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Profile Perception of Student's Collaboration and Creative Thinking Skills in Physics

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Abstract: The purpose of this study is to describe the results of identifying perceptions of 21st century skills on aspects of student's collaboration and creative thinking skills in physics subjects according to the perceptions of students of SMP N 1 Bungaraya. This type of research is descriptive research. The respondents in this study were 20 students. The data collection instrument used in this study was a questionnaire of student's perceptions of collaboration and creative thinking skills. Based on data analysis, perception aspect collaborations skills that have conducted are in category low. Aspects of student's creative thinking skills in physics subjects are in the very low category according to student's perceptions. The results obtained can be used as a reference for subsequent researchers to conduct Classroom Action Research, development research such as the development of learning media, learning modules and learning models.

Keywords: Creative Thinking Skills; Collaboration; Perception, skills of 21st century

Introduction

The 21st century is marked as openness or century globalization, that is life humans in the 21st century experience fundamentally different changes with life style in century before (Malik, 2018) . With itself the 21st century asks resource quality human resources, which are produced by managed institutions in a manner professional so that produce results featured . Complete demands, new the request various breakthrough think, composer concepts, and actions (Wijaya et al., 2016).

Education in the 21st century is demanding various a must skill mastered someone, so expected education could prepare student for control various Skills it to be successful personality in live (Permana et al., 2019; Sarwi & Ellianawati, 2019). Skills important in the 21st century still relevant with the 4 pillars of life that include learning to know, learning to do, learning to be, and learning to live together (Hikmawati et al., 2021; Afikah et al., 2022).

Achievement Skills the 21st century conducted with renew quality learning (Alam, 2022), help student develop participation, customize personalization learning, emphasizing on learning based project/problem, encourage cooperation and communication, improve engagement and motivation students, civilize creativity and innovation in learn, use means proper study, design activity relevant learning with the real world, empowering metacognition, and explicit taught. Kindly short, learning the 21st century has principle tree that role public and teacher in carry out learning 21st century is very important for create the future child more nation. Therefore, education system must be oriented on perception and development skills 21st century students. In 21 st century partnership learning framework, available a number skills 21st century a must developed in students in contemporary learning (González-Pérez & Ramírez-Montoya, 2022), namely (1) skills think critical and solving problem (*critical-thinking and problem skills*); (2) skills

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communicate and cooperate (*communication and collaboration skills*); (3) skills creating and updating (*creativity and innovation skills*); (4) literacy technology information and communication (*information and communications technology literacy*); (5) skills study contextual (*contextual learning skills*); and (6) skills information and media literacy (*information and media literacy skills*) (BSNP, 2010).

Learning physics at school own role central in supply skills 21st century to student. Purpose learning physics contained within draft curriculum 2013 is dominate concepts and principles physics, have skills develop knowledge and attitude believe self as stock for continue education, as well as stock for back up knowledge, science, and technology (Abidin, 2014). Skills the 21st century is required skills clan young to succeed compete in the 21st century. Everyone is educated must own deep core skills literacy and numeracy and the skills that enable it think logical and solving problem in a manner effective and independent. Illustration a rainbow could describe what is needed student through eye combined school lessons with skills 21st century. Structure and components from illustration rainbow the that is necessary skills, knowledge and expertise mastered student for work and live with success in the 21st century (Trilling & Fadel, 2019), can see in Figure 1.

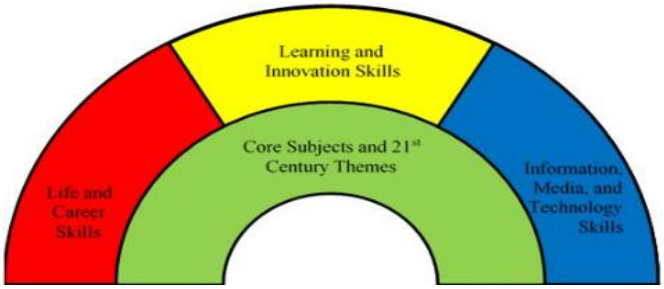

Figure 1. Rainbow of 21st Century Knowledge and Skills

Study about perception Skills the 21st century has identified based on teacher perception. Perception the seen During learning practicum conducted by 25 teachers (Putri, et al., 2017). Whereas study about perception skills 21st century in aspects collaboration and creative thinking skills not yet done .

The need identify perception skills 21st century in aspects collaboration and student's creative thinking skills so that later the teacher can increase second skills aspect the through enhancement quality learning (Suwarma & Apriyani, 2022).

Skills 21st century in aspects collaboration and creative thinking skills is focus in learning physics. Facts on the ground, students who excel in a manner academic, champion olympics on the bench school no compared straight with success in the world of work. More urgent from achievement it, someone will more succeed in the world of work if he own Skills good collaboration with colleague work nor in team work (Gardner, 2020).

Collaboration is Skills in interacting with other people in the form activity work together for reach purpose with value difference, participate in discussion, brainstorming, listening, and supporting others (Slater, 2004; Tang et al., 2020). Learning collaboration make it easy student for study and work together (Ulfa et a., 2021), mutually donate thought and responsible answer to achievement results study in a manner group nor individual. Different with learning conventional, pressure major in learning collaboration is study together. There are several advantage gained through learning collaboration, including achievements study more high understanding student more deep, study more fun, develop skills leadership, improve positive attitude, study in a manner inclusive, feel each other own and develop future skills (Werth et al., 2022).

Trilling & Fadel (2009) revealed that competence collaboration is: (1) Show ability for work in a manner effective and honor difference group; (2) Train for own flexibility and will compromise whichneeded for reach purpose together; (3) Assuming that Duty collaborative is not quite enough answer together and value contribution individually by each member team.

Learning 21st century is also demanding student for creative thinking. Achievement skills 21st century can conducted with renew quality learning, help participant educate improve and develop participation, encourage cooperation and communication as well as civilize creative thinking skills so that learning could activity centered participant educate with guidance and supervision from the teacher (Zubaidah, 2016).

Think creative emphasize the method divergent thinking, productive, as well empower copyright. Kemdikbud (2016) suggests a number of prowess related creativity that can developed in learning, including (1) having ability in develop, implement, and deliver ideas new in a manner oral or writing, (2) attitude open and responsive to perspective new and different, (3) capable put forward creative ideas in a manner conceptual and practical, (4) using concepts or his knowledge in situation new and different, either in eye lesson related, inter eye lessons, as well in problem contextual, (5) using failure as vehicle learning, (6) have ability in create novelty based on knowledge owned, and (7) capable adapt in situation new and deliver contribution positive to environment.

Method

This research is classified as descriptive research, namely research conducted to describe or explain

systematically, factually, and accurately about the facts and nature of certain populations (Sugiyono, 2010). Respondents in study are students class IX.2, SMP N 1 Bungaraya, districts Siak, Riau province. Instruments used in study this form sheet questionnaire perception of collaboration and student's creative thinking skills. Deep data analysis study done at the time data collection takes place in period certain. Activity in data analysis, namely data *reduction*, data *display*, and *conclusion drawing/ verification* (Sugiyono , 2010). Questionnaire data analysis use Likert scale with give score on each answer statement alternative corresponding table 1.

Table 1 . Category Skills Collaboration and Thinking Creative Student

Average Score	Category
$3.25 < X \leq 4.00$	Very High
$2.50 < X \leq 3.25$	Tall
$1.75 < X \leq 2.50$	Low
$1.00 < X \leq 1.75$	Very Low

After the questionnaire data has collected, then conducted data processing and presented in diagram form and analyzed. Data analyzed use descriptive statistical analysis. Data analysis techniques using four Likert scale category, i.e. strongly agree = 4, agree = 3, no agree = 2, absolutely not agree = 1.

Result and Discussion

Study conducted in class IX.2 SMP N 1 Bungaraya. Exploration perception student to collaboration and creative thinking skills conducted with use sheet questionnaire student's perception, involving 20 students as respondents. Questionnaire perception student consists of 6 statements about collaboration , and 6 statements about creative thinking skills. Questionnaire spread using google forms.

Questionnaire Perception Student to Skills Collaboration

Questionnaire is addressed questionnaire for student state his opinion about collaboration. From the results data recording on google form, there are 6 statements and answers presented in table 2.

Table 2 can explained that in statement (1) there are 20% of students strongly agree and 65% of students agree; (2) there are 35% of students strongly agree and 35% of students agree; (3) there are 50% of students strongly agree and 50% of students agree; (4) there are 15.8% of students strongly agree and 57.9% of students agree; (5) there are 15% of students strongly agree and 60% agree; (6) there are 35% of students who strongly agree and 30% of students agree. From these data could seen that has there is a good capital base on perception beginning student about collaboration, however still need improved on some another aspect.

Table 2. Percentage of Mean Questionnaire Score Perception of Collaboration

Statement	Percentage (%)			
	totally agree	agree	no agree	very not agree
I like study physics group.	20.0	65.0	15.0	0.0
Learn group make me more understand the lesson.	35.0	35.0	30.0	0.0
I accept enter to group that has determined by the teacher.	50.0	50.0	0.0	0.0
I like collaboration for complete something project physics.	15.8	57.9	21.1	5.2
I participate active in discussion group.	15.0	60.0	25.0	0.0
I couldn't agree more given chance presentation group in learning physics.	35.0	30.0	30.0	5.0

Kindly general, students not yet used to study and work in a manner effective in the group. According to Cerelia et al. (2021) collaboration no waking up during a pandemic. This is be one of the reason student's collaboration skill are low.

Transition period Among Covid-19 pandemic and endemic, activities learning in schools began enforced pattern Meeting stare Advance (PTM) limited. Student already can study stare advance with the teacher in the rooms class in limited amount and time (Archer et al., 2020). Collaboration and creative thinking skills not yet optimized during endemic times.

Collaboration skills must trained on students. Skills good collaboration will impact good at ability cognitive, affective, and psychomotor student. A number of advantage gained through learning collaboration, including achievements study more high understanding student more deep, study more fun, develop leadership skills, improve attitude positive, study in a manner inclusive, feel each other own and develop future skills (Makkonen et al., 2022).

Questionnaire Perception Student to Creative thinking skills

The Questionnaire is addressed questionnaire for student state his opinion about creative thinking skills. From the results data recording on google form, there are 6 statements and answers presented in table 3.

Table 3. Percentage of Mean Questionnaire Score Perception Of Creative Thinking Skills

Statement	Percentage (%)			
	Totally agree	agree	no agree	Absolutely not agree
I couldn't agree more give different examples with example given by the teacher.	45.0	45.0	5.0	5.0
Moment discussion I have different opinion with opinion another friend.	25.0	30.0	35.0	10.0
I do about with different ways order more short and easy.	5.0	15.0	40.0	40.0
I added answer less friends complete on whiteboard.	0.0	5.0	30.0	65.0
If there aren't tools, i use tool that isn't function. (eg card student used as ruler).	5.0	35.0	40.0	20.0
I read other books besides book lessons at school for add insight .	5.0	20.0	65.0	10.0

Table 3 can explained that in statement (1) there are 45% of students strongly agree and 465% of students agree; (2) there are 25% of students strongly agree and 30% of students agree; (3) there are 5% of students strongly agree and 15% of students agree; (4) there are 0% of students strongly agree and 5% of students agree; (5) there are 5% of students strongly agree and 35% agree; (6) there are 5% of students who strongly agree and 20% of students agree. From these data could seen that perception beginning student about creative thinking skills still belong low on sixth aspect statement.

Need trained learning based project for increase students's creative thinking skills (Mayasari et al., 2016). This confirmed by the studies conducted Umam & Jiddiyyah (2020) which was successful train creative thinking skills as one skills 21st century use learning based project .

From the data in Table 2 and Table 3, using Likert scale are obtained mean scores and categories on perception student about collaboration and creative thinking skills as in Table 4.

Table 4. Categories Perception Of Collaboration And Creative Thinking Skills

Indicator	Average	Category
Collaboration	2.0	Low
Creative thinking skills	1.5	Very low

Table 4 explains that skill indicator collaboration own the average value of 2.0, is in the category low. While the skills indicator of creative thinking own the average value of 1.5 is in the very low category.

Conclusion

Based on research and analysis of perception data beginning collaboration and creative thinking skills student could concluded that collaboration skill belong in category low, and creative thinking skills belong very low category. This is due to the effect of student's lack of habit of learning in groups in the classroom due to online learning for approximately two consecutive years. Students are poorly trained in project-based learning, so their creative thinking skills are not well honed. Result of study could made reference by researchers other for do Classroom Action Research , research and development (like development of learning media, modules learning and learning models).

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