

The Development of Computer-Based Career Guidance Application Program for Senior High School Students

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Abstract. The purpose of this research is to find a solution to the problem of senior high school students, by developing an application program of computer-based career guidance as a tool to increase the intensity of senior high school students' self-knowledge, career-knowledge, and independence in career choice, which meets three criteria: utility, feasibility, and accuracy. The method of this research is categorized as research of development using a development model that is adapted from Dick and Carey model of which includes three stages: pre-development stage, stage of development, and post-development stage. The results showed that the application program of computer-based career guidance meets the criteria of utility, feasibility, and accuracy with an average score of very good category. Application program development of computer-based career guidance is a positive response to the needs of students and the development of science and technology.

Keywords: *Career Guidance, Application, Senior High School*

I. INTRODUCTION

Factors that cause the failure of senior high school students in choosing a career are the lack of ability to self-knowledge and career-knowledge. The failure of students to perform self-knowledge, career-knowledge, and lack of independence in choosing a career adversely affect the process of career education. If this is not addressed, it can lead to unemployment, and unemployment on the other hand will lead to poverty widely influential on social problems such as social unrest, rising crime, and social disparity [1, 10, 16].

Hartono doing research with 90 students of SMA Negeri 10 Surabaya as samples obtained that there was a significant positive correlation jointly between aspects of self-knowledge, career-knowledge, and the independence aspect in career choice [6]. In 2012, Hartono (2012) also conducted a study on 148 high school students in Surabaya. He found that aspects of self-knowledge and aspects of career-knowledge of students were significantly positively correlated with the intensity of career choice patterns. Senior high school as a formal educational institution in the school track has a very strategic position in shaping the human resources who have high competitiveness [2, 9]. Usual senior high school students gain adequate educational services, including career guidance

services using computer technology as a tool, so that the students are able to choose the right career which matches with their interests, talents, intelligence, personality characteristics, and the environment that in the future they are able to achieve and develop the profession they might achieved.

This study aimed to develop a computer-based career guidance application program as an intelligent solution to help high school students in overcoming difficulties for self-knowledge, career-knowledge, and making career decisions, which have the specification (1) as self-help tool to help high school students (2) in the form of software with a presentation of structured materials and can be on-line, so that high school student users can be more creative in the exploration of a career that is looking for information about colleges of interest (majors/ study program, curriculum, graduate competence, tuition fees, lecture facilities, extracurricular activities, the world of work, prospects, job opportunities after graduation, how to achieve them, constraints and how to overcome these obstacles), (3) containing a self-knowledge program, career-knowledge program, and career decision-making program, (4) the material can be updated, (5) having a manual or operating manual, and (6) the role of counselor as facilitator, mediator, and resource person [4]. Currently in Indonesia there is no a career guidance application program which is implemented to high school students. It needs the development of computer-based career guidance application program that meets the criteria of utility, feasibility, and accuracy, using research development methods as a positive response in the knowledge-based era society [14] characterized by the rapid use of science and technology in performing various career activities in the midst of community life. The application of this program in high school will enable students to achieve independence in choosing a career that is in accordance with its potential, so that they are able to develop their potential to become a generation of nation cadres who have competitive ability to other nations in the world.

II. METHOD

The study was categorized as a research development using a model of development which adapted from the model of Dick and Carey [4] as described in Figure 1 as follows.

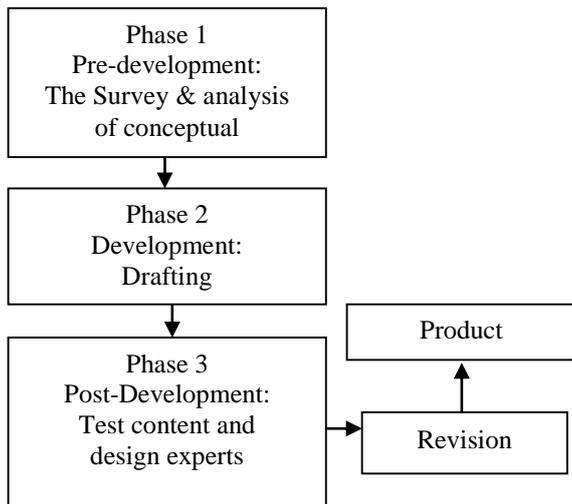


Fig. 1. Model of development adapted from Dick and Carey

Fig 1. The research stages of development consist of three phases: phase 1 pre-development, phase 2 development, and phase 3 post-development. A survey was conducted in pre-development stage and conceptual analysis of the needs of senior high school students on career guidance services which underlay the need for the development of application programs of computer-based career guidance for senior high school students. Phase 2 is development. This stage performed drafting of career guidance materials, measurement scale (scale of self-knowledge, career-knowledge scale, and scale independence in career choice), software of career guidance, and application guide. Phase 3 is the phase of post-development. At this stage, experts tested the content and design to draft materials, software, and manual application of computer-based career guidance. On the basis of expert test, repairs were conducted to result the product of application program of computer-based career guidance.

Samples (respondent) in this study were determined to be purposive sampling, two content experts, and two design experts. Data were collected using a questionnaire which had been prepared by the researchers based on three criteria: utility, feasibility, and accuracy. Content expert questionnaire which measured the content expert opinion based on the criteria of utility contained 11 statements, based on the feasibility criteria contained 10 statements, and based on the criteria of accuracy contained 10 statements. Questionnaire of design experts which measured the expert opinion based on the criteria of utility contained 11 statements, based on the feasibility criteria contained 11 statements, and based on the criteria of accuracy contained 11 statements.

The data were analyzed with descriptive statistics using current [11]. The percentage of the average score of 0%-25%

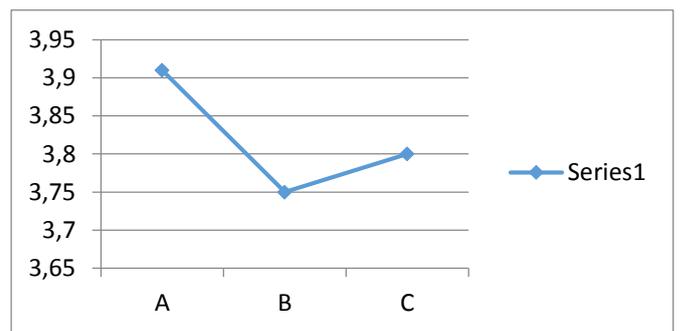
was categorized as less, 26%-50% was categorized as enough, 51%-75% was categorized as good, and 76%-100% was categorized as very good [4].

III. RESULTS AND DISCUSSION

3.1 Results of research

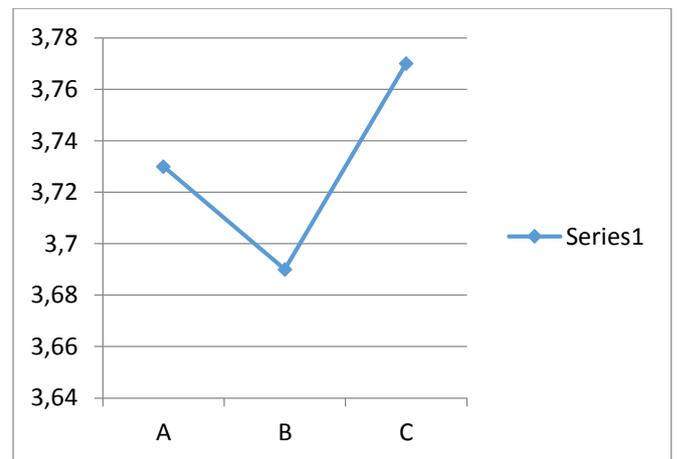
The results of content experts and design experts' tests to draft an application program of computer-based career guidance with a scale of 1-4 (1: less; 2: enough; 3: good; 4: very good) are outlined in Figure 2 and 3.

According to figure 2 above, the mean score of content experts tests to application program of computer-based career guidance based on the criteria of utility (A) of 3.91 or 97.75%; feasibility criteria (B) of 3.75 or 93.75%; and accuracy criteria (C) of 3.80 or 95%. The average score for the content expert test results based on the criteria of utility, feasibility, and accuracy is 3.82 or 95.5% in the very good category.



^d. A = Criteria of utility
^b. B = Criteria of feasibility
^c. C = Criteria of accuracy

Fig. 2. The mean score on the test result of content expert on application program of computer-based career guidance (N = 2)



^d. A = Criteria of utility
^e. B = Criteria of feasibility
^f. C = Criteria of accuracy

Fig. 3. The mean score on test result of design expert on application program of computer-based career guidance (N = 2)

According to figure 3 above, the mean score of design experts tests to application program of computer-based career guidance based on the criteria of utility (A) of 3.73 or 93.25%; feasibility criteria (B) of 3.69 or 92.25%; and accuracy criteria (C) of 3.77 or 94.25%. The mean score for the design expert test results based on criteria of utility, feasibility, and accuracy is 3.73 or 93.25% in the very good category.

3.2 Discussion

According to Sharf (2013) the implications of career decision made the theory for counselors varied. Counselors need to apply appropriate approaches for the uniqueness and needs of clients [13]. Cognitive Information Processing Theory (CIP) is a theory of career decision making [7] relating to computer-based career guidance. According to CIP theory, career choices involve four domains: self-knowledge, career-knowledge, decision making, and executive processing. The development of computer-based career guidance application program for high school students is an effort to assist students in improving their independence of career decision making, so that they are able to choose a career field that suits their potential. This developed application program contains three programs: self-knowledge program, career-knowledge program, and career decision-making program.

Self-knowledge and career-knowledge are important requirements in the career decision-making process [12]. The results of Hartono (2010) in senior high school students showed that self-knowledge and career-knowledge are positively correlated, positively significant with the independence of career decision making. The results of Malgwi, Howe, and Burnaby's research in Hartono [13] also showed that student career decisions making were influenced by aspects of self-knowledge and aspects of understanding of career conditions. Aspects of self-knowledge include understanding of interest, ability, personality, self-efficacy, while aspects of understanding of career conditions include salary levels and potential job opportunities. The results of Hirschi and Lage (2008) studies in adolescents showed that career readiness could be significantly improved through career training using self-knowledge module, career-knowledge module, and career decision process module. Study results of Tansley, Jome, Haase, and Martens (2007) indicated that written persuasive messages enhanced college students' career decision-making outcome expectations, intentions, and behaviors.

Based on some research results above, it can be concluded that the development of computer-based career guidance application program for high school students who have met the criteria of utility, feasibility, and accuracy with the average score of the category is very good based on the results of expert test content and design experts, theoretical and empirical, so feasible implemented as a tool for the implementation of career guidance services in senior high schools

IV. CONCLUSION

Based on the results of the data analysis described above, we can conclude the results of this study as follows.

Development of the application program of computer-based career guidance meets the criteria of utility, feasibility, and accuracy with an average score in very good category. Computer-based career guidance application program as a model of career guidance services in senior high school is a software in career guidance services for high school students, which serve as a tool in an effort to increase independence in choosing a career. It contains three programs: self-knowledge program, career-know-ledge program, and career decision-making program. The iImplementation of the application program of computer-based career guidance for senior high school students acts as a form of facilitation to support the career development of students. The role of counselor in the implementation of this program is as facilitator and resource person.

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