basic digital photo editing sub-unit of the SKKNI of photography was calculated using the formula.

Based on the calculation, the percentage of students achieving the minimum passing grade in the SKKNI basic digital photo processing competency sub-unit was 80%. This indicates that the developed

module is effective because ≥80% of students are considered proficient in the basic digital photo editing competency sub-unit of the SKKNI of photography after the module was implemented in learning activities

Table 9. The Frequency Distribution of The Mastery of Basic Digital Photo Processing Sub-Unit

Material Mastery	Frequency	Percentage
Three Competency Materials	24	80.00%
Only 2 Competency Materials	4	13.33%
Only 1 Competency Material	1	0%
None of the Materials	1	3.33%
Total	**30**	**100%**

User Assessment Results

The assessment of the developed module was conducted by users (students) after they used the module in learning activities. Table 10 shows the results of the assessment.

Table 10. Module Evaluation by Users

Indicator	Mean Score	Interpretation
Graphic Aspects	4,46	Very Good
Preliminary Aspects	4,44	Very Good
Content Aspects	4,49	Very Good
Evaluation Aspects	4,43	Very Good
Summary Aspects	4,42	Very Good
Average Material Aspects	**4,45**	**Very Good**

Based on user experience data in Table 10, it can be concluded that the module developed has excellent quality.

Evaluation Stage

The evaluation stage in this study explained the various product improvements that have been made based on the input from media experts and material experts before the developed module is deemed feasible to be implemented. There were several suggestions from material and media experts regarding the improvement of the module. The material experts' suggestions are as follows: 1) Provide information on the SKKNI basic digital photo processing competency sub-unit in the module, 2) Re-align the materials of the module with the performance criteria in the basic digital photo editing competency sub-unit, 3) Provide video reference, and 4) Provide complementary illustrations to clarify tutorial sections.

Based on these suggestions, the improvements made were: 1) Providing a competency unit quote for basic digital photo processing on the start page of the module, 2) Providing materials related to the introduction of image file formats and image resolution, 3) Providing video reference sub-chapters for each material in the module which contains various video links related to learning materials, and 4) Providing additional illustrations in the form of shapes at each step in the tutorial section. The media experts provide the following suggestions: 1) Improve the editorial aspects of the instructions for using the module, 2) Fix terms in the glossary, 3) Re-align the size of the image on the introductory material, 4) Provide illustrations in the form of photos based on histograms on the material of brightness and contrast settings, 5) Replace the photo in the tutorial section in the identification and color correction material.

Based on these suggestions, the improvements made were: 1) Improving the editorial aspects and revising the instructions for using the module to match the student and lecturer sections, 2) Correcting inaccurate terms in the glossary, 3) Reorganizing the presentation of the image and make it more proportional, 4) Adding photo collages based on histograms to make it easier for users to understand the effect of histograms on photos, 5) Changing photo illustrations to make it easier for users to see changes in photos before and after color correction.

Discussion

The analysis phase was conducted by analyzing the problems as well as analyzing the solutions to the problems in this study. The massive digital transformation in the industrial sector needs to be balanced with adequate competency provision for Human Resources (HR). By providing students with technical competence, students will be better prepared to compete in the industry after completing their studies (Amaris et al., 2022; Nugraha et al., 2020; Pang et al., 2019). This is also in line with the strategy in dealing with the 21st-century digital era, especially in the creative industry where technical skills are one of the

basic skills that human resources need to acquire. The provision of these technical skills can bridge HR competencies with the needs of the industrial sector to increase labor absorption (Akatay et al., 2015; van Laar et al., 2019). The Fashion Design Education Study Program provides a Fashion Photography course to provide students with digital media processing competencies. However, there were several SKKNI competencies of photography that had not been covered in the learning outcomes of the course, such as photo file management competency even though the SKKNI should be a reference for both formal and non-formal educational institutions in providing education to meet the qualification standards desired by the business or industry (Colombi & D'Itria, 2023; Sayem, 2022). In addition, the lack of relevant learning media hindered the delivery of the materials, so the development of learning media is one of the most feasible efforts to facilitate learning and improve students' competence in accordance with the industrial sector (Miftah, 2013; Saefudin & Sumardi, 2019). The matching skills between the fashion design student and the fashion industry can decrease the unemployment rate for fashion design graduates (Mahdane et al., 2018; Sitorus & Wicaksono, 2022).

The design stage was divided into media and content design stages. In terms of design, the media was developed in the form of a soft file module in pdf format. The module format was considered as the developed product because it is suitable for presenting the competency units which consist of several materials. Moreover, modules are self-instructional, self-contained, stand-alone, adaptive, and user-friendly. The soft files in ".pdf" format were selected because they are more flexible, inexpensive, and practical (Montagna et al., 2022; Nie et al., 2011; Shuqin, 2012). The use of digital formats can also support digital literacy programs by utilizing technology in learning activities (Sanova et al., 2022)(Sulistiyarini & Sabirin, 2020). The module was developed according to the module structure proposed by previous study with several adaptations based on the need in delivering basic digital photo-processing learning materials (Hashim et al., 2021). The adaptation was made to increase the relevance of the learning material and improve the user-friendly aspects of the module so that the utilization of the module in learning activities is more effective. In terms of content, the material presented in the module refers to the performance criteria for the basic digital photo processing competency sub-unit in the SKKNI of photography. An introduction to the menu setting and basic tools materials was provided as conceptual knowledge to help students learn the materials in procedural knowledge (Kustandi & Darmawan, 2020; Mahdane et al., 2018). The materials presented in the module consist of an introduction to the menu and basic tools, brightness and contrast setting, color identification and correction, and cropping. These materials refer to the SKKNI of photography, a basic digital photo processing sub-unit that has been adapted to the characteristics of fashion photography course.

In the development stage, the module was compiled in the ".pdf" format and materials were developed based on SKKNI of photography, basic digital photo processing sub-units that have been adapted to the characteristics of the Fashion Photography course. This adaptation was made to optimize students' understanding of the learning materials they will learn because it has been aligned with their prior knowledge (Bittermann et al., 2023; Bol et al., 2019; Salas-Velasco, 2021). At this stage, the quality of the module was assessed by studying the validity and reliability assessment results by three material experts and three media experts. Based on the results of the assessment by media and material experts, the module developed is considered valid and reliable so that it is feasible to be implemented into learning activities.

The implementation stage was conducted by implementing the developed module into learning activities. This stage involved 30 fashion design students as users. The effectiveness of the developed module was determined from the percentage of students achieving the minimum passing grade based on the results of the formative evaluation of each material after the implementation of the module. The pass rate on the brightness and contrast setting materials reached 90% of the total number of respondents. This result showed that the mastery of brightness editing skills (51%) was higher than contrast editing skills (49%) (Hashim et al., 2021; Kustandi & Darmawan, 2020). The brightness editing skills were probably easier for students to master because brightness only regulates the intensity of light in a photo. Adjusting contrast was much more difficult because adjusting contrast also means adjusting the color intensity in the photo and color adjustment requires a complex artistic sense, so to create a photo with good contrast, one needs a lot of practice to stimulate artistic sensitivity (Herlina, 2007; Paksi, 2021).

The evaluation stage in this study involved various product improvements based on input from media experts and material experts before the product was finally deemed feasible to be implemented. The improvements made included adding SKKNI citations in the module with the aim of increasing users' understanding and competencies of the materials after using the module in learning activities (Aziz et al., 2012) so that users are more motivated to participate in learning activities (Aziz et al., 2012; Sugiyanto et al., 2020). In addition, the materials in the module were reorganized to match the performance criteria in the SKKNI digital photo processing competency sub-unit of photography and to increase the relevance of the module. We also added video references to each material to further enhance users' understanding of

the material, as well as assist users in reducing extraneous cognitive load and increasing germane cognitive load (Kustandi & Darmawan, 2020; Zhu et al., 2022). The instructions for using the module and the glossary were revised to make the module more communicative and avoid misunderstandings when learning the materials. Meanwhile, visual illustrations were added to the materials and tutorial sections to make it easier for users to understand the learning materials.

4. CONCLUSION

The purpose of this research was to develop a fashion photo editing module based on the Indonesian National Work Competency Standards (SKKNI) of photography on a basic digital photo processing sub-unit. The SKKNI was considered because its formulation can be used as a reference in providing learning. In addition, the SKKNI is oriented to the competency needed in the industrial sector. In terms of material and media, the module developed is considered valid and reliable so that it can be used in learning activities. In terms of effectiveness, the developed module can be considered effective to be used in learning activities. Practically, the developed module can be used independently by users in general as learning media in basic digital photo editing materials of fashion photography with a few adaptations. To support more sustainable learning, the shape and format of the module need to be readjusted as necessary.

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