

IMPROVING LEARNING PERFORMANCE BY APPLYING MULTI-PLATFORM E-RUBRIC AS A SOFT SKILLS ASSESSMENT INSTRUMENT IN THE CREATIVE-ART AREA OF INDONESIAN VOCATIONAL EDUCATION

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Abstract

It is crucial to assess soft skills in vocational education, including in the creative arts field. The existence of a practical, modern, valid, reliable, and technology-based assessment tool is needed. This paper aims to describe the development of a multi-platform e-rubric that is suitable for measuring the soft skills competence of students in vocational education in creative arts, especially musical arts. The model adopted in this multi-platform e-rubric development is the 4D-Thiagarajan model (Define, Design, Develop, and Disseminate). The data analysis technique used is descriptive qualitative and quantitative analysis. Five priority aspects of soft skills become the assessment content of the multi-platform e-rubric developed. Based on the feasibility test results, this multi-platform e-rubric soft skills can be a formative student performance-based assessment tool suitable for use in the soft skill assessment process of vocational education students in the creative, especially *Karawitan* arts. The advantages of this multi-platform e-rubric are that it is accurate, time-saving, cost-effective, can display detailed assessment results, both qualitatively and quantitatively, and can systematically display the assessment results' progress over time.

Keywords: *Karawitan*, Multi-platform e-rubric, Soft skills assessment.

1. Introduction

Career achievement in individual skills is determined by technical skills, academic skills, and soft skills [1]. It can be seen that 92% of company executives believe that the position of soft skills is more important than hard skills [2]. Several previous studies have also shown that 75-85% of success in work is determined by soft skills and 15-25% by hard skills [3]. The future work is expected to be very flexible and trigger a variety of expectations, contributions, transitions, and continuity in learning. A worker is required to interact and collaborate with various individuals at all levels of the organization who bring together a variety of professions and expertise. In this case, soft skills such as leadership abilities, team-player skills, and project-management expertise are essential in working [4].

Vocational education oriented to the world of work must be responsive to the need for soft skills competency content in preparing qualified prospective workers [5]. Currently, vocational education graduates will compete with each other and with a variety of technological advances [6]. Technical capabilities may gradually be replaced by machines that can work much more effectively and efficiently. However, the productivity of a job will still favour individuals with qualified soft skills [7]. Various methods of implementing soft skills training in vocational education have been reported in many studies and media [8]. However, the soft skills assessment method itself still requires continuous assessment and development. The measurement of vocational education graduates' soft skills competence tends to be complicated and requires a valid, reliable, relevant, representative, practical, discriminatory, specific, and proportional [9].

It is intended that the information related to the mastery of graduates' soft skills competencies can be well received by stakeholders, one of which is the world of work/industry [10]. Measurement of soft skills competencies is critical to vocational education because soft skills are currently a consideration in the world of work. Therefore, the existence of the right measuring instrument is necessary, so in this study, measuring tools such as the multi-platform e-rubric soft skills is urgent to do. Based on these issues, this research focuses on developing a technology-based soft skills evaluation tool for vocational education in line with the needs of the world of work/industry in multi-platform electronic rubrics (e-rubric). This multiplatform e-rubric aims to assess the soft skills of students in vocational education following the needs of the creative arts industry, especially Karawitan art.

2. Literature Review

2.1. Soft skills of vocational education graduates in the creative-arts industry: *Karawitan* arts

The concept of soft skills is developing the concept of emotional intelligence (emotional intelligence) [11]. Soft skills are defined as skills that effectively enable a person to use technical and academic skills in the workplace. Specifically, soft skills consist of personal, social, communication, and self-management behaviours. Soft skills are various abilities such as self-awareness, conscientiousness, adaptability, critical thinking, attitude, initiative, empathy, self-control, organizational awareness, leadership, time management, political savvy, likability, and persuasive abilities. Soft skills can be classified into two categories, namely intrapersonal and interpersonal skills. Intrapersonal skills or human/individual

skills encourage a person to know, understand, and manage their cognitive and emotional aspects. Meanwhile, interpersonal skills, also known as people / social skills, can help a person successfully interact with other people in the workplace [12]. The term soft skills are synonymous with transferable skills, which in some references are also referred to as 21st-century skills. In the context of education, soft skills are essential to be given to all categories and levels of education, including the scope of vocational education [13].

Vocational education graduates that are oriented towards the world of work and industry are required to have integrated and comprehensive competencies. Prospective workers prepared by vocational education are expected to be responsive, competitive, adaptive, and anticipatory [14]. It is not enough that competency provisioning is only carried out on the hard skills / technical skills aspect. More than that, it is crucial for vocational education graduates to be equipped with experience and an industry mindset equipped with entrepreneurial competencies and soft skills competencies [15]. Quality soft skills are essential for vocational education graduates to face opportunities and challenges in the work/industry. Soft skills can navigate graduates as individuals responsible for operating in various conditions and situations in the workplace. Soft skills help graduates to be able to see, do, act, and live correctly, appreciate alternatives, choose the right strategy, and make decisions responsibly.

In Indonesia, one of the economic sectors included in the creative industry category is music. Music art is divided into several types, which include Karawitan art. Karawitan art is a traditional musical art that generally develops in Java, Madura, and Bali. Karawitan is an art that is composed of vocals or instrumental or even a mixture of the two, which commonly uses pentatonic tones [16]. Karawitan art has a significant contribution to creating jobs, increasing income, and creating people's welfare. Graduates of vocational education in the musical arts field can have careers as composers, musicians, and researchers who have the opportunity to popularize traditional music in the international arena. A job in the musical arts field certainly requires professional competence. Various soft skills have an important position in supporting a musical arts field [17]. Soft skills that are most needed in pursuing the musical arts and arts can be identified as follows [18, 19]: 1) Creativity and Innovation; 2) Self-Discipline; 3) Adaptability; 4) Memory and Concentration; 4) Communication; 5) Teamwork; 6) Openness to Feedback; 7) Professional ethics, and 8) Entrepreneurial Skills.

2.2. Multi-platform e-rubric as soft skills assessment instrument

Assessment in an educational context is a process to gather evidence, make judgments, and draw conclusions about student achievement and performance. The objectives of the assessment process, according to Airasian and Russell in [20] are: 1) Diagnosing student learning difficulties; 2) Assess student academic performance; 3) Provide feedback and incentives to students; 4) The first step in student placement; 5) Plan and carry out instructions, and 6) Build and maintain social balance in the classroom.

The soft skills assessment process is carried out in various forms. There are various assessment tools used to measure and assess the competence of soft skills. One of the most popular is the rubric [21, 22]. The rubric is a guideline in the form of a unit of criteria used by facilitators in assessing the quality of learning outcomes

consistently [23]. The use of rubrics as a learning evaluation tool is considered quite effective. Rubrics can provide fair, clear, transparent, credible, and consistent assessment feedback. Modernization has paved the way for adapting paper rubrics into electronic rubric form. The existence of the electronic rubric is considered to be more efficient in identifying needs in the aspect of improving student performance and in improving the quality of teaching [24].

Advances in technology and the internet have impacted the development of an electronic rubric that is increasingly sophisticated and is multi-platform based, also known as cross-platform [25]. The presence of multi-platform technology in education is inseparable from smartphones and tablet computers that help in the learning process due to practicality considerations, personalization, modernization, and minimizing the cost of providing learning facilities [26]. A multi-platform application is a multimedia software that supports several operating systems and several devices [27]. Multi-platform applications are web-based applications that can be executed on multiple devices such as smartphones, PCs, and gadgets. Operating systems that support this application include Blackberry OS, Android OS, IOS, and Windows Phone OS.

3. Experimental Method

The e-Rubric multi-platform development as a soft skills assessment tool in this study adopts the 4D-Thiagarajan model. The 4D-Thiagarajan procedure is divided into four stages: Define, Design, Develop, and Disseminate [28]. The 4D-Thiagarajan model categorizes the product development process; explicit, detailed, and systematic development operational steps; the terms used are easy to remember. The product development process involves expert judgment so that before field trials, the learning devices have been revised based on the assessment, suggestions, and input of experts. The flow of e-Rubric development in this study is illustrated in Fig 1. The data analysis technique used in this study is qualitative and quantitative descriptive analysis. Expert validation sheets and limited trial questionnaires to small groups are qualitatively presented and interpreted with the stages of data reduction, data presentation, concluding, and data verification. Data presentation is made in tables, diagrams, and pictures.

4. Results and Discussion

The content of the soft skills assessed in the creative-arts field, especially Karawitan art, is focused on five aspects with amount of indicators of soft skills, namely: **memory and concentration** (cognitive behavior, affective behavior, psychomotor behavior, language behavior); **openness to feedback/self-awareness** (identifying emotions, accurate self-perception, recognizing strengths, self-confidence, self-efficacy); **communication and teamwork** (oral, speaking capability, written, presenting, listening, interacting with teammates, keeping the team on track, expecting quality); **creativity and innovation** (task motivation, creativity skills, expertise) and **self-discipline** (responsibility, honesty, patience, perseverance). The indicators of soft skills competencies that are inputted in the multi-platform e-rubric are in line with the needs for soft skills competencies in the creative arts industry. The rubric which is developed into a multiplatform e-Rubric as a soft skills assessment instrument is adopted through the adoption of a web-based online rubric maker known as SmartRubric. The flow of multiplatform e-Rubric's development through SmartRubric is illustrated in the Fig 2.

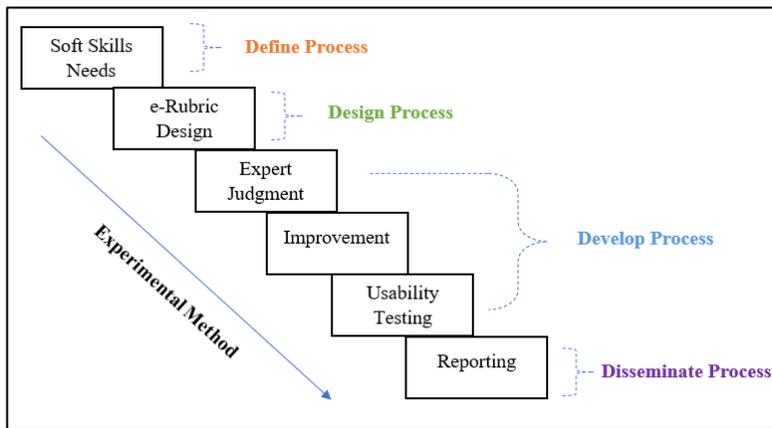


Fig. 1. Research flow.

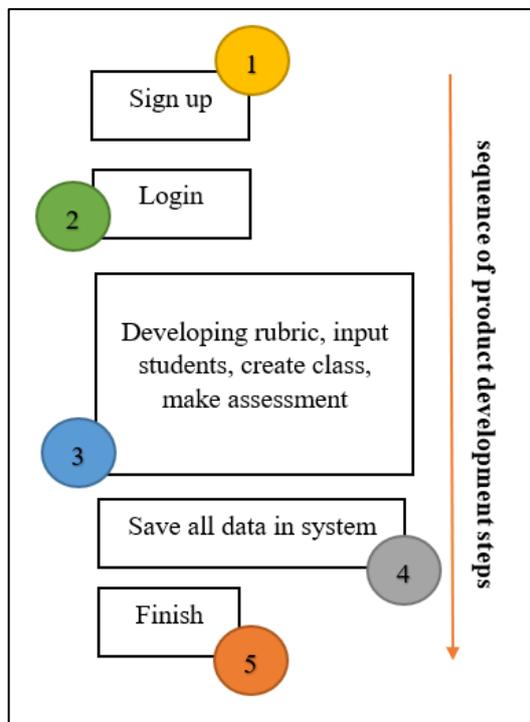


Fig. 2. Improvement flow of the multi-platform soft skills e-rubric.

The multi-platform e-Rubric for assessing soft skills in the *Karawitan* is designed to include five aspects of the criteria and four soft skills teaching levels. The level of measurement for soft skills is designed from the lowest to the highest level, level 1 to level 4. Each level has a value of its own. The total points for each aspect of the soft skills criteria are 20 points. Level 1 has the lowest amount, starting at 0, while level 4 has the highest value, which is a maximum of 20 points. The soft

skills level set out in this section defines the performance of the assessed person's soft skills, from the worst actions to the best or ideal behavior simultaneously. In general, the soft skills statement section attempts to direct assessors (teacher/instructor/institution) in observing behavior from negative to positive by the intensity of the occurrence of these behaviours, beginning from "always," "often," "rarely" and "never." The results of the points obtained in the soft skills assessment using this rubric are then translated into the grading system "A, B, C, D, and E." The highest total points will get a grade of "A" with a maximum percentage limit of 100%. Meanwhile, the lowest points will get grade "E" with the lowest percentage limit is 0%. This multi-platform e-rubric soft skills can provide an overview of the achievement of soft skills competencies possessed by students starting from the worst competency level to the best competency level. The results of the assessment obtained can also provide specific feedback. Besides, the evaluation progress report can be monitored by the evaluator, either classically or individually. The soft skills behavior indicator on the e-rubric multi-platform can be observed and measured. It is possible to re-input the indicators of the required soft skills competition. The display of soft skills assessment process in multiplatform e-rubric soft skills is illustrated in the Fig 3.

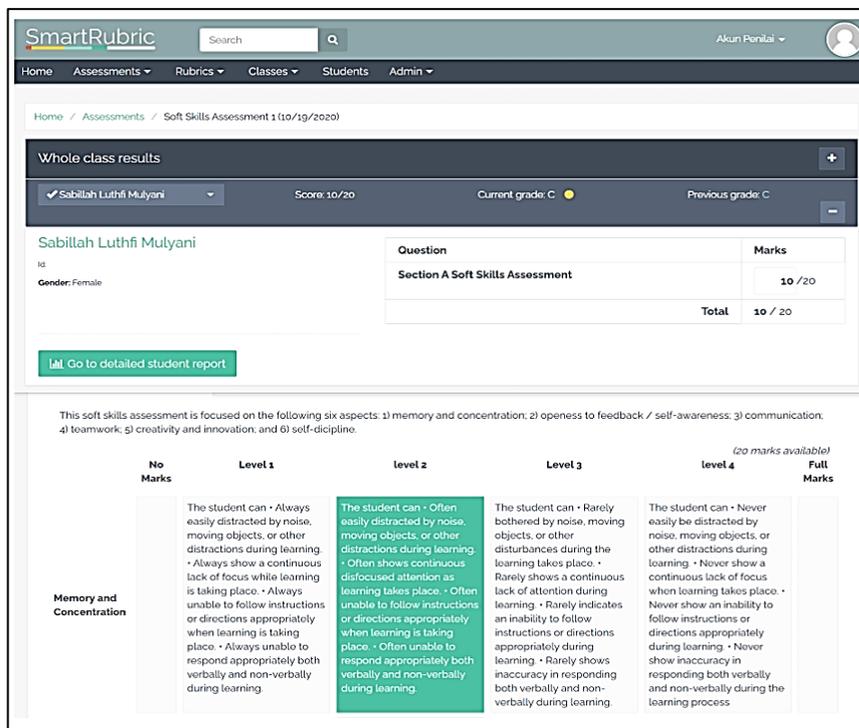


Fig. 3. Display of soft skills assessment process in e-rubric.

The multiplatform e-rubric has been validated by five experts consisting of evaluation experts (one lecturer), IT experts (two lecturers), and musical experts (one of *Karawitan* practitioner and one of humanist). The type of test is divided into two types, which are the content test and the system test. The results of the interpretation of the two validity tests are shown in the following table. Based on

Tables 1 and 2, it can be seen that the multiplatform e-Rubric has been developed; when viewed in terms of content, it is appropriate to be used as a measure of soft skills competence in vocational education in the creative arts field, in particular *Karawitan* art. As for the system, this multiplatform e-Rubric is very feasible to help the evaluator or assessor work in the soft skills assessment process. The multi-platform e-rubric soft skills product after being revised based on experts' validation, then testing the product in small/limited groups. This trial is included in a series of development processes in the research flow. This test is carried out to obtain information related to the usability of the product that has been developed based on the perceptions of potential users to use this multi-platform e-rubric soft skills. The validity results are used as materials for product improvement so that the final product is suitable for use in the assessment of soft skills in vocational education, especially in the creative arts of *Karawitan* art.

Table 1. Soft skills rubric content validity test.

Aspect	Percentage	Criteria
Instruction	83%	Good
Content	77%	Good
Language	70%	Merit
Content Total Validity Test	76%	Merit

Table 2. Multiplatform e-rubric soft skills system validity test.

Aspect	Percentage	Criteria
Instruction	90%	Good
Content	83%	Good
Language	75%	Merit
System Total Validity	83%	Good

5. Conclusion

A multi-platform e-rubric to measure students' soft skills competence in vocational education in creative arts, especially *Karawitan* arts, has been developed. The findings from the study indicate that the multi-platform e-rubric soft skills that have been developed and through validation tests by experts in terms of three aspects such as instruction, content, and language as a whole are suitable for measuring the competence of soft skills in vocational education in the creative arts field, especially in the *Karawitan* art.

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