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Implementation of link and match program development through online practice handbook

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Abstract. This study aims to develop an online internship guide for the Borg & Gall model as a link and match form for Class XI Alfamart Competency in Online Business and Marketing Skills at SMK Negeri 1 Boyolangu. The development model used is the Borg and Gall model. The results showed that the link and match model developed after validation was declared valid. The product in the form of an online internship guide is declared feasible because all aspects of learning are in a suitable category. The link and match model development through prakerin is declared effective because it has met the criteria. The study results met the validity requirements, and the data analysis of observations on the implementation of prakerin carried out by students, SMK, and DUDI showed that the development of the Borg and Gall model was feasible to develop. The analysis of student work-readiness results is in the high category, stating that students are ready to enter the workforce. Based on the results of the research obtained, it concluded that the development of the link and match model through the prakerin developed has met the categories of validity, practicality, and interest so that it is feasible to develop.

Keywords. Link And Match Model, Prakerin, Development

Introduction

One of the efforts so that SMK graduates can compete with other equivalent education graduates then SMK schools must implement an industrial work practice program (Prakerin). The implementation of Industrial Work Practices (Prakerin) is part of the Dual System Education, an innovation in the SMK school program. Students carry out work practices (internships) in companies or industries that are an integral part of the education and training process in SMK (Azizah, 2012; Fajaryati, 2012). With the policy of the National Education Office regarding the Dual System Education approach as the main pattern for implementing the Vocational High School (SMK) curriculum. It is one of the efforts to improve the quality of graduates so that they are more in line with the demands of industry needs (Daya Saing SMK Dalam Bursa Pasar Tenaga Kerja 4.0, 2019). National development in general and the need for staffing in particular as an inseparable part of the Link and Match policy that applies to all types of education levels in Indonesia (Ashari et al., 2020). The emergence of the idea of Link and Match (linkage and equivalence) has opened up opportunities for education implementers, especially Vocational Secondary Education, to enable collaboration with the Industrial World Business World in fostering and developing potential in the field.

The concept of link and match is not new in education. Since the beginning of the 20th century, in learning theory, terminology comes from the behavioral learning flow, which in essence is also a reflection of the concept of link and match. The terminology was later known as learning by doing (Zivin et al., 2021). This terminology requires the learning process to run while doing something tangible in life. In this way, people who are learning have actual, empirical, and tangible experiences in their learning process. If, while learning, we can gain real and actual experience, the process also reflects the state of link and match. On the other hand, if we do not get any experience after learning something, then the process is not worthy of being included in the link and match area. If the learning process cannot provide real, empirical, and actual experiences, then we deserve to provide comments.

Prakerin is part of a learning program that must carry out by every student in the Business and Industry World as a tangible manifestation of the implementation of the Education system, namely the "Link and Match" Dual Education System aimed at improving the quality of SMK graduates (Putri et al., 2018). Community-based education is "the process by which the concerned community members identify their problems and needs, find solutions among themselves, mobilize the necessary resources, and implement action plans or lessons learned (Zuhairi, 2020).

One of the implementations of the link and match concept is the implementation of prakerin (industrial work practices) at the partner institutions of each school. In the era of the Covid-19 pandemic, the teaching and learning process carry out online using an internet connection or cellular data, as well as using applications such as Whatsapp, google meet, google classroom, and e-learning (Cahyanti et al., 2018). Including internships for vocational students, there are several partner institutions (DUDI) that apply the online internship model. Meanwhile, the condition of students experiencing many limitations in participating in these online internship activities, both in accessing information and in technically absorbing competencies that must be implemented in these activities, in particular following the stages in the implementation of internships during the pre-pandemic period carried out offline. Such conditions certainly need a solution or a way out, with concrete steps to assist students in participating in online learning, including internship activities, because this will affect the learning process and graduate competencies.

Relevant to the conditions mentioned above, there needs to be strengthening in the preparation and implementation of online internship activities facilitated by online internship implementation guidebooks. Hoping that students understand early and can then carry out the stages in online internship implementation because students can independently study material or more comprehensive messages, can be studied earlier according to their individual needs and responses, and can be used anytime and anywhere.

Literature Review

Industrial Work Practice (Prakerin)

Industrial work practices abbreviated as "Prakerin" are part of the learning program that must be taken by every student in the world of work. Prakerin is a tangible manifestation of the implementation of the education system in vocational schools, namely the Dual System Education (PSG). The Prakerin Program is jointly prepared between schools and the Business/Industry World to meet the learning needs of students and as a contribution from the Business/Industry World to the development of the Vocational Education program (Ashari et al., 2020).

Field Work Practices, from now on abbreviated as PKL, are learning for students at SMK/MAK, SMALB, and LKP, which are carried out through work practices in the world of

work within a certain period by the curriculum and the needs of the world of work (Syarifah, 2019).

Industrial work practice (Prakerin) is the practice of productive skills carried out in the business or industrial world in activities for doing production or service work. Prakerin is a learning system carried out outside the teaching and learning process and carried out at the relevant company/industry or agency. In general, the Prakerin program's implementation aims to improve students' knowledge and skills in the field of technology, adjusting to the actual situation, collecting information, and writing reports that are directly related to specific objectives.

Prakerin is a model that is applied to provide specific skills to students, as expressed as follows "Industrial work practice (Prakerin) or in some schools called OJT (On the Job Training) is a training model that aims to provide the skills needed in certain jobs. according to the ability of the worker".

Industry involvement in industrial work practice programs, among others:

1. As a place of practice for students
2. Providing funds for the implementation of the dual system
3. Compiling educational programs
4. Implementing educational programs
5. Carrying out evaluation and assessment activities

From the explanation above, to make the industrial work practice program run effectively and efficiently, it is necessary to prepare a plan between schools and the industry (Foster et al., 2016; Serdyukov, 2017).

Industry's contribution to prakerin activities in order to create a form of collaboration between SMK and Industry include: "1) providing a place of practice for students, 2) providing funds for the implementation of the dual system, 3) designing educational programs and implementing programs to evaluate student learning outcomes. students in vocational education" (Ashari et al., 2020). It shows that industrial work practices will not run well without cooperation between SMK and industry, from planning (administrative, technical, mental, psychological, and material) and implementation to evaluation and follow-up plans. This collaboration is essential so that the potential of existing resources in schools and industry can be utilized optimally in industrial work practices.

The form of cooperation between SMK and industry can realize in the form of the following activities. First, the model of implementing industrial work practices can be with a block system of six months to one year or gradually according to the agreement. Second, industrial work practices materials in the form of strengthening and stabilization, namely advanced materials that have been taught or those that have not been taught in schools. Alternatively, it can also be in the form of reinforcement as required by professional standards. For example, the mechanical engineering department has seven schemes according to the Professional Certification Institute (LSP) standards. The implementation can be divided. For example, for schemes 1-4, the competency test is carried out by LSP-P1 (schools), while for schemes 5-7, the implementation of competency tests is left to the industry. Industrial work practice activities end with a competency test by LSP-P3 (Industry) (Ashari et al., 2020).

The description above defines Prakerin as an integrated learning process between the world of education, namely Vocational High Schools with the Business/Industry World (DUDI). To implement and develop students' vocational competencies through direct practice in the business/industry world by their competencies. Certain possessions.

Link and Match

Link and match is the compatibility between educational products and the challenges of the times at the philosophical, macro, general and fundamental levels of an academic nature (Ashari et al., 2020). In a broader sense, link means an interactive link, linkage, or relationship, while match means a match or suitability.

The steps that can be taken to implement the link and match principle are as follows (Cahyanti et al., 2018):

1) **Education Curriculum Development**

The educational curriculum must prepare to take into account the progress of science and technology that is developing in the community, meaning that educational institutions are required to get closer to the industrial world to develop a curriculum tailored to the needs of the community.

2) **Improvement of Facilities and Infrastructure**

Adequate facilities and infrastructure are needed to support the implementation of research in the field of industry and other practices so that efforts to increase the relevance of educational programs to the community's needs can be realized so that implementing link and match policies will be implemented easier.

3) **Improving the Quality of Teaching Staff**

Teaching staff must compete with existing workers in the world of work. In addition, there is a need for flexibility in teaching staff who can be assigned to work in the industrial sector. On the other hand, industrial workers can serve in education for a certain period.

4) **Education Program Improvement**

The intended program is a program that addresses the needs of the community, intending to create relevance between educational programs and community needs. With the relevance of the education program, it is hoped that the link and match policy can be appropriately implemented.

Link and Match Schemes and Programs

In creating a quality SMK, it is necessary to implement a link and match between schools and industry gradually and continuously in the form of research/research collaborations and apprenticeships. There are several interrelated parties to realize this link and match program, including vocational education, industry, and the government (Ashari et al., 2020; Cahyanti et al., 2018)

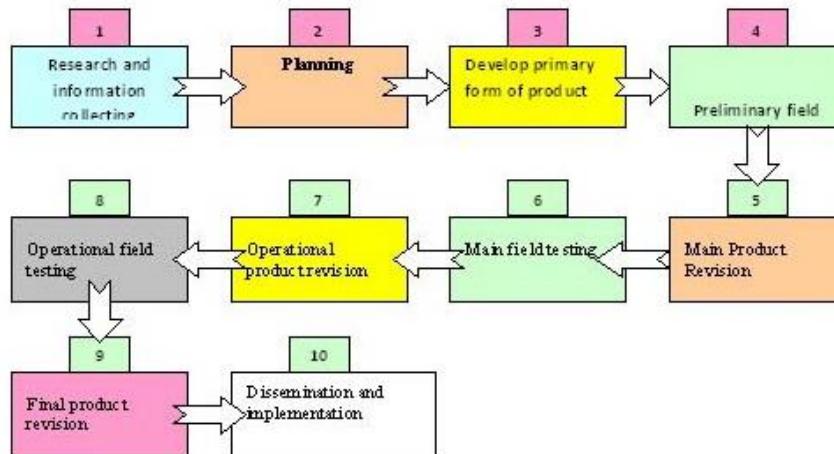
Effectiveness of cooperation can carry out in terms of Industrial Work Practices, UKK, OJT Teachers, Practical Equipment Assistance and Scholarships from Industry, Production Units, and Distribution and Placement of Graduates. The implementation of the SMK and DUDI partnership was carried out through an MoU. The limitation of cooperation includes curriculum synchronization, industrial visits, visiting teachers, Prakerin, UKK, teacher OJT, Certification, practical equipment assistance, school funding, scholarships from industry, and recruitment/placement work for graduates.

Borg and Gall Development Research Model

Research and development in education (R & D) is a process used to develop and ratify products in the field of education (Sriwahyuni & Mardono, 2016). The steps in this process are generally known as the R&D cycle, which consists of: reviewing the results of previous research relating to the validity of the components in the product to be developed, developing it into a

product, testing the designed product, and reviewing and correcting the product based on the test results. This indicates that the findings from the development activities carried out have objectivity.

Conceptually, the research and development approach includes ten general steps, as described by Borg & Gall (1983:775), such as the model below:



Research Methods

Research and Development (R&D), which aims to develop a link and match model between SMK and DUDI through the Prakerin program. The development model used results from a modification by Borg and Gall. Data collection techniques in the form of (1) interviews, (2) observations, (3) questionnaires, and (4) documentation. The sources and informants are the supervising teachers and students. The results of the literature study and field studies are data used to design an online internship guidebook product. Activities at the development stage include internal testing, design revisions, product manufacture, limited trials, product 1 revisions, main field trials, product revisions two as well as product improvements, and dissemination and implementation.

Research Results and Discussion

The preparation of the prakerin manual successfully compiled—all parties who have tried their best according to their abilities and existing conditions. The following are the results of Link and Match with the Borg and Gall model.

1. Product Design Planning

The research results on existing products, literature studies, and field studies will use to design an online prakerin guide book product. The researcher produces an online draft of the internship guidebook in this stage.

2. Internal Test

Internal testing is used to test the feasibility of the product design. Design validation is carried out to test the feasibility of the product design. After testing the product design of the online prakerin guidebook by the material expert, the material expert provides general comments and suggestions for the improvement of the online prakerin guidebook that was developed. The suggestions are as follows:

- 1) Use of terms to be more consistent
- 2) It is necessary to add the basic competencies or objectives of each sub-material.
- 3) In the results of testing the draft online internship guidebook, the results are **PROPER**.

3. Design Revision

After testing the product design by media experts on the visual display aspect, media experts provide general comments and suggestions for improving the design of the developed media products. The suggestions are as follows:

- 1) The size of the font to describe the material should be larger.
- 2) Add material so you don't have a lot of free space.

4. Product Manufacturing

In the results of testing the draft online internship guidebook, the results are **PROPER**. In research and development that produces a product in the form of an online internship guide book, after the design is deemed feasible by experts, the design is made into an online internship guide book. In this case, the product is a guidebook. After the finished product will be tested on a limited basis.

5. Limited Trial

Data collection in this small-scale trial was carried out using an instrument in the form of a questionnaire. Questionnaires were used to obtain data in student assessments of the quality of online internship guidebooks. In a small-scale trial, the object of the experiment was ten students of Class XI Alfamart Competency in Online Business and Marketing Skills at SMK Negeri 1 Boyolangu.

6. Product Revision 1

Based on small trials, there were revisions made to the media being tested, namely revisions to the introduction and activity report instructions that required more detailed and clear explanations.

7. Main Field Trial

In a large-scale trial that became the subject of the trial, as many as 34 students of Class XI Alfamart Competency in Online Business and Marketing Skills at SMK Negeri 1 Boyolangu. Before filling out the questionnaire, students studied material related to internships. They pay attention and observe the learning material in the learning media.

8. Product Revision 2

Based on the aspects of the main field trials, namely aspects of appearance, presentation of material, clarity, and benefits, it is declared worthy. Thus the overall ignition system learning media based on large-scale field trials can be used.

9. Dissemination and Implementation

Based on the overall results of the online prakerin guidebook assessment, it is above the appropriate category limit. Thus, overall, both the teachers and students stated that the online prakerin guidebook product at SMK Negeri 1 Boyolangu was feasible.

Conclusion

The development of the ignition system interactive learning media refers to the development model from Borg & Gall, simplified into five steps, namely (1) conducting preliminary research, (2) developing initial products, (3) conducting product validation, (4) conducting trials, (5) making the final product. Based on these results, the online internship guidebook is suitable for use in learning.

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