International Social Sciences and Humanities
UMJember Proceeding Series (2024) Vol. 3 No 2: 268-274

KOPI X LATTE 2024

Analysis of Aspects of Collaboration Skills Assessment in Rubrics 21st Century Learning Design

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Published: May, 2024

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Abstract: This research aims to reveal aspects of collaborative skills assessment in the 21st Century Learning Design rubric. This study is qualitative descriptive research focusing on a rubric for assessing collaboration skills. The research was conducted at SMA Muhammadiyah 3 Jember and began in February. The population of this study comprises Biology teachers, while the sample consists of class X Biology teachers selected through random sampling. The school was chosen because no similar research had been conducted at SMA Muhammadiyah 3 Jember. The result of this study is that Microsoft's 21st Century Learning Design rubric consists of five aspects: cooperation, responsibility, sharing roles, making substantive decisions together, and interdependence. These aspects of collaboration skills are further developed by designing assessment criteria aligned with these five aspects in the 21st Century Learning Design rubric. This rubric instrument can help educators analyze the extent of student collaboration skills at SMA Muhammadiyah 3 Jember.

Keywords: Collaboration; Rubric; 21st CLD, Aspect

INTRODUCTION

Education in the 21st century era is education that prioritizes the skills or abilities of human resources so that they can compete in society. Education is one of the important factors to create competent human resources in their fields (Mariati & Hajar, 2022). Therefore, education in Indonesia currently applies the Merdeka Curriculum. According to Feriyanda (2023) in the curriculum, the learning process, learning outcomes and assessment or evaluation of the process are important components in learning. These components are interrelated with each other. The learning process in the independent curriculum strives to achieve learning outcomes. Meanwhile, assessment activities are carried out to assess or measure the success rate of learning outcomes. Assessment can also be used to determine strengths and weaknesses in learning activities.

Assessment is an activity in obtaining data and information about the learning process and outcomes of students (Feriyanda, 2023). Assessment is carried out by analyzing data about the activities carried out by students systematically so that it becomes meaningful information for decision making. According to Nurhaifa (2020) one type of assessment is a rubric that has clear criteria to be used as a reference. Assessment of ability or attitude skills using observation instruments measured by observers in learning activities. The instrument is in the form of a check list with various criteria. Assessment of skill competencies is assessed using assessment rubrics. A good rubric is that there is a short and clear description and there is no similarity in scores to object observations made at the same time (Hamdu & Suryani, 2019). In the research rubric, there are aspects that will be assessed directly by the teacher (Dzakhiroh, 2020).

Rubrics can be used as assessment guides that describe the standards that teachers want to assess or determine the level of work of students. The rubric should include a list of desired characteristics that must be demonstrated in the student's work, along with guidelines for assessing each characteristic (Khairani Muhammad, 2021). Rubrics allow teachers to measure certain skills and abilities that cannot be measured with a standardized testing system to assess students' knowledge (Winaryati, 2018). This means that the selection of the right assessment rubric is one of the determining factors for learning success in each teaching material (Ernani et al., 2023). The 21st century learning rubric emphasizes collaborative skills as one of the main pillars to build the character of cooperation in students. Therefore, this study used Microsoft's 21st Century Learning Design rubric to determine the level of collaboration.

The Merdeka Curriculum focuses on the learning process that meets the needs and characteristics of students. This will allow the student to develop freely according to his talents, potential, and desires (Amdani et al., 2023). According to Widana, Partnership for 21st Century Skills (P21), there is "The 4Cs" of abilities that students must have, one of which is the ability to collaborate (Widana, 2018). Collaboration ability itself is a form of cooperation between two or more people who want to achieve mutually agreed goals (Aliza *et al*., 2013). This collaboration allows a group to make better decisions or solutions than individuals (Saleh & Saenab, 2022). Based on this explanation, it is corroborated by the results of Ilma's research (2022), stating that students' collaboration skills need to be strengthened through collaborative learning. However, for the strengthening of students' collaboration skills, teachers previously needed an understanding of the importance of collaboration skills for students to face the challenges of the 21st century.

Collaboration skills in the process students will ask each other's opinions, actively listen, and communicate. This will encourage collaboration skills such as cooperation, responsibility, and mutual respect for each other's opinions (Nur Fitriana, 2023). While the condition of collaboration is the same as in SMA Muhammadiyah 3 Jember where collaboration skills are still not well developed due to differences in the character of each student in following the biology learning process. Therefore, research becomes important to know how good students' collaboration skills are, especially on biological material (Ilma et al., 2022). Thus, this study aims to reveal aspects of how collaborative assessment can be used to meet the needs of 21st century learning and become new research in the world of education.

Based on this phenomenon, this research hopes to be able to help teachers in assessing collaboration skills and understanding aspects of collaboration according to the rubric of 21st Century Learning Design to be applied properly.

METHOD

This research employs a descriptive qualitative approach, focusing on a rubric for assessing collaboration skills. This method was chosen because the analysis is qualitative, emphasizing descriptive criteria for meeting aspects of collaboration skills based on the 21st Century Learning Design rubric. The primary data consists of a 21st Century Learning Design collaboration skills assessment rubric, while the secondary data consists of class X Biology teachers. Data collection techniques include interviews, observations, and literature studies. Data analysis techniques involve descriptive interpretation, as the data requires a detailed descriptive explanation. The research was conducted at SMA Muhammadiyah 3 Jember, starting in February. The population of this study comprises Biology teachers, while the sample consists of class X Biology teachers selected through

random sampling. The school was chosen because no similar research had been conducted at SMA Muhammadiyah 3 Jember. The instrument in this study is the researcher, serving as a human instrument. The collaboration skills assessment rubric instrument is sourced from Microsoft's 21st Century Learning Design rubric.

RESULTS AND DISCUSSION

The 21st Century Learning Design rubric or 21 CLD is an assessment rubric designed by Microsoft to help educators design learning activities for students by developing collaboration skills (Microsoft, 2023). This rubric introduces levels of collaboration such as working together, being responsible, making substantive decisions together and working on interdependence. It can be seen in **Table.1** that the level aspect is divided into 5 levels.

21st CLD's rubric captures the big idea or notions of collaboration that serve as a performance framework for designing activities that involve collaboration capabilities. Collaboration 21st CLD's rubric examines the activities and quality of student collaboration during the learning process. Educators must recognize that there are many different levels of collaboration for each student. Therefore, educators simply place students into groups. In reality, placing students in pairs or groups does not guarantee they will collaborate in learning.

Tabel 1. 21st Century Learning Design Rubric

Level	Collaboration Level Aspect
1.	Students are not required to work together in pairs or in groups
2.	Students work together with other students in pairs or groups
	But students **do not** have shared responsibility in completing a project
3.	Students have shared responsibility in completing tasks/projects
	But students **do not** oblige to make substantive decisions together
4.	Students have shared responsibility in completing a task / project.
	Students make substantive decisions together
	But their work is **not** independent
5.	Students have shared responsibility in completing a task / project.
	Students make substantive decisions together
	Their work is interdependent

Each level of collaboration (one to five) is described within the rubric. Based on **Table 1.** The above shows that at level 1 is the aspect of working together where students are not required to work together in groups. At level 2 students can work together but are required to take joint responsibility in completing the project. Meanwhile, at level 3 achievement, students have joint responsibilities but are not required to make joint substantive decisions. Similarly at level 4, only at level 4 learners can make substantive decisions together but are not interdependent. Level 5 aspects that are emphasized to meet this level are aspects of interdependence in completing work. The collaboration aspects in the rubric are described in **Table 2.** with various criteria that will assist teachers in assessing students' collaboration abilities during learning activities.

Tabel 2. Criteria for the Collaboration Aspect of the 21st Century Learning Design Rubric

Level	Collaboration Aspect Criteria
1	If students work together, but are not required to work together in groups
2	If you show good cooperation in discussions
	When students help each other in groups to complete tasks
	If students do not share roles and responsibilities in completing tasks.
3	If you show good cooperation in discussions
	If students have shared roles and responsibilities in completing tasks.
	If students show that they are not required to make decisions together in discussions, they can decide their own decisions
4	If students have worked together and have shared roles and have an awareness of shared responsibility in completing tasks.
	If students demonstrate jointly taking and accepting the results of joint decisions in group discussions about all processes of student work
	But their work is not interdependent to solve tasks or problems
5	If students have worked together and have shared roles and have an awareness of shared responsibility in completing tasks. .
	If students demonstrate jointly taking and accepting the results of joint decisions in group discussions about all processes of student work
	If students in the group show that their work is interdependent to solve tasks and problems, formulate problems and make decisions.

Based on **Table 2**. describes the various criteria for assessing aspects of collaboration in Microsoft's 21 CLD rubric. The aspect of cooperation is at least that students must work together with others during learning activities so that collaboration can take place. To meet this level of collaboration, students must work in pairs or groups to discuss a problem, solve a problem, or create a product. Students work together, by working face-to-face or using technology to share ideas or resources. However, in this aspect of cooperation, students are not required to work together in groups. Where students do their own work, the whole class discusses an issue and sends it to educators for feedback.

At level 2. The criteria for this responsible aspect are if students have worked together, helped each other but they do not share roles and responsibilities in completing tasks. To achieve a deeper level of collaboration at Level 3, learners also need to have a shared responsibility aspect for their work. An important criterion in this aspect if students have shared roles and responsibilities in completing tasks. But in this aspect, it is not required to take decisions together in discussions and can decide decisions on their own. An attitude of shared responsibility is more than just helping each other, learners must collectively own the work and hold each other accountable for the outcome.

At a deeper level of collaboration, a necessary aspect is that students have the opportunity to make substantive decisions together. Learners make substantive decisions together when they need to resolve important issues or issues that will guide them as they work together. Learners make substantive decisions about important issues or topics that affect the academic content of their work together. The criterion in this aspect is if

students demonstrate jointly taking and accepting the results of joint decisions in group discussions about all processes of their work but are not interdependent.

Based on level 5 the strongest learning activities are designed so that learners' work is interdependent, requiring all members to contribute in order for the group to succeed. In order to meet these criteria, learners must produce interdependent products. This may be from the presentation activities they each share in developing and presenting, or decision responsibilities that require information to be distributed to all team members.

Interdependent work mostly involves two levels of accountability: individual and group accountability (Microsoft, 2023). Too often, a group of learners may share responsibility for an outcome, but in practice the work is not shared fairly. One or two learners can do all the work for the team. This is in accordance with the results of observations at SMA Muhammadiyah 3 Jember where Class X when doing group activities, they tend to be only one or two students who do all the work in one group. The statement was delivered directly by the teacher of class X Biology subject who stated that the collaboration skills of student participants were still very lacking so that the assessment was only given from the results of completing their assignments. So that with the collaboration assessment rubric instrument 21 CLD **Table 3.** This can help and provide an overview to teachers in providing collaborative assessment.

Tabel 3. Instrument Collaboration Rubric

No	Name	Indicators				
		1	2	3	4	5
1						
2						
3						
4						
5						
etc.						

Conclusion of Observer Results

Based on the aspects described in **Table 1.** and **Table 2.** that collaboration skills can be developed and included in the form of assessment instruments. This rubric instrument consists of numbers, student names, indicators and places to conclude observations. This instrument was developed by presenting. This instrument is the ability to be used by observer analysis and described the results including at what level of student collaboration. The collaboration ability of students is stated to be very high level of collaboration when they reach **level 5** according to the criteria of the learning rubric.

CONCLUSION

Based on the results of the research that has been described, it can be concluded that the 21st Century Learning Design collaborative assessment rubric has several important aspects, namely aspects of working together, being responsible, aspects of sharing roles, aspects of making substantive decisions together and

aspects of interdependence. These aspects are designed so that educators can develop learning activities with the target of collaboration skills needed by students. This rubric instrument can help educators in analyzing the extent of student collaboration skills at SMA Muhammadiyah 3 Jember and other schools. It is hoped that in the future this assessment rubric can be developed and researched again by other individuals so that it can help teachers in designing effective learning.

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