The Development of Vocational Career Guidance Module in Food Serving Process to Improve Career Decision Making Ability of Vocational High School Students

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Article Info	Abstract
	Vocational high school is an educational institution that aimed to create graduates who have good quality and competence in a certain field. The students need to be provided career insight from the beginning of entering the school. The vocational guidance module is crucial for the students. The research study consisted of 1) How is the development of vocational career guidance in the food serving process improve the career decision-making ability of vocational high school students? 2) What is the feasibility of the module? 3) how is the practicality of the module? 4) how is the effectiveness of the module?. This research applied Research and Development method (R&D). The present study used the ADDIE model consisting of Analysis, Design, Development, Implementation, and Evaluation. The research analysis unit was a vocational career guidance module on the food serving process. This research used some instruments to gain the data: 1) assessment sheets of vocational career guidance modules; 2) questionnaires on the practicality of modules, and (3) questionnaires to measure student career decision making. The validity of the assessment sheet is obtained from the calculation of the CVR and its reliability using the ICC formula. The questionnaire validity applied point biserial, while the reliability questionnaire used KR20 formulas. The result of the feasibility test, practicality test, and effectivity test based on media and material experts of the developed module was feasible. Furthermore, the user product like teachers and students stated that the module was very practical, quite effective, and significant to improve the career decision making of vocational high school (SMK) Culinary Art.

INTRODUCTION

The preparation to enter vocational high school (SMK) becomes one of the crucial aspects in achieving competitive graduates in the industrial field. Increasing the ability in making a decision career became one of the solutions that support the students to achieve their goals, the students can be more competitive in their performance (Ali, 2013 h.78-86). In vocational high school, the students enter the preparing stage career such as career direction, career goals, career plans, and career orientations based on the interests and competencies of the skills chosen, seeking career information, and making career preparations to be more mature (Laila & Sulistiani, 2019 h.17 - 26).

Garcia *et al* (2015:16) explained career optimism among students in the school was supported by parents and teachers, it called an intervening variable. The present study observed the lack of resources that were used by teachers in Vocational High Schools (SMK) to support industrial career paths. Furthermore, teaching materials were needed for teachers to prepare students to compete in the industrial world, especially in Culinary Art. Based on the background above, the researcher observed the development of a vocational career guidance module in the food serving process by conducting feasibility tests, practicality, and effectivity test. The module is suitable for users to improve student career decision-making in Vocational High Schools (SMK). There were two research questions, those are how to develop a vocational career guidance module in the food serving process and how is the feasibility of the module.

METHOD

The current research adopted the ADDIE model that is consisted of Analysis, Design, Development, Implementation, and Evaluation (Alodwan & Almosa, 2018). The ADDIE model was chosen because it was simple and systemic. The five stages were related and structured systematically (Aldoobie, 2015:68).

Dick and Carry (1996) developed R&D method with ADDIE model. Warsita (2011) elaborated ADDIE was a development model that effective, dynamic and support developing learning procedure. Dick and Carry (1996) explained five stages; (1) need analysis, (2) designing stage, (3) development stage, (4) implementation, (5) evaluation stage. The ADDIE stages can be seen in picture 1.
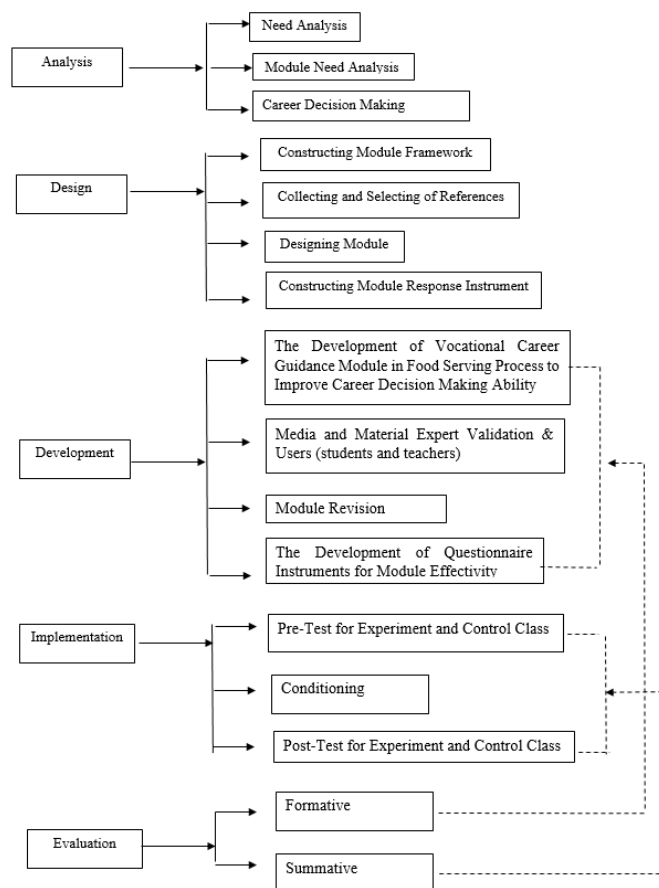
Picture 1. The ADDIE model

The research applied ADDIE to develop a vocational career guidance module where the first step is conducting a need analysis. Need analysis aimed to know the problems that occurred in the real world by observing and interviewing. The designing process in the ADDIE model is a systematic process that is started by constructing a module framework, collecting and selecting references, designing the module, and constructing a module feedback instrument.

The development stage is a stage that contains activities to develop a vocational career guidance module. Expert media validation, expert material validation, and the users were applied to gain insight. After that, the module was developed and revised by providing a questionnaire. The implementation of ADDIE aimed to get the feedback, and a pre-test and post-test were conducted in experimental and control classes to gain the module effectivity in the learning process. The evaluation stage consisted of formative evaluation and summative evaluation. Formative evaluation is an evaluation that aimed to know module feasibility and practicality. While summative evaluation is an evaluation after the practicality and feasibility has gained to measure the module effectivity.

RESULT AND DISCUSSION

Result

The research product of the study is a vocational career guidance module in the food serving process. This study aimed to develop a career development program model at the vocational high school level so that students can decide on making a career. This research cannot be separated from the assessment to understand students' characteristics and need assessment to know which competencies need to be prioritized in counseling guidance.

4.2.1 Analysis Result

171

There were two stages, namely needs analysis and front-end analysis. Needs analysis is a field condition analysis, participants and references that will be implemented in developing the module. The observation analysis was done by collecting information related to the real condition, especially in giving career advice at SMK N 2 Boyolali. The learning process result showed that some improvements were needed in career coaching. So, it is necessary to develop a module.

The researcher gained observation data in developing the module:

1. The teachers do not explain career guidance. The result is the students do not know how to decide on their career paths.
2. There is no module for students. The students do not get a clue and reference in making a decision.
3. There is no career guidance development module for food processing at SMK N 2 Boyolali.

Need analysis allowed the researcher to observe the problem faced by the students in making a career decision. It covered students' needs regarding the module, topic, module content, base competency (KD), and achievement indicator.

Based on the observation and interview, the researcher got the need to develop students' career modules. (1) lack of information related to career decision-making. The students have difficulty in making career decisions since the stereotype of graduate vocational students become employees or entrepreneurs. While senior high school has been stereotyped become a college student. This stereotype brought that vocational students tend to be un-motivated. (2) Base competency and achievement indicators became the elaboration of core competency curriculum.

4.1.1.2 Design Planning

The designing stage is a stage to construct a career guidance module that coveres the learning purposes of the module, constructing a module based on the syllabus and learning plan, initial career guidance module, collecting object

plan, and creating the instrument to test the module feasibility.

a) **Constructing Module Framework**

The module framework was constructed based on BSNP 2017. The module consisted of systemic learning activities. The beginning of the module contained a cover, introduction, core competency, base competency, module leveling mapping, table of content, list of pictures, and list of tables. Glossary and references were in the last pages, here is the module framework that purposed by the researcher:

CLOSING

GLOSSARY

REFERENCES

b) **Collecting and Selecting References**

The researcher chose references that were adopted in developing the vocational career guidance module:

(1) Rohman, F. (2020). The Development of Teaching Factory Module to increase The Interest in Entrepreneurship through Competency Based Training Model in Central Java State Vocational School. Jurnal of Vocational Career Education. JVCE 5 (2), 89-102;

(2) Alfriansyah, M. (2018). Pengembangan Modul Bimbingan Karier untuk Meningkatkan Perencanaan Karir Siswa Kelas XI Program Teknik Pemesinan. Jurnal Pendidikan Vokasional Teknik Mesin, 6 (6), 397-402;

(3) Midiani et al. (2015). Ekonomi Kreatif: Rencana Pengembangan Industri Mode Nasional 2015-2019. Jakarta: PT Republik Solusi.

(4) Atmaja, T. T. (2014). Upaya Meningkatkan Perencanaan Karir Siswa Melalui Bimbingan Karir dengan Penggunaan Media Modul. Jurnal Psikopedagogia, 3 (2), 57-66.

c) **Designing Module**

Constructing the module design consisted of opening, main part, and closing. Here was the initial presentation of the vocational career guidance module in the food serving process:

(1) Cover

The cover module was designed based on the purposed field such as students, culinary, and UNNES logo since it was made under the supervision of Semarang State University (UNNES). The career guidance module cover can be seen as follows:

Picture 2. Module Cover Design, front and behind look

(2)   Preface

The writer wrote her preface for people who helped her in the process of finishing her module. The preface can be seen in the following picture.
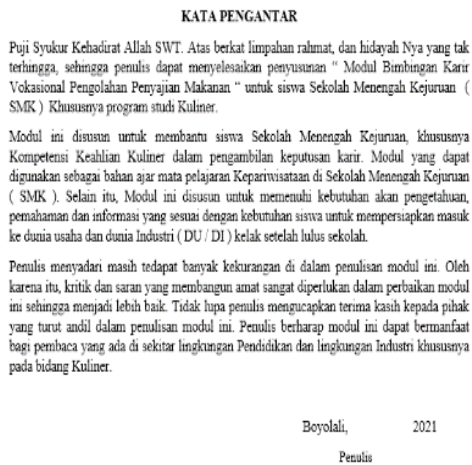
Picture 3. The Preface

(3)   Table of Content

Table of content and list of pictures aimed to make the reader easy to find the pages. The following picture is a table of content of the vocational career module:

(4)   Glossary

A glossary is a part of the module to explain certain technical terms, abbreviations, and local diction in the purposes module. The aim of glossary is making easy for the reader to find the meaning in the module.

(5)   The Core Competency and Tourism Base Competency

The core competency (KI) and tourism base competency (KD) elaborated career opportunity in the tourism industry that it was used to construct the culinary art module (the main content layout design can be seen on the attachment page).

(6)   Module Main part

Four core chapters were divided into four learning activities. Learning activity-1 discussed the importance of culinary art industrial career. This discussion is related to culinary skill competency and the opportunity to continue the study or work in industrial culinary. Learning activity-2 classified types of careers in industrial culinary. Learning activity-3 discussed the preparation of work requirements in industrial culinary. Learning activity-4 explained how to make care decisions. (the main content layout design can be seen on the attachment page).

(7)   References

The references contained source literature that was used in the study. (The reference layout design can be seen in the attachment pages).

The module was constructed by using a systematical structure. In the beginning, the researcher put the module title to attract and persuade the students to read the materials. A preface, a table of content, and a list of pictures were presented before entering learning activity-1 (the importance of culinary art industrial career). The materials are esposed with many enticing pictures that can attract students' intention and give insight related to their field. It was crucial since the students had learned culinary art during three years of study.

d)   Constructing Module Assessment Instrument

The steps to develop a module assessment instrument can be seen as follow:
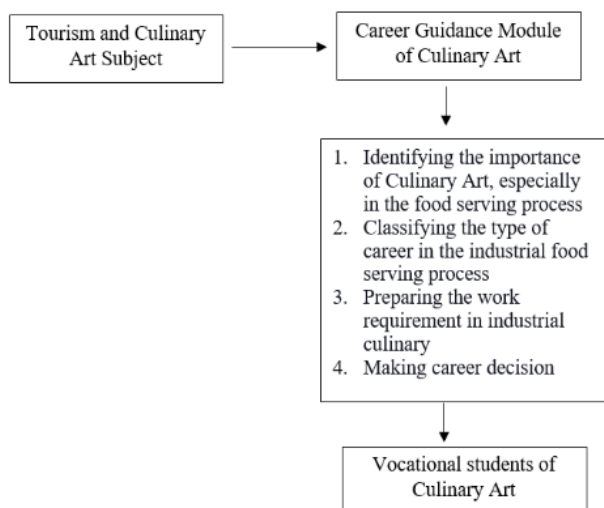
Picture 4. The development of Career Guidance Module

The validator consisted of two media expert validator and three material expert in food serving process. The next steps were users' feedback (teachers and students) to know the module practicality. This users test consisted of three Culinary Art teachers and X grade students of SMK Muhammadiyah 04 Boyolali.

Table 1. The Graphic Feasibility Aspect Based on BSNP

Feedback Indicators		Feedback Items	Expert 1	Expert 2
A. Modul Size	1)	Module compatibility with ISO standard	4	3
	2)	Size compatibility with content material	4	4
	3)	Module compatibility with module criteria	5	3
B. Module Cover Design	4)	The appearance of layout elements on the front, back, and back covers have a consistent rhythm and harmony.	4	3
	5)	Have a good center point	5	4
	6)	The colors element must be harmony	3	4
	7)	The illustration position as the background does not interfere with the title, text, numbers and pages	4	5
	8)	The placement of titles, illustrations, and captions does not interfere with readers' understanding.	4	4
	9)	Describe the content/teaching material and reveal the character of the object.	4	4

	10) The shape of the module cover suitable for reality.	4	5
	11) The appropriateness of module size	5	5
	12) The appropriateness of module illustration	5	5
C. Module Content Design	13) The consistency of layout elements is based on the pattern	4	3
	14) The spaces between paragraphs are clear	4	5
	15) The placement of the image layout and captions are arranged consistently	5	4
	16) Printable area and margins are proportional	4	3
	17) The margins of two contiguous pages are proportional	5	3
	18) The placement of titles, subtitles, does not interfere with the readers' understanding	4	5
	19) The position of illustrations and image captions does not interfere with the readers' understanding	3	4
	20) The pictures' position has to be added with the description	3	4
	21) The position of decoration/illustration as the background does not interfere with the title, text, page numbers.	5	4
	22) The placement of titles, subtitles, and illustrations with picture captions does not interfere with readers' understanding.	3	5
	23) The image elements' position is placed with communicative text	4	5
	24) Do not use too many fonts	4	4
	25) The letter variation usage is not exaggerated.	3	5
	26) The layout does not interfere with the view	4	4
	27) The width structure of the text is normal.	3	5
	28) The kerning size is normal/ standard.	5	5
	29) The consistency of title hierarchy	5	4

Feedback Indicators	Feedback Items	Expert 1	Expert 2
	30) The font layout is easy to understand.	4	3
	31) The harmony of illustration and overall presentation.	4	5
	32) Creative and dynamic	4	5
	$\sum X$	131	129
$\bar{x}$ The average of feedback items		4.09	4.03
$\bar{x}$ Media Expert		4.06	
n		32	

Source: Research Data (2021)

e) Module Feasibility Test by Material Expert

In this study, three material experts validated the module feasibility. The result can be seen in table 2 as follows:

Table 2. Material Expert Feedback

Aspect	Feedback Indicators	Feedback Items	Expert 1	Expert 2	Expert 3
Content Feasibility	A. The material suitability with base competency (KD)	1. The Comprehensiveness of the material	3	4	4
		2. The vastness of the material	5	5	5
		3. Material depth	5	4	4
	B. Material accuracy	4. The accuracy of definition concept	4	4	5
		5. Accuracy and Fact	4	4	5
		6. Accuracy with example cases	4	5	4
		7. Accuracy of terms	4	5	5
		8. Materials' attractive	4	4	4
		9. Creating the ability to ask questions	5	5	5
	C. Material Finesse	10. The material suitability with science development	4	3	5
		11. The presented pictures are actual	4	4	5
		12. The presented diagrams are actual	3	4	3

Presentation Feasibility	A. The Presentation Technique	13. Presenting example cases in or outside of Indonesia	5	4	4
		14. Presentation systematicity	5	4	4
		15. Presentation coherency	5	5	5
		16. Module Completeness	5	5	5
	B. The presentation support	17. Example and exercises for each activities	5	3	5
		18. Exercise in the end of activities	5	4	3
		19. Introduction	4	5	3
		20. Glossary	4	4	3
		21. Reference	4	3	4
	C. Learning Presentation	22. Students' engagement in learning activities	3	4	4
		23. The students are easy to understand the material	3	3	4
		24. Material presentation support students' to be active	4	3	4
	D. The completeness of presentation	25. Introduction	3	4	5
		26. Content	4	4	4
Language properness Based on BSNP	A. Clearness	27. The correctness of sentence structure	3	3	5
		28. Effectivity	4	5	5
	B. Communicative	29. Legibility	4	4	5
		30. The accuracy of language usage	3	4	5
		31. The materials contain a message	3	5	5
	C. Full of dialogue and interactive	32. The ability to motivate the students	4	5	5
		33. Stimulate Students' Curiosity	4	4	4
	Students' development	34. Conformity with the students' emotional development level	5	4	4
		35. Conformity with students understanding	4	4	4
	Cohesiveness	36. Integration between learning activities	3	5	5
		37. Material Sequence	3	4	5
Contextual Assessment	A. Contextual Circumstances	38. Interest between the material being taught and the real world situation of students	5	3	5
		39. The ability to encourage students to	5	3	5

B. Feedback Component		make connections between the knowledge and the application in everyday life.			
	40.	The relation of module activities with daily life	3	4	3
	41.	Constructivism	4	3	4
	42.	Questioning	3	4	3
	43.	Learning Community	4	4	5
	44.	Reflection	4	3	4
	45.	Authentic Assessment	4	3	4
$\sum X$			180	180	196
$\bar{x}$ The Average of Feedback Items			4,00	4,00	4,35
$\bar{x}$ Media Expert				4,11	
n				45	

Source: Research Data (2021)

Implementation

The fourth step in R&D research is implementation or which is called the application stage. The application can be run out if the expert test result (feasibility test) and practicality test carried out by users (Teachers and Students) have met the appropriate and practical criteria. Implementation is the stage of applying the vocational career guidance module at SMK 1 Boyolali. The respondents consisted of SMK 1 Boyolali class X Culinary Art students, 30 students became as an experimental class. The participants were given treatment by providing vocational career guidance modules. While in class X of Culinary Art (group 2) contained 29 students. It is the control class and did not give treatment like the experimental class.

Evaluation

The next stage in R&D research (research and development) is the evaluation stage. The improvements are made to create a better system based on the obtained data from the previous stages. This evaluation is organized after the four previous stages have been completed in the ADDIE model.
a) Formative Evaluation
In R&D research, formative evaluation relates to the module feasibility test conducted by Media Experts and Material Experts. This formative evaluation is also related to the practicality of the module, formative evaluation is conducted to improve or revise the module. The formative evaluation stage is related to the implementation stage so that the developed module is in a very feasible and practical condition. It was in line with Scriven (1967), who elaborated that formative evaluation can detect the product problem and stimulate improvements or revisions.
b) Summative Evaluation
A summative evaluation was conducted to measure the module's effectiveness. The dependent variable of this research is the career decision-making of culinary art students.

Discussion

The final result of this development research is a food processing career guidance module. An assessment is carried out by Media Experts, Material Experts, users, and the effectiveness of users to gain feasible modules. Validation of Media Experts, Material Experts, and users were conducted directly to obtain the data for product revision purposes.

The module feasibility result is based on media expert validation from BPMPK, while material experts came from fashion design.

Furthermore, the practicality test was done by students and teachers. The module validity consisted of content validity, and the appropriateness of the presented and the initial concept. Theoretical and conceptual in the operational form became constructs validity (Drost, 2011). The resulting product can be decided based on the activity validity result (Azwar, 2014).

The conclusion of the validity test showed the presented module is feasible for students to improve their decision-making ability based on two media experts and three material experts. The Education Multimedia Development and Culture Department (BPMPK) became media experts in this research. The size module indicator gained a 4,66 score or stated as very feasible. Furthermore, the cover design indicator got a 4,87 score or was declared very worthy. All these indicators included graphic eligibility aspects. The average score of media validity achieved 4,79 of score or declared very feasible.

Material expert validity results in the food serving process achieved 4,68 in the content feasibility aspect. This score is very feasible. Furthermore, the presenting aspect got 4,67 or declared as very worthy, the language aspect gained 4,76 or stated as very feasible, while in contextual score achieved 4,70 or pronounced as 4,70. The average of all aspects in material validity gained 4,70 or declared very feasible.

Akker et.,al (1999) explained that R&D research aims to promote knowledge, science, and the practicality of the final product. Learning media is a tool and facility of many components in the school environment that can stimulate students in the learning process (Sudjana, 2007:205). Diktendik (2008: 4) explained that a module can be stated as a good and interesting module if it has module characteristics, namely: self-instruction, self-contained, stand-alone, adaptive, and user friendly. Based on the explanation above, the practicality can be done by teachers and students.

Based on the effectivity test, the T-test as an independent test showed control class and experimental class were homogenous. The result showed the module improved students' ability to decide on a career in culinary art. Furthermore, the T-test concluded that the treatment was effective and significant.

CONCLUSION

Based on the research result about the vocational career guidance module, it can be concluded:

1. The development of the vocational career guidance module in the food serving process that adopted ADDIE used many stages: (1) the first stage is the need analysis, a module needs analysis, and making-decision analysis of students' careers. (2) designing stage consisted of constructing a module framework, collecting and selecting references, module design, and constructing a module assessment instrument. (3) The developing stage consisted of developing a vocational guidance career module in culinary art, media expert validation, material expert, and user validation (teachers and students), re-constructing the module based on validators' insights, and developing the instruments to test the effectiveness career guidance module. (4) The implementation stage was Pre Test in the control and experimental class, giving a module treatment in the experimental class, and the post-test for the experimental and control class. (5) The evaluation stage consisted of two-phase, formative evaluation and summative evaluation. Formative evaluation is an evaluation that is related to the feasibility test module. It was done by two media experts and three media experts who assessed the practicality test to revise the module. Furthermore, the summative evaluation was done to measure the effectiveness of the career guidance module in culinary art.

2. The developed module concluded in a very feasible category, is based on media expert validation of BPMPK that is expert in the industrial culinary career. The three material experts tested module content, presentation, language, and context. While media expert

validation gave feedback on the module graphic aspect. The average score of material and media experts achieved 4,06 or declared very feasible. Based on result validation, the vocational career guidance module in culinary art did not need mass revision and is very feasible to use as a learning source in culinary art study.

3. The vocational career guidance module in the food serving process which was developed by the researcher have been categorized as very practical. It is based on the users' feedback (teachers and students) on the culinary art of vocational high school. The module practicality test consisted of the module attractiveness, material, language, and competency. The average score of module practicality achieved = 78%.

4. The developed module proved effective in improving students' ability to decide their career in culinary art study at SMK Muhammadiyah 04 Boyolali. It based on independent t-test, t count = 15,068 > t table = 2,064 (df= 57, α = 5%). It can be declared that the average score in the mean difference between experimental and control classes achieved 40.897.

SUGGESTION

The researcher proposes some suggestions for developing a vocational career guidance module in culinary art to improve students' ability in career decision-making.

1. For the school, the vocational career guidance module in culinary art can be used to support the teaching and learning process. It can attract students and make the class more attractive, so that it can stimulate students' motivation.

2. For the teacher, the module can be used as an attractive learning source to teach the students, make the students active, and the module can be applied as a reference in giving students advice.

3. For vocational high school students, especially in culinary art study, this module can help to decide suitable career and make the students more confident. This module is complete and systematic, so that it can help the students to learn independently everywhere and anywhere.

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