Development of Crochet Pocketbook Learning Media Based on the 1st Flipbook Creator Pro

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ABSTRACT

This research was motivated by student difficulties in learning the Accessories course for the Bachelor of Fashion Education Program. This research observed the Class of 2018 Fashion Education students who took the course, resulting in 4 out of 5 students finding the course challenging while the rest found it easy and could understand it well. The result showed that understanding crochet material was complex, especially its terms or symbols, caused by a lack of learning media as an optimal learning support. Hence, the researchers were interested in making Crochet Pocketbook media based on the 1st Flipbook Creator Pro to complement the existing media. The development used the ADDIE development model: analysis, design, development, implementation, and evaluation. Material experts carried out the validation test, resulting in a total score of 61.25%, indicating it was feasible. The validation test conducted by media experts resulted in a total score of 95% which indicated it was very feasible. The researchers then conducted trials on the samples above and obtained a total score of 91.2%, which was in the very feasible category. Thus, the 1st Flipbook Creator Pro-based Crochet Pocketbook media in the Accessories course for undergraduate Fashion Education students at Universitas Negeri Malang was appropriate for use.

Keywords: *Media, Crochet Pocketbook, Accessories Course.*

1. INTRODUCTION

Digital-based learning requires facilities and tools; for example, online learning facilities include Google Meet, Zoom, Google Classroom, e-learning applications, and social media like WhatsApp. At the same time, learning tools consist of digital books, e-books, and YouTube to assist students in accessing valid material. According to Munir [1], developments in information technology are speedy and affecting many factors in life, including education, as evidenced by the existence of digital learning that can reach students and students [2] [3].

The interaction between students, teachers, and other learning tools in an educational setting is a learning process. Teachers help children learn to impart knowledge and create a good character [4] [5]. Hardini and Puspitasari [6] stated that learning is an activity that is subject to regulation to change circumstances intended to achieve the goals, in this case, the curriculum. There are various learning components for each learning process. Dimyati & Mujiono [7] concluded some components in the teaching and learning process: (1) students, or those who seek or learn what is necessary to

achieve goals, (2) teachers, or those who oversee learning activities or provide knowledge to students; (3) goals, or improvements in situations or behavior; (4) lesson substances which include all needed information to perform, (5) technique to deliver the lesson, (6) media, especially the tools to effectively communicate the lesson, (7) and evaluation to measures the goals' success.

The previous research of Hartika [8] stated that many students did not understand crochet hooks. Research by Widyaningrum [9] showed that the circulated knitting tutorial books mostly contain knitting process explanations. The tutorial books are illustration-based, but some are not fully visualized, especially in product manufacturing charts that display symbol patterns. Hence, it is difficult for beginners to understand and learn basic knitting techniques. In line with the research above, Rahmat and Tresnawati [10] stated that there are many books about learning to knit. However, since the material only displays text and pictures, some readers do not understand the process, unlike direct examples such as tutorial videos [11].

In the Accessories course, students are given crochet skills material and should understand it well [10].

However, due to the provided modules, references, and learning systems limitations, many do not understand the material during practice and lack crocheting skills, including understanding symbols and crochet hooks.

Therefore, developing media for the Accessories course is necessary, especially for crochet material. This research created Crochet Pocketbook based on the 1st Flipbook Creator Pro to overcome difficulties and facilitate students' understanding of crochet material for the undergraduate Fashion Education students at Universitas Negeri Malang. It is common knowledge that media can broaden students' knowledge and skills, as written by Vebrianto and Osman [12], which stated that media significantly improved the SPS and science among students.

1.1. Media Development

Media development is vital for the learning process to add learning ways [13]. Sugiyono [14] states that R&D is a research method to create a product and test its feasibility. Similar to the opinion above, according to Sujadi [15], development method research is a process of creating a new product or developing or adding the feasibility of an existing product. From the explanation above, the researchers concluded that research with development methods was used to produce sustainable new products. Here, the research produced a learning media.

Rahmawati [16] argue that with media, all information can spread quickly and simultaneously and can be witnessed and even heard by an unlimited number of people. According to Musfiqon [17], learning media is an intermediary tool for educators and students to understand material effectively and efficiently, both physical and non-physical. Media in learning has several functions and benefits.

According to Walker and Hess in Arsyad [18], the basic references to quality measures to provide value or review of a media in learning are as follows:

1.1.1. Content and Objections Qualities

Content and objections qualities included: (a) Feasibility in determining learning goals and presented content, (b) Media importance in learning, (c) Media completeness as a learning media, (d) Attention/interest from users who are students, (e) Feasibility with students' condition (educational level)

1.1.2. Instructional Quality

Providing learning opportunities included: (a) Quality motivation, (b) Quality test and assessment, (c) Impact on students, (d) Impact on teachers and learning activity

1.1.3. Technical Quality

Technical quality included: (a) Readability (clear texts and images), (b) Ease of usage, (c) Comfortable layout usage, (d) Answers quality (response for users), (e) Program managing quality, (f) Documentation quality

The 1st Flipbook Creator Pro-Based Crochet Pocketbook learning media is a learning media with a multimedia presentation. Multimedia media is media with a combination of images, slides, sound, or video. The multimedia-based learning media here was developed using 1st FlipBook Creator Pro.

1.2. The 1st Flipbook Creator Pro Software

The 1st Flipbook Creator Pro software is an application for creating digital or e-books (electronic books) in flipbooks. Flipbook is a three-dimensional digital book containing text, images, videos, music or songs, and moving animations.

In general, flipbooks as learning media have the following attractive advantages: (1) they present various materials, (2) they have more attractive appearances, (3) they have an easy manufacturing process, (4) flipbooks are relatively cheap, (5) does not take a lot of the device's memory, (6) improving student mastery of abstract matters, and (7) easy to carry everywhere. Flipbooks' benefits for learning include: (1) increase activities in learning, (2) improve learning outcomes, (3) improve creative thinking skills, and (4) increase motivation and interest in learning.

1.3. Crochet Material and Accessory Course

The Accessories course is mandatory in Semester 6 for undergraduate Fashion Education students at Universitas Negeri Malang. One of the materials provided in this course is crochet making, and crochet is related to hooks and knitting. According to Noe [10], knitting (crochet/ *häkeln*) is the art of linking yarn using a hook.
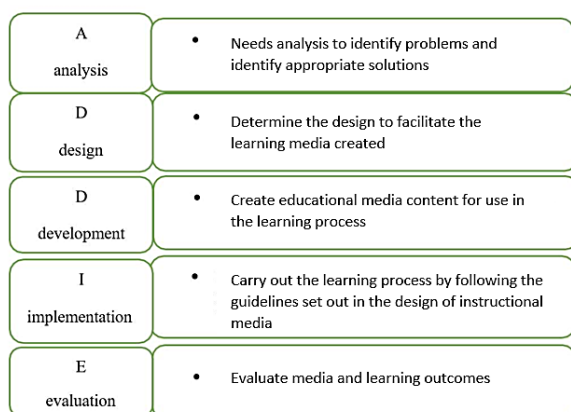
Based on 1st Flipbook Creator Pro, the Crochet Pocketbook is a digital pocketbook created using the 1st Flipbook Creator Pro software. The displayed videos and images in learning materials were relevant to the subject to make students understand the ongoing material better. Learning became more diverse, which increased students' understanding of the material.

This learning media is straightforward because it does not use a particular programming language. It can be used by importing a PDF file or image, which the PDF file will turn into an HTML5 digital book that can be shared via a link.

In the 1st Flipbook Creator Pro-Based Crochet Pocketbook learning media, the developed material was basic crochet technique material and its application.

2. RESEARCH METHOD

This study used the development method and the ADDIE model. According to Sugiyono [14], the purpose of Research and Development (R&D) purpose is to make certain products and test whether they can be used effectively or not. The ADDIE model has five stages as shown in Figure 1

Figure 1 The ADDIE Model Development Research Stages.

2.1. Research and Development Procedure

2.1.1. Analysis

The analysis stage was carried out by observing the students who did not master the basic crochet techniques and their symbols, causing them to be confused in applying basic stitch variations to produce finished items. Thus, learning media was needed to help. The learning media that would be developed was the Crochet Pocketbook based on the 1st Flipbook Creator Pro to can help the teaching and learning process and achieving essential competencies in the Accessories course, especially crochet material

2.1.2. Design

The next stage was to prepare the design of the Crochet Pocketbook to achieve the goals. This design stage resulted in flowcharts and storyboards to make the Crochet Pocketbook easier.

2.1.3. Development

To assess the feasibility of Crochet Pocketbook learning media, the researchers conducted a validation test with the help of media experts and material experts and conducted revisions after.

2.1.4. Implementation

At the implementation stage, the revised learning media following the media experts' and material experts' suggestions was tried out on Class of 2018 A and B students who have taken the Accessories courses.

2.1.5. Evaluation

This stage evaluates the media from the first to the fifth stage. The observational data was consulted with the supervisor (stage 1: analysis); performed consultation with experts (course lecturers and learning media experts) (stage 2: design); analyzed data from the validation test results to material experts and media experts (state 3: development); analyzed data from field trials to see the responses of learning media from students (stage 4: implementation); and evaluating learning media based on the results of field trials as well as criticism and suggestions from students for product feasibility (stage 5: evaluation).

2.2. Data Analysis Technique

This study first calculated the average value from the results of field trials and expert validation tests. The formula for finding the average, according to Sudjana [19] is as follows:

$$x = \frac{\sum xi}{k} \qquad (1)$$

Description :
χ = Average
Σxi = Total data
k = Number of data

The average data percentage was determined using the formula of Arikunto [20] below:

$$P\frac{\sum x}{\sum. xi} \; x \; 100\% \qquad (2)$$

Description:
P = Percentage
Σx = Numbers of answer
Σxi = Numbers of the ideal answer
100% = Constant

The percentage data were divided into Table 1. below

Table 1. Criteria of The Percentage Data.

Percentage	Score Interval	Assessment Criteria
80% - 100%	3.2 – 4.0	Very Feasible
66% - 79%	2.6 – 3.1	Feasible
56% - 65%	2.2 – 2.5	Less Feasible
40% - 55%	1.6 – 2.1	Not Feasible
0% - 39%	1.2 – 1.5	Very Inappropriate

The validation results from the material experts through the above calculations obtained a total score of 49 and an ideal score of 80. It also obtained an average criterion result of 2.45 and a percentage of 61.25%; both fell under quite feasible qualifications. Next, the learning media was revised to align with criticism and suggestions from material experts.

The media expert validation obtained a total score of 76 and an ideal score of 80. The average criterion result was 3.85 with very decent qualifications and the percentage of 95% with very feasible qualifications. There were no criticisms or suggestions from media experts.

3. ANALYSIS RESULTS AND DISCUSSION

Trials were performed on 30 students from the Class of 2018 A and B who enrolled in the Fashion Education Undergraduate Study Program Universitas Negeri Malang and had taken the Accessories course. The research instrument was a questionnaire containing 20 statements distributed via the Google form to assess learning media thoroughly.
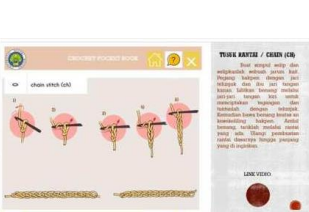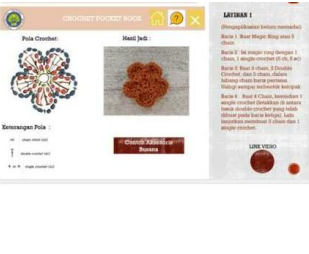
The content and goals aspects scored 552 out of an ideal score of 600. The instructional aspect obtained a 330 out of an ideal score of 360 (91.7%) or in the very feasible category. The trial results with a total of 20 items questions consisting of 3 aspects received a total score of 91.2%. Hence, the 1st Flipbook Creator Pro-Based Crochet Pocketbook learning media was declared very feasible.

3.1. Media Development Result Description

The tutorial video display after revision is described in Table 2.

Table 2. The Updated Learning Media Display.

No	Media Display	Information
1		Portrait views on the smartphone screen
		Landscape views on the smartphone screen
2.		Adding SAP fashion accessories
3.		Addition of various sizes of hook needles
4.		Addition of yarn types and yarn characteristics
5.		Replace the crochet symbol with a more obvious one
6.		Additional examples of the application of knitted flowers in fashion accessories
7		Finished result

3.2. Discussion

The study resulted in the Crochet Pocketbook based on 1st Flipbook Creator Pro. The media was digital-based using the 1st Flipbook Creator Pro software, which can be accessed via Smartphone or PC. The main target in the development was undergraduate Fashion Education students at the Universitas Negeri Malang, especially those taking the Accessories course, especially crochet material lessons. The development used the ADDIE development model after several stages of development.

This media served to ease students' access to crochet material anywhere and anytime as long as there is internet access, making it more effective and efficient. This learning media was equipped with crochet illustrations, explanations, symbols, and crochet tutorial videos to make it easier for students to understand crochet material. As Daryanto [21] said, the benefits of using learning media include: (1) ease in conveying messages and (2) mobile or can be carried anywhere. Digital flipbook is a learning media that can bring audio and visual together [22] [23]. It can make students to be more interested in learning. Flipbook-style teaching materials allow teachers to convey the teaching material clearly and well without being boring [24].

The materials in the Crochet Pocketbook covered basic knitting techniques, including (1) Introduction to Tools and Materials, (2) Basic Techniques, (3) Chain Stitch Crochet, (4) Basic Single Stitch Crochet Techniques, (5) Basic Double Stitch Crochet Techniques, (6) Basic Half Double Stitch Crochet Technique, (7) Basic Treble Stitch Crochet Technique, (8) Basic Slip Stitch Crochet Technique, and (9) reading patterns through applying basic crochet techniques in crochet patterns practice.

After being declared valid by media and material experts, the media was tested on the students. The results were declared quite feasible (61.25%) in the material aspect and very feasible in the media aspect (95%).

The trial resulted in 91.2% total from 20 questions of 3 aspects; thus, the learning media was declared very feasible. The content and goals aspects received a 552 out of an ideal score of 600 (92%) or in the very feasible. The instructional aspect obtained a 330 out of an ideal score of 360 (91.7%) or in the very feasible category. The technical quality aspect scored 1309 out of a maximum of 1440 (90.9%) or in the very feasible category. The Crochet Pocketbook had a maximum score of 1440, with a percentage of 90.9%, and it was declared very feasible.

Based on this description, it can be stated that Crochet Pocketbook was very feasible in content quality and objectives, instructional quality aspects, and technical quality aspects. It showed that the media was very interactive, improving students' understanding and skills [24]. Many studies have shown an increase in understanding of using flipbook media [22]. Rasiman [25] mentioned increased student learning activities using flipbook learning media. Digital flipbook media in the social studies field on material about "The Beauty of Diversity in My Country" class IV was very appropriate to be applied as a learning tool, according to Sari and Ahmad [26] . The usage of flipbook digital learning media is an intelligent solution to present an atmosphere of learning in the classroom that is more interesting, communicative, and interactive and supports students' understanding of the material the teacher conveys [11] [27].

4. CONCLUSION

The 1st Flipbook Creator Pro-Based Crochet Pocketbook Learning Media was developed according to ADDIE research procedures, including analysis, design planning, experts' validation, product testing, and product evaluation stages. The media was declared quite feasible in the material aspect and very feasible in the media aspect. It showed that the media met the criteria as a learning media. The trial resulted in 91.2% total from 20 questions of 3 aspects; thus, the learning media was declared very feasible. This media utilization advantage is that it can be used anytime and anywhere. It also can be accessed via smartphones and PCs as long as they are connected to the internet.

REFERENCES

[1] Munir, Pembelajaran Digital, CV Alfabeta,Bandung, 2017.

[2] S. Malik and A. Agarwal, Use of multimedia as a new educational technology tool–A study, *IJIET*, 2012, pp. 468–471. DOI: 10.7763/IJIET.2012.V2.181.

[3] V. NiThyanantham, R. Paulmony, and S. Ramadan Hasan, Self-perspective of 21st century educators: a challenge in the globalised educational world, International Journal of Educational Research Review, 4(3), 2019 pp. 325–333. DOI: 10.24331/ijere.573869.

[4] Roemintoyo, M. K. Budiarto, Flipbook as innovation of digital learning media: preparing education for facing and facilitating 21st century learning, Journal of Education Technology, 5(1), 2021, pp. 8–13.

[5] K. Ishaq, N. A. M. Zin, F. Rosdi, A. Abid, and M. Ijaz, The impact of ICT on students' academic performance in public private sector Universities of Pakistan, IJITEE, 9(3), 2020, pp. 1117–1121. DOI: 10.35940/ijitee.C8093.019320.

[6] I. Hardini, Strategi pembelajaran terpadu teori, konsep dan implementasi, Familia, Yogyakarta, 2017.

[7] Dimyati and Mudjiono, Belajar dan pembelajaran, Departemen Pendidikan & Kebudayaan, Rineka Cipta, Jakarta, 1999.

[8] N. Hartika, Pengembangan modul pembelajaran pembuatan rajutan dan kaitan pada mata pelajaran tekstil siswa kelas X busana butik di SMK Negeri 3 Klaten, Thesis, Universitas Negeri Yogyakarta, 2016.

[9] A. A. Widyaningrum, Perancangan buku 'love of crochet' berbasis infografis tentang tutorial merajut untuk pemula, Universitas Negeri Malang, Malang, 2018.

[10] R.R. Rahmat, and D. Tresnawati, Pengembangan media pembelajaran merajut teknik knitting menggunakan sistem multimedia berbasis desktop, Jurnal Algoritma Sekolah Tinggi Teknologi Garut, 12(1), 2015.

[11] M. A. Amanullah, Pengembangan media pembelajaran flipbook digital guna menunjang proses pembelajaran di era revolusi industri 4.0, DPP, 8(1), 2020, pp.37. DOI: 10.24269/dpp.v0i0.2300

[12] R. Vebrianto and K. Osman, The effect of multiple media instruction in improving students' science process skill and achievement, Procedia - Social and Behavioral Sciences, vol. 15, 2011, pp. 346–350. DOI: 10.1016/j.sbspro.2011.03.099

[13] M. K. Budiarto, H. Joebagio, and Sudiyanto, Integration of Interactive Multimedia with Local Potential as a Learning Innovation in Digital Era, in Proceedings of the 4th International Conference on Arts Language and Culture (ICALC 2019), Solo, Indonesia. DOI: 10.2991/assehr.k.200323.040.

[14] Sugiyono, Metode Penelitian Kuantitatif, Kualitatif, dan R&D, CV. Alfabeta, Bandung, 2019.

[15] Sujadi, Metode Penelitian Pendidikan, Rineka Cipta, Jakarta, 2003.

[16] R. Rahmawati, I. C. Hermawan, and T. Sulaeman, Pengaruh media massa terhadap kesadaran berpolitik siswa di SMK Negeri 1 Cianjur, Integralistik, 30(2), 2019, pp. 107–112. DOI: 10.15294/integralistik.v30i2.20872.

[17] Musfiqon, Pengembangan Media dan Sumber Pembelajaran, PT Prestasi Pustakarya, Jakarta, 2012.

[18] A. Arsyad, Media pembelajaran, Ed. Revisi. PT Raja Grafindo Persada, Jakarta, 2015.

[19] N. Sudjana, A. Rivai, Media pengajaran, Sinar Baru Algensindo, Bandung, 2005.

[20] S. Arikunto, Prosedur penelitian suatu pendekatan praktik. Rineka Cipta, Jakarta, 2013.

[21] Daryanto, Media pembelajaran : peranannya sangat penting dalam mencapai tujuan pembelajaran, Gava Media, Yogyakarta, 2016.

[22] B. Afwan, N. Suryani, and D. T. Ardianto, The development of digital flipbook media based on the 5 hours battle of kalianda upon high school history materials, BIRCI, 3(2), 2020. pp. 1003–1012. DOI: 10.33258/birci.v3i2.930.

[23] R. Riyanto, M. Amin, H. Suwono, and U. Lestari, The new face of digital books in genetic learning: a preliminary development study for students' critical thinking, Int. J. Emerg. Technol. Learn, 15(10), 2020, p. 175 DOI: 10.3991/ijet.v15i10.14321.

[24] L. Purwaningsih, A Hadianti, M Marsini, Prototype design flipbook media in teaching grammar 'simple past tense, Indonesian EFL Journal, 8(2), 2022, pp. 287–294, 2022. DOI: https://doi.org/10.25134/ieflj.v8i2.6490.

[25] Rasiman, Efektivitas resourcebased learning berbantuan flip book maker dalam pembelajaran matematika SMA, Jurnal Karya Pendidikan Matematika, 1(2), 2014, pp. 34–41.

[26] W. N. Sari, and M. Ahmad, Pengenmbangan media pembelajaran flipbook digital di sekolah dasar, Jurnal Ilmu Pendidikan, 3(5), 2021.

[27] D. T. S. Ni'mah, S. Sutrisno, and A. Shodiqin, Pengembangan modul matematika berbantu flipbook maker dan prezi dengan model kooperatif teknik kancing gemerincing pada materi peluang SMK kelas X, AKS, 6(2), 2017, p. 18, 2017. DOI: 10.26877/aks.v6i2.1399.