

Career decisions for vocational students through self-efficacy development in the form of electronic publications

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Abstract: Career decisions making is an important thing. Today, many media can be developed to help make the right career decision; one of them is an electronic publication. This research aims to establish an electronic publication (epub) of career decision-making self-efficacy guidance. The development model used was the Borg & Gall model. The initial try out reveals high product validity while the student tries out demonstrates a very accurate, practical, feasible, and fascinating interpretation. The results show that the epub formed career decision-making self-efficacy guidance has fulfilled the theoretical acceptance and practicality aspects; thus, it can be used by the counsellors and students in the career guidance program.

Keywords: career decision; epub; self-efficacy

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INTRODUCTION

Indonesia's unemployment number reached 7,005,262 in 2016, with 1,383,022 open unemployment come from vocational high school graduates (Badan Pusat Statistik, 2017). This shows that vocational graduates' absorption level still has not reached the target to produce equipped workforces, as mentioned in Indonesia Law No. 20, the Year 2003 (Undang-Undang Republik Indonesia Nomor 20 Tahun 2003 Tentang Sistem Pendidikan Nasional, 2003). Open unemployment, according to Hussmanns et al., (1990), are: (1) those who do not have a job, but still look for one, (2) those who do not have a job, while preparing a business, (3) those who do not have a job and do not look for it, since they think they are incapable of getting one, and (4) those who have a job, but has not started working. Therefore, an interview with State Vocational High School 2 Malang, as one of the schools that have implemented ISO 9001:2008, was conducted.

Results of an interview with school counsellors exhibit that 50% of students wanted to continue their studies, while the other 50% decided to work. However, many students were still confused about getting a career suitable for their situation. Besides, some of the students said that they only followed their friend in deciding their program, as well as their career, in an interview conducted with 11th graders taking tourism business programs. The interview results show 24 out of 34 students experienced uncertainties in deciding relevant careers for their potential. Generally, they planned to go to college, find a job, or start a business. However, they could not specifically explain their career decision making. Thus, it indicates uncertainties in their career decision making.

Other than that, students' confusion in deciding career is related to their career decision-making self-efficacy. Self-efficacy in career decision-making explained by Hackett and Betz (1995) as Career Decision Making Self-Efficacy (CDMSE). CDMSE is someone's belief that he can effectively accomplish the required tasks in the career decision-making process (Taylor & Betz, 1983). Additionally, a questionnaire was also given to 72 students taking the nursing and tourism business program of State

Vocational High School 2 Malang. The result of that questionnaire demonstrates that there were 53%, 33%, and 53% of students with average, low, and high career decision-making self-efficacy, respectively. Students with robust career decision-making self-efficacy can be more active in getting career achievements than those with weak career decision-making self-efficacy (Betz, 2004).

Currently, career decision-making self-efficacy is accelerated through various means, such as (1) training (Bresó et al., 2011; Brockway et al., 2017; Novita & Hidayah, 2016; Olander et al., 2013; Williams & French, 2011), (2) learning (Lee et al., 2016; Sung & Hwang, 2013), (3) counselling (Dewi et al., 2016), as well as (4) creation of guidance package (Setyaputri et al., 2016). However, from those techniques, people have not tried to use electronic guidance package in the form of electronic publication (epub). Epub can be developed with various dimensions of career decision-making self-efficacy, such as realistic self-assessment, occupational information, goal selection, as well as planning and problem-solving skill.

In this research, the epub was produced in the form of guidelines for school counsellors and students. The counselling step used to develop the career decision-making self-efficacy dimension was the problem-based learning method promoted by Barrows and Tamblyn (1980). Those steps are students' orientation to the problem, learning organization, individual or group investigation guidance, work creation, and presentation, along with problem-solving analysis and evaluation. This problem-based method was used to facilitate students to solve problems and develop critical thinking skills independently. All of those methods and dimensions were placed in an epub formed guidance package. In addition, the epub format was chosen due to its various fundamental features applicable to be used for vocational high school students as Z generations.

Some of the epub's superior features are open and free access; available various epub reader platforms in many devices; available epub creation software; supports audio and video; provides text size setting, and supports digital right management system that limits digital devices. Therefore, this research aims to develop epub formed career decision-making self-efficacy guidance package.

METHOD

The development model used was the Borg and Gall (1983) model. The design development steps of Borg and Gall model are (1) research and information collection, including referring to relevant sources and literature; (2) planning, containing expertise and order definition; (3) initial product development; (4) initial trial product development; (5) initial model revision based on suggestions and results of the first model field try out; (6) primary field try-out; (7) product operational revision; (8) functional field testing or retrieval; (9) final product revision, (10) dissemination and distribution, as well as implementation.

The epub guidance package was developed using Gall et al. (2003) development model, adjusted with the need of this product development. There were some phases of this development design. First, conducting research and information collection in the need assessment phase through unstructured interviews with school counselors and students, as well as distributed questionnaires to 72 tenth and eleventh graders. Second, planning, where the product's development purpose and steps were planned, along with the required resources. Third, developing an initial product that subsists of five topics according to the career decision-making self-efficacy dimensions. Each of those topics has five guidance steps, according to the chosen problem-based learning method. Fourth, the initial field tries out or a product trial by experts. In this research, there were two guidance and counselling experts involved. Besides, there were also media experts from education technology and the designated product users (school counsellors and students) involved. Fifth, product revision based on the field try out results. This revision was completed after the initial trial based on the suggestions from the tester and designated product users. Last of all, the final product of epub career decision-making self-efficacy guidance package for vocational high school students.

The product trial was conducted to investigate the product acceptance validity, consisting of accuracy, practicality, feasibility, and attractiveness. It was attended by content and media experts, as well as the product designated users, aiming to improve the product's quality and concession. This trial involved content and media experts. After a revision based on the experts' trial, then a trial involving designated users, the school counsellors of State Vocational High School 2 Malang, was conducted. Additionally, students' opinion was also required in this trial. Thus, 14 students who will use this

product was also included in this trial process. The trial subjects in this development were two content experts who are practitioners and educators in the counselling and guidance field with a master's degree, at minimum. The media experts test involved two media experts with also a master's degree in educational technology, at minimum. Those experts have at least ten years of experience in each of their fields. Besides, school counsellors as the provider of guidance and counselling services who direct students in the career decision-making were also involved. The other trial subjects were 15 students of State Vocational School 2 Malang, comprising seven tenth graders from the nursing program and seven eleventh graders from the tourism business program.

The data in this research were quantitative and descriptive. The quantitative data were obtained from the table with a scoring scale of 1–4, subsisting of accuracy, practicality, feasibility, and attractiveness. On the other hand, the descriptive data were gathered from comments, critics, and suggestions for product improvement. The data collection instrument in this research and development was questionnaires. The instrument was used to obtain quantitative and descriptive data. The data was later interpreted by experts to reveal the product acceptance validity according to guidance and counselling, as well as education technology experts, along with students and school counsellors as the designated users. The order of scoring statements in each questionnaire was different, adjusted to each expert, and designated users.

The data analysis technique used in this research was the inter-rater agreement by Gregory (2011). This technique was used to see the relevance between expert 1 and 2, as presented in Figure 1, with Formula 1. As shown in Figure 1, A represents low relevance between expert 1 and 2; B means high relevance from expert one and low relevance from expert 2; C explains low relevance from expert 1 and high relevance from expert 2, and D means high relevance between expert 1 and 2. The interpretation of quality product analysis was drawn according to validity criteria using conversion shown in Table 1.

		Content Expert 1 Opinion	
		Low Relevance (1-2)	High Relevance (3-4)
Content Expert 2 Opinion	Low Relevance (1-2)	A = 0	B = 0
	High Relevance (3-4)	C = 1	D = 31

Figure 1. Interrater Agreement Model

$$\text{Expert Testing Index} = \frac{D}{A+B+C+D} \tag{1}$$

Table 1. Classification Percentage of Data Analysis Results

No.	Score Range	Category	Description
1.	0.75 – 1.00	Very High	Can be used without any revision
2.	0.50 – 0.74	High	Can be used after a minor revision
3.	0.25 – 0.49	Moderate	Can not be used
4.	0.00 – 0.24	Low	Forbidden to be used

RESULTS AND DISCUSSION

Results

Need Assessment

Results of the interview with school counsellors and students show that some students were not sure about deciding a career suitable for their self-potential. Other than the interview, the career decision-making self-efficacy questionnaire was also distributed toward 72 students from the tenth-grade nursing program and eleventh-grade tourism business program. The results reveal that 53%, 33%, and 14% of the students have low, moderate, and high career decision-making self-efficacy, respectively.

Validity Data from Guidance and Counseling Experts

The quantitative data from guidance and counselling experts validation shows that from 32 statements, there are 0 items with low relevance between expert 1 and 2 (A), as well as with high relevance from expert 1 and low relevance from expert 2 (B). On the other hand, there is 1 item with low relevance from expert 1 and high relevance from expert 2 (C). The remaining 31 items have high relevance between expert 1 and 2 (D). After that, the data were calculated using an inter-rater agreement model, obtaining a 0.97 result. Therefore, this product has a very high validity. According to the two content experts, the epub formed career decision-making self-efficacy guidance package has high acceptance. The descriptive data obtained in the form of suggestion are the language adjustment based on students' development level, colour presentation, and the step completeness in planning career purpose.

Media Validity Data

Results of media experts validation reveal that from 19 statements, the item with low relevance between expert 1 and 2 (A) = 0. Besides, the item with high relevance from expert 1 and low relevance from expert 2 (B) = 1, along with the item with low relevance from expert 1 and high relevance from expert 2 (C) = 1. While item with high relevance between expert 1 and 2 (D) = 17. Additionally, a calculation was performed, resulting in a 0.89 score interpreted as a product with high validity according to media experts testing. Thus, the product has fulfilled the acceptance aspect as the counselling media for vocational high school students. The descriptive data obtained are the additional guidelines for application installation, cover picture adjustment to the title, as well as extra colour contrast.

Trial Data from School Counselors

The quantitative data results from the school counsellors as the designated user show there is 0 item with low relevance between expert 1 and 2 (A), with high relevance from expert 1 and low relevance from expert 2 (B), as well as with low relevance from expert 1 and high relevance from expert 2 (C). All of the 20 items have high relevance between expert 1 and 2 (D). After a calculation using the inter-rater agreement model was performed, the result of the school counsellor assessment is 1. Therefore, the epub formed guidance package has a high validity level, according to the school counsellors. In other words, the epub formed guidance package has a high acceptance level as a media in developing career decision-making self-efficacy. The descriptive data in the form of suggestion is the additional video for the program preference.

Discussion

On previous study, epub can be used to develop a learning media on the basic programming course (Wirasmita & Uska, 2017). Those result encourage us to develop epub formed career decision-making self-efficacy guidance. The products produced in this research are two types of epub guidance package used for counsellors and students guidelines. The counsellor's guidance consists of (1) instruction for use containing general and special guide; (2) five topics of counselling service implementation plan, with identity, basic competences, guidance purpose, steps of activities, activities, materials, and evaluation, in each topic; and (3) closing, consisting of conclusions and suggestions. On the other hand, the student's guideline includes (1) introduction that covers background and counselling topics; (2) career decision-making self-efficacy guidance subsisting of basic competences, counselling purposes, steps of activities, activities, materials, and evaluation; (3) closing, consisting of conclusions and suggestions. The product was later tried out to see its accuracy, practicality, feasibility, and attractiveness.

This epub career decision-making self-efficacy guidance package has five topics. The first topic is **understanding career decision-making self-efficacy**. This topic helps students to know the definition of career decision-making self-efficacy and how their career decision-making self-efficacy accompanied by steps of the problem-based learning method. The second topic is **identifying career decision-making self-efficacy**. This topic facilitates students to comprehend their skills and interest related to self-efficacy dimensions. Those dimensions cover students' psychology and physiology condition that affect their performance in finishing their tasks. The third topic is **universities, occupational, and entrepreneurship information**. This topic is based on substitute experience dimensions related to external information about universities, types of jobs, and various entrepreneurship

respondents. Besides, this topic also contains a mastery experience dimension that students have practically learned during industrial work practices. The fourth topic is **planning my career purpose**. This topic has a verbal persuasion dimension where students realistically evaluate and study the design of their career purposes and realize them. The fifth topic is **planning my career**. This topic also consists of a verbal persuasion dimension with completed tasks evaluation, along with realistic consideration, physiological and psychological state. The mental and physiological state involves health, emotion, and other situation that can be considered in the career decision-making process. Besides, it also discusses self-experience and other people's experiences about the advantages and disadvantages of a career field. In addition, those dimensions are transformed into real actions to achieve an excellent career.

The acceptance test completed in this research was a content expert test by two guidance and counselling lecturers, as well as two media experts, who are technology education lecturers, with acceptability questionnaire as the instrument. The instrument was designed to obtain quantitative and descriptive data about the product's quality. The results of that test were analyzed to gain an agreement between the experts using the inter-rater agreement model (Gregory, 2011). Results of content and media experts' analysis revealed that the epub career decision-making self-efficacy guidance package has a high acceptance level of 0,97. Therefore, the product has fulfilled accuracy, practicality, feasibility, and attractiveness criteria to be used by school counsellors and students during the counselling activity aiming to accelerate self-efficacy in career planning suitable for their potential.

The compliance of the accuracy aspect for this product comprises the accuracy of the epub material according to career decision-making self-efficacy dimensions (Hackett & Betz, 1995). Those dimensions are realistic self-appraisal skills that help students to find their self-potential (Reddan, 2015), occupational information that enables students to find every information related to the job (Reese & Miller, 2006), and further education or entrepreneurship information relevant for them. Other than those, it also includes goal selection where students design their short- and long-term career goal (Kim & Jyung, 2012), planning skills where students plan the real steps to realize their career goals (Talib et al., 2016), and the problem-solving capabilities that are the ability to solve problems during the process of achieving their goals (Yang et al., 2015). These materials were prepared to help students to have high confidence in deciding their career based on their potential.

This epub guidance package was intended to be a useful media for school counsellors and students during the gradual counselling process using the problem-based learning method. The use of epub in the problem-based learning method has often been found (Bozarova et al., 2020; Haryanti et al., 2020; S.-H. Huang et al., 2015; Y.-H. Huang et al., 2018; Lin et al., 2017). Through this method, the counselling activity (Sanjaya, 2016): (1) challenges students' skill and provides satisfaction in finding new knowledge, (2) improves students' motivation and learning activities, (3) helps students in transferring their knowledge to comprehend the real-world problems, (4) helps students to establish new knowledge and become responsible for their learning. Other than those, it also: (5) encourages students to do excellent self-assessment on their learning process and result, (6) develops students critical thinking and new knowledge adjustment skill, (7) gives opportunities for students to apply their knowledge in the real world, (8) continuously develops students' interest even after they graduate from last formal education, and (9) eases students to master the concepts learned to solve problems in this world.

This product was intended to be easily used since it has general and specific instruction in both counsellor's and student's guidelines. Besides, it also has easily comprehended language and materials applicable to problem-based learning steps. Additionally, it also fulfils the attractiveness aspect with its picture illustration, colour, and video presented according to the materials (Kosterelioglu, 2016; Tiwasing et al., 2014). The media experts' test results show that the epub career decision-making self-efficacy guidance package has been adjusted with a current epub digital book. The current digital book commonly has a flexible background colour, text size, video playing, text designation, and compliant screen size (Bartalesi & Leporini, 2015; Leporini et al., 2019; Leporini & Meattini, 2019). The cover was also accustomed with the content of the package (Cuesta, 2015; Gudiniavičius & Šuminas, 2018; Tahir et al., 2018), starting from the package title with career preferences, going to universities, and being an entrepreneur illustration that transforms the product to be more enticing. Other than those, there is a video in each topic as information reference in observing career decision-making self-

efficacy problems and knowledge. This is because a video has been found sufficient to accelerate self-efficacy (Gold et al., 2017; Gröschner et al., 2018; Joventino et al., 2017).

The epub format was chosen to adapt to vocational high school students' characteristics as the Z generation. This generation puts internet technology as its dominant necessity to get information and have a social network (Marie & Kaur, 2020; Mládková, 2017). The observation results in State Vocational High School 2 Malang demonstrates that nine out of ten students use smartphones as their gadget preference to access the internet and social media. According to Egnatoff and Tapscott (1998) (1998), z generation is those who are born in 1998-2009 and grow with technology. This generation interacts with their colleague across the world through text and videos, accesses high-speed information, and intensely uses handphones. Therefore, this guidance package was established in the form of an epub that rapidly develops due to its flexible features in colour, video, audio, text size, and animation display. Consequently, this product is expected to attract students' interest and stimulate their liveliness during counselling services.

In addition to the quantitative data, descriptive data from experts and designated user testing was also obtained in the form of suggestions, critics, and comments for the product improvement. The content experts' suggestions cover the language adjustment to students' development level, the color display, and the completeness of career planning steps. Besides, the recommendation from media experts includes additional instruction for the application installation and adaptability of the cover and the title. Thus, according to the explanation of the revised version of the product, the epub career decision-making self-efficacy guidance package for vocational high school students has theoretically and practically fulfilled the acceptance aspect.

CONCLUSION

The epub of career decision-making self-efficacy guidance package for vocational high school students has a theoretical and practical acceptance aspect. Therefore, it can be used as media for counsellors and students in career guidance activity, primarily to improve students' career decision-making self-efficacy. Future researchers are suggested to develop epub formed career decision-making self-efficacy guidance package following the changes that cover various types of vocational high school students. Besides, they are also recommended to conduct product effectivity testing to improve product quality and usability.

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