

Competency-based Learning Model for Photographer Certification:

A Systematic Literature Review

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Abstract— The era of the industrial revolution 4.0 is currently the use of technology to become a field of work more and more. This has resulted in many photographers in Indonesia who started as a hobby and then took it seriously as a profession. According to the Indonesian Photography Competency Certification Institute (LESKOFI) data, there are 60% of certification exam participants at level 3 get "incompetent" results as photographers. The solution for this is to provide training for photography competency test participants. This article discusses the competency-based learning model for preparation for the competency certification test for photography. This study uses research methods, namely systematic literature review and Meta-Analysis (PRISMA). Articles reviewed as many as 28 articles from 2015-2021. All articles are classified by year of publication, keywords, methods, and findings. The results of this study are as follows: (1) The search results prove that the most findings are in 2018 (2) The results show that the CBL model is most widely used for competency certification, (3) The CBL model developed is to measure the results competence through practice and theory. This article concludes that the competency-based learning model is the right learning model to prepare examinees to conduct competency tests.

Keywords— *competency-based learning, competency test*

I. INTRODUCTION

The development of the creative industry in the field of photography in Indonesia is currently very fast. The role of the young generation who are enthusiastic about photography, and choose to enter this field as a professional. The trend of the creative industry in Indonesia with the growth of employment in Indonesia. Many people who initially had a hobby of photography are now pursuing photography activities, making the profession of a photographer a job. This is the attraction of the community in doing a hobby into a profession. To become a professional and competent in his field, especially in the field of photography, a competency test is needed to get the recognition that he is competent as a photographer.

The learning model is one of the important factors in determining the achievement of educational goals. The learning process is carried out in an effort to prepare skilled workers who have competencies according to their fields of expertise. In practice, the output produced is not only assessed from the results but the process variable, namely the learning model [1].

Specifically, for level 3 photography certification, based on data obtained from the Indonesian Photography Competency Certification Institute (LESKOFI), there are 60% of test-takers get "incompetent" results as photography. The solution to overcome the low competency test results is by providing material from the competency unit tested for photography certification. However, the learning model used in learning must represent the circumstances and needs of prospective participants for prospective test-takers.

II. RESEARCH METHODS

The method used in this paper is a systematic literature review, which is an international literature search conducted using the Publish or Perish 8 database, SCOPUS, and Science Direct. This literature review was carried out using the PRISMA method, where this method is commonly used to carry out a literature review and meta-analysis activities so that it can facilitate the author in reviewing the structure and objectives of the study [2].

The systematic Literature review process is carried out through 3 stages, namely starting from searching and retrieving articles, filtering, and analyzing. In the early stages of searching for journal articles related to competency-based learning models, more than 1000 journal articles were obtained from 2015-2021. The results were identified using the keywords "competency-based learning model", "Competency certification", and "competency test" which resulted in searches on Publish or Perish 8: 60 articles, Science Director 45 articles, SCOPUS: 15 articles.

At the stage of sorting articles, they are uploaded to the Mendeley reference management application. There were 80

articles which were originally 125 articles, 45 articles were deleted because they were duplicated. Furthermore, the selection of articles more specifically is done by filtering articles based on the inclusion and exclusion criteria in table 1. The selected exclusion criteria are books, chapters, short reports, studies, or non-empirical articles. Only international conference proceedings and journal articles were considered to meet the inclusion criteria.

TABLE I. TABLE OF INCLUSION AND EXCLUSION CRITERIA

No.	Inclusion Criteria	Exclusion Criteria
1.	English	Not English
2.	Issued year: 2015-2021	Published year before 2015
3.	Empirical research published through international conferences and international journals	Books, Theses, Theses, Dissertations, short reports, studies or non-empirical articles.
4.	Associated with learning models in vocational	All disciplines except vocational learning models

The remaining 80 articles were then filtered again with the aim of finding journals that were relevant to the problem formulation. Each article is read and briefly discussed regarding the part being studied, the scope of the problem being studied, the focus of the research, and the results of the research. Finally, there were 53 articles that were deleted because they were not in accordance with the research objectives so that 28 complete articles were obtained.

In the end, 28 articles were thoroughly analyzed, synthesized to extract and summarize the basic findings needed to answer the research objectives. In the discussion chapter, it is criticized by giving ideas about competency-based learning models for competency certification. In order to better understand the PRISMA flow diagram is presented in Figure 1.

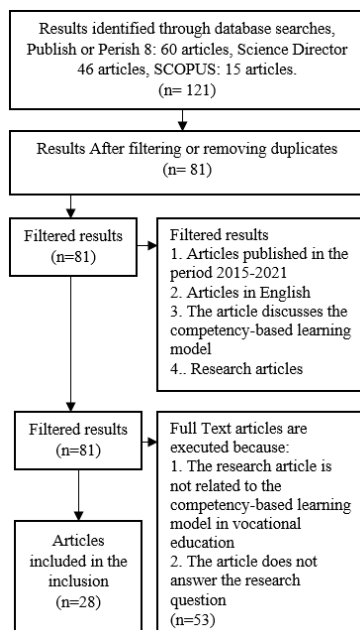


Fig. 1. PRISMA diagram

III. RESULTS AND DISCUSSION

The results of the meta-analysis of competency-based learning methods for competency certification that have been studied in depth are presented as follows. Figure 2 shows that the journals that discuss the most about competency-based learning models and competency certification are in 2018 as many as 9 journals, in 2020 as many as 6 journals, in 2016 as many as 5 journals, and in 2015, 2017 2019 and 2021 as many as 2 journals.



Fig. 2. Years published journal

The articles in this literature review are taken from 28 international scientific journals from 2015-2021. The distribution of articles based on search keywords is presented in Figure 3 as many as 48% or 13 articles with the search keyword type Competency-Based Learning, and as many as 52% or 15 articles obtained with the search keyword competency certificate. From the two types of search keywords, after reading the full-text journals, it was found that there was a relationship between CBL and competency certification based on the competency standards of each type of profession.

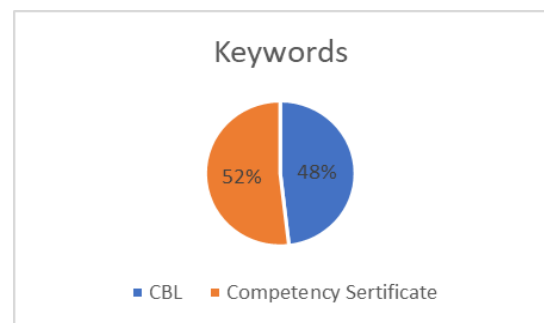


Fig. 3. Keywords journal

Based on these findings, the method used in each article analyzed was found to be several methods that are often used in research such as:

- Questionnaire [3–10]
- Systematic Literature Review [1,8,10–16]
- Experimental Methods [17–22]
- Mixed Methods [23–25]

- R&D [26,27]
- Focus Group Discussion (FGD) [28–30]

The method most often used in research is to use a systematic literature review, questionnaire, and experiment. The systematic literature review is one of the most frequently used research methods because it examines competency-based learning and competency certification as much as 32%, followed by questionnaires as much as 25%, experimental methods as much as 21%, mixed methods as much as 11% Focus Group Discussion (FGD) as many as 7% and only 4% using Research & development methods. The distribution of articles by data type or research method is presented in Figure 4.

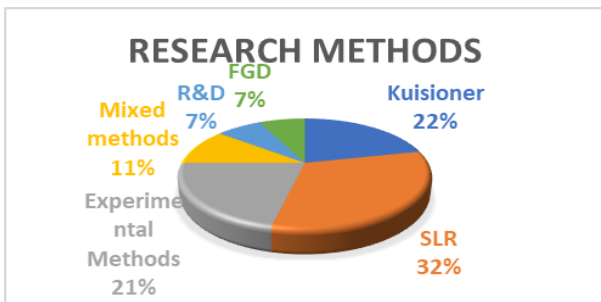


Fig. 4. Research methods

This literature review identified 28 articles from 2015 to 2021. As a result, competency-based learning models were the most widely used to prepare participants for competency certification exams.

A. Competency Certification

Competency certification is a process of granting competency certificates for certain professions/skills, carried out systematically and objectively through competency tests related to those professions/skills which refers to Indonesian national work competency standards, international standards, and or other special standards [20]. In general, competence is a person's workability covering aspects of knowledge, skills, and attitudes in accordance with certain applicable standards. On the other hand, a profession is a field of work that has certain competencies that have been recognized by the community [8]. So it can be seen that competence and profession are two different things, but in the implementation process, they both require certain knowledge, skills, and standardization that are binding on each actor [30].

In general, to obtain competency certification, a competency test must be carried out by the National Professional Certification Agency (BNSP) and related professional associations [7]. The material tested by the organizer of the competency test must also be based on the Indonesian National Work Competency Standard (SKKNI) which has been verified by the Indonesian ministry of manpower [14]. SKKNI is a work ability formulation that includes aspects of knowledge, skills or expertise as well as work attitudes that are relevant to the implementation of duties

and job requirements stipulated by applicable legislation [4]. A person is said to be competent if he has been able to complete the competency standards being tested [6]. By having a person's competency standards, then the person concerned is able to do the task or work, organize it so that the work can be carried out, and use the abilities he has to solve problems [24].

B. Competency-Based Learning (CBL)

Competency-based learning (CBL) is a learning model that emphasizes the achievement of student competencies [31]. With this learning method, student competence will be achieved because CBL is student-centered, learning while doing it, developing intellectual, emotional, spiritual intelligence in terms of questions, as well as independent and cooperative learning [19]. Sabin describes the characteristics of CBL including: (1) development on certain competencies; (2) theory and practice are implemented in an integrated manner; (3) teaching materials contain knowledge that supports the implementation and skills in accordance with the competencies to be achieved; (4) using complete learning; (5) the use of various media; (6) satisfaction is based on mastery of the required competencies; (7) using problem-solving strategies; (8) experience-based learning, namely learning is carried out based on certain learning experiences to achieve learning abilities; (9) individual learning, namely students have the opportunity to do individual learning [26].

In the photography competency test scheme at level 3 which is equivalent to a diploma 3 (D3) according to the SKKNI, the work area includes shooting documentation for various purposes, shooting commercial values and general journalistic photography. The following are the competency units tested covering theory and practice: (1) Choosing the type of camera; (2) Selecting a camera device; (3) Determine the lighting elements; (4) Adjust the sharpness of the image; (5) Determine the angle of taking; (6) Define foreground and background; (7) Determine the composition of the shoot; (8) Determine the lighting variable; (9) Determine the irradiation device; (10) Specify the copying of digital photos; (11) Selecting images as needed; (12) Performing digital processing; (13) Printing images; (14) Managing consumer ideas; (15) Calculating production costs; (16) Performing Health and safety (K3) security procedures in the workplace; (17) Conduct evaluations and work results; and (18) Communicating with colleagues.

IV. CONCLUSION

This systematic literature review helps researchers, teachers, trainers, and professional association stakeholders to assess CBL learning. The search results prove that this CBL learning model can be applied to prepare competency test participants to get good results in doing competency tests. Because competency-based learning (CBL) is one of the most frequently used methods to prepare competency test participants to take competency tests. The learning objectives in this method are based on competency standards that will be tested on the competency test, namely based on the SKKNI in

their field of work. To be said to be competent, examinees must be able to solve competency test questions in the form of theory and practice based on competency standards and SKKNI in their field of work.

CBL is organized with real experiences and an authentic environment. Students are expected to be able to deal with problems and be able to overcome problems that arise. Among other things, by providing challenges in the form of cases related to their fields, and ways to overcome them.

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