Student Motivation in Learning Through the Use of the 21st-Century Learning Activities

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Abstract

To materialize the country's aim of achieving the status of a developed country, the Malaysian government has carried out various agendas and observations from all angles and the field of the economy, including in the field of education. Thus, the stress on the concept of 4C 1V (critical thinking, creativity, communication, collaboration, and good moral values) in Malaysia's education systems has been applied and because of that, 21st-century learning comes into existence. This study aims to identify students' motivation level in learning through the use of 21st-century learning activities and evaluate the 21st-century learning activities that have a relationship with student motivation in learning. This study used a quantitative correlation approach by using a questionnaire form as the study instrument. A total of 90 students as respondents were involved in this study. The findings show that the student's motivation level through the use of 21st-century learning activities was at a high level. The think pair share activity is the one that is the most impactful to students' motivation. The finding is very significant to guide teachers in the implementation of 21st-century learning activities to enhance student motivation.

Keywords: Motivation; 21st-century Learning; ARCS Model; Geography

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Introduction

Since the 11th Malaysia Plan, 2016-2020 (11MP) the main agenda of Malaysia is to produce human capital that is knowledgeable, skilled, and has a positive attitude to continue to prosper in the global economy. To fulfill the aim and agenda outlined in the 11MP, a reformation has been done beginning with the education system. The education system in Malaysia has undergone several phases of change where these changes take place to fulfill the demand and need in various economic sectors or fields in this country for the future. For example, in 2012, Vocational Basic Education (VBE) was introduced at the lower secondary levels in 15 secondary schools. In 2019, VBE was carried out in 81 secondary schools all over Malaysia (JPT, 2020). The aim of the implementation outlined by this VBE by the Minister of Education Malaysia in 2011 is to offer an opportunity to the post-UPSR (Primary School Assessment Test) students to be the human capital who have the working skills and who are ready to advance to higher learning (KPM, 2016). The establishment of VBE is an initiative taken by the ministry to fulfill the national demand in all the sectors identified for national development and so on. Other than that, this step can also reduce the dependency of Malaysia towards foreign labor when Malaysia is capable of producing its labor, be it unskilled, semi-skilled, or skilled.

Other than VBE, another big change that has taken place in the education system in Malaysia is the implementation of the Secondary School Standard Curriculum (KSSM) that replaces the Secondary School Integrated Curriculum (KBSM). In the Ministry of Education Circular No 9 for the year 2016, KSSM was implemented in stages in all secondary schools including special education (KPM, 2016). Until 2020, several subjects in school still use KBSM although KSSM has been carried out for almost all subjects at school. For example, the subject Geography in Form 5 still uses KBSM. Ministry of Education Circular Letter No. 9 for the year 2016 also states that the Malaysian Education Development Plan proposes that KBSM is revised together with the Primary School Standard Curriculum (KSSR) by emphasizing the mastery of skills in the 21st-century like critical thinking, creativity and innovation, problem-solving, and leadership to enable students to compete at the global level. Malaysian Education Development Plan 2013-2025 also suggests that KSSM adopts an hourly time allocation per year to implement teaching and learning where teaching and learning are changed to learning and facilitation in line with 21st-century learning. This study aims to identify students' motivation level in learning through the use of 21st-century learning activities and evaluate the 21st-century learning activities that have a relationship with student motivation in learning.

Literature Review

Motivation Concept

Motivation comes from the Latin word "movere" which means "moving". "Moving" in the context of motivation means having the will and desire to succeed or to achieve a purpose (Mohd Zaki, 2009). The same concept has been highlighted by Isa et al. (2021) with the view that motivation is the mover to the desire and will to succeed or to achieve a purpose. Motivation is also said to be the plan for success for oneself or the stimulation needed to avoid failure. According to Isa et al. (2021), motivation is both an internal and external process said to be able to move an individual to show performance as required to achieve the objective intended. The motivation to learn is not something imposed or forced, but it emerges slowly from within a student.

ARCS Model of Motivational Design

ARCS model of motivational design is a model developed by Keller in 1987 to find a more effective way to understand the main influence of study motivation, a more systematic way to identify and resolve the issue more effectively using this motivation model. This learning motivation model is divided into four main indicators covering most of the research fields about the motivation for every human, the motivation design that fits the teaching design model often used by educators and others. Among the indicators in the model are attention, relevance, confidence, and satisfaction. The development of this motivation model in the learning design

aims to help and stimulate students' motivation in teaching and learning sessions in the classroom (Keller, 2010).

Motivation for Learning

Motivation in learning is influential to students' performance and behavior. According to Isa et al. (2021), students who have high motivation levels tend to obtain better exam results compared to those with low motivation levels. This is because students' motivation spurs them to study hard and understand the things they learn.

According to Ayuni and Rohaidah (2016), motivation and aim are closely connected. This indicates that one's aim can be achieved if the individual has high motivation as it can help the individual to achieve anything that he or she desires. Other than that, individuals who have the motivation and aim will also show great interest and prefer the activities that need to be taken before the aim is achieved. Motivated and purposeful individuals will also demonstrate a high level of self-confidence when they succeed as they are also seen as having a motive or reason for everything that they do.

According to Isa et al. (2021), the existence of motivation in students indirectly will achieve satisfaction and fun in learning, and it will make them realize the importance of learning in their lives. That said, this will not be achieved if the students are not ready to learn. The readiness to learn depends on the right motivation, so motivation is essential in motivating learning.

Motivation is seen as an element that enables students to get involved actively in the process of teaching and learning. Other than that, motivation makes the learning process happen in a meaningful, beneficial, and fun situation. Thus, teachers should always consolidate their students immediately when they demonstrate positive behavior. This consolidation can be done in various forms like praises, smiles, or gifts to make sure that students' motivation level and their performance are improved. This indirectly shows that intrinsic motivation like interest, aim, and tendency of the students influences the students' level and academic performance.

21st-Century Learning

21st-century learning is the student-centered learning process that leans on the elements of communication, collaboration, critical thinking, creativity also moral values, and ethics. To achieve the aim of the ministry and the vision of our country, 21st-century skills continue to be adopted in the teaching and learning sessions in this country beginning in 2014. The communication implied in 21st-century learning is when there is an interaction between the teacher and the students, student-student and student-verbal and non-verbal materials to deliver the knowledge that they understand and to share the knowledge with friends. Collaborative means there is cooperation and agreement between teacher-student and student-student actively and comprehensively that enables the exchange of ideas and views among students, whereas critical thinking is when there is an exploration of thinking to evaluate ideas logically and rationally to make reasonable considerations using reasonable excuses and evidence. Creativity in 21st-century learning is the process of generating ideas and producing innovative materials, activities, and projects, that are unique and useful, and of high quality. The final element in 21st-century learning is moral and ethical values. Among the 21st-century learning activities proposed at school include gallery walk, round table, 1 stay 3 strays, jigsaw puzzle, think pair share, model construction, head-shots, debate, and i-think map (KPM, 2016).

The National Curriculum and the National Education Evaluation System were revised and ensured to produce holistic students and students who master 21st-century skills in facing both current and future challenges. Primary Schools Integrated Skills (KBSR) was changed to Primary School Standard Curriculum (KSSR) and the Secondary School Integrated Curriculum (KBSM) was changed to Secondary School Standard Curriculum (KSSM). Not only that, the pedagogy for 21st-century learning is also revised for student-oriented learning compared to conventional teacher-centered learning.

Methodology

This study is a correlative quantitative study to identify the student's motivation level through

the use of 21st-century learning activities and the relationship between the dependent variable namely student motivation and the independent variable, 21st-century activities implementation in the classroom. This study uses the simple random sampling method. To this, the sample used in this study was 90 students chosen at random. The study instrument adopted is a questionnaire survey and it was distributed to students to get the data and suggestions on the method of using 21st-century activities.

Data obtained from the questionnaire were analyzed using the software Statistical Package for Social Science (SPSS) 23.0. The analysis adopted was descriptive analysis and inferential analysis. The selected sample comprises form 2, form 4, and form 5 students at SMK Raja Permaisuri Bainun, Ipoh, Perak, or specifically 2 Sigma, 2 Miu, 3 Phi, and 5 Beta. These classes were chosen as the study sample as the students have been exposed to 21st-century activities like gallery walk, round table, 1 stay 3 stray, jigsaw puzzle, think pair share, model construction, head-shots, debate, and i-think map by the researchers as a four-month intervention before the submission of the questionnaire forms to the students so they could fill them in as respondents.

Results and Discussion

Respondents' Background

Around 36 students (40%) comprise of male whereas 54 students (60%) were female. All the respondents were Malays and Muslims. Based on the data analyzed, it was found that 42 students (46.7%) are 13 years of age, 19 students (21.1%) were 14 years of age and the rest 29 students (32.2%) were 17 years of age.

Student Motivation Level Based on the ARCS Model

This section discusses students' motivation level through the use of 21st-century learning activities in teaching and learning based on the motivation indicators examined namely students' attention, relevance, confidence, and satisfaction towards an activity. The level of motivation for every aspect was categorized into four levels namely high, moderately high, moderately low, and low. Table 1 shows the score and the mean interpretation obtained from the aspect of students' "attention". Students' motivation level in this aspect is moderately high. Debate is an activity that holds the attention of students during teaching and learning (mean score of 4.09), followed by jigsaw puzzle (mean score of 4.08), thinks pair share (mean score of 4.08), model construction (mean score of 4.05) and 1 stay 3 stray activity (mean score of 4.01). Students' attention in class does not only depend on the delivery and method used by the teacher during teaching and learning but also taking the use of teaching aids into account. The use of interesting teaching aids can create a very exciting learning situation. This finding was also supported by Yahya and Dayang (2011) in their studies that students using computer applications interactively will get a different performance compared to students using the traditional method.

Table 1. Mean score and interpretation for the indicator of "attention" in learning by activities

Attention		
Activity	**Mean Score**	**Interpretation**
Debate	4.09	High
Jigsaw Puzzle	4.08	High
Think Pair Share	4.08	High
Model construction	4.05	High
1 Stay 3 Stray	4.01	High
Round Table	3.90	Moderately High
Head-shots	3.86	Moderately High
I-Think Map	3.84	Moderately High
Gallery Walk	3.83	Moderately High
Overall	**3.97**	**Moderately High**

Overall, the indicator of "relevance" remains at a high level (mean score of 4.06). Based on Table 2, the activity of think pair share, 1 stay 3 stray, debate, i-think map, gallery walk, and model construction obtained a high mean score for this aspect. The relevance is accounted for through

the standard of learning, the teacher's explanation of the learning objective, the suitable time and arrangement also the width of the class during the learning session. Based on the finding, it is concluded that all the items under the factor of relevance impact students' motivation levels.

Other than that, students' motivation level in class can be enhanced if teachers understand the 21st-century learning concept for the teachers to prepare and be able to carry it out in line with the needs and demands of the students today. This finding is supported by Mohamed Amin (2016) who that teachers need to equip themselves in doing transformation in teaching and learning to fulfill the students' learning in this digital technology era. Table 2 shows the activities based on the mean score and the level of interpretation that has been analyzed.

Table 2. Mean score and interpretation for the indicator of "suitability" in learning by activities

Relevance		
Activity	**Mean Score**	**Interpretation**
Think Pair Share	4.22	High
1 Stay 3 Stray	4.12	High
Debate	4.11	High
I-Think Map	4.07	High
Gallery Walk	4.05	High
Model construction	4.04	High
Jigsaw Puzzle	3.98	Moderately High
Head-shots	3.95	Moderately High
Round Table	3.95	Moderately High
Overall	**4.06**	**High**

Students' confidence level is high (mean score of 4.07) through the implementation of the 21st-century learning method. Based on Table 3, activities that contribute to this finding are think pair share, debate, 1 stay 3 stray, round table, gallery walk, and model construction. All these activities obtained high mean scores overall for contributing to the student's confidence level in learning. Their confidence is measured through the way students talk, their ability to make decisions, the opportunity to voice their opinions, and their ability to do the activity and the formation of human skills after they have done the activity. Based on the work done by Isa et al. (2021), it was found that communication skills in the learning activity can increase students' confidence and interest in learning. It is also found that students' communication during group activities and management activities shows the students' capability in communicating with full confidence. That said, the communication skills in the presentation activities remain at a moderate level as the study finds that there are some weaknesses in the student's communication skills and practice.

Table 3. Mean score and interpretation for the indicator of "confident" in learning by activities

Confident		
Activity	**Mean Score**	**Interpretation**
Think Pair Share	4.22	High
Debate	4.20	High
1 Stay 3 Stray	4.16	High
Round Table	4.10	High
Gallery Walk	4.05	High
Model construction	4.01	High
I-Think Map	4.00	Moderately High
Head-shots	3.97	Moderately High
Jigsaw Puzzle	3.93	Moderately High
Overall	**4.07**	**High**

Students' satisfaction through the implementation of 21st-century learning activities is at a high level (mean score of 4.16)where all the activities show a high mean interpretation. Table 4 shows the mean score and the interpretation score obtained from the analysis. The item

satisfaction studied in this factor shows that these activities can consolidate students' memory, give them the spirit to learn well, ignite their happiness and help them to improve their academic performance. According to the study done by Ainun et al. (2017), students adopt a positive attitude by inculcating the 21st-century skills construct. Indirectly, this demonstrates that students' acceptance of the 21st-century learning method shows a very positive change.

Table 4. Mean score and interpretation for the indicator of "satisfaction" in learning by activities

Satisfaction		
Activity	**Mean Score**	**Interpretation**
Debate	4.28	High
1 Stay 3 Stray	4.24	High
Think Pair Share	4.23	High
Model construction	4.19	High
Gallery Walk	4.14	High
Jigsaw Puzzle	4.13	High
I-Think Map	4.12	High
Round Table	4.11	High
Head-shots	4.05	High
Overall	**4.16**	**High**

Table 5 shows the mean score and the interpretation by activity based on four indicators namely "attention", "relevance", "confidence", and "satisfaction" of students in learning by implementing the 21st-century learning activities done by teachers in class. The findings show that the activity of think pair share obtains the highest mean score compared to other activities with a mean value of 4.18.

Table 5. The mean score and interpretation for all indicators

ARCS Indicators			
Motivation Aspect	**Activity**	**Mean Score**	**Interpretation**
Attention Suitability Confidence Satisfaction	Think Pair Share	4.18	High
	Debate	4.17	High
	1 Stay 3 Stray	4.14	High
	Model construction	4.07	High
	Jigsaw Puzzle	4.03	High
	Gallery Walk	4.02	High
	Round Table	4.02	High
	I-Think Map	4.01	High
	Head-shots	3.96	Moderately High

Relationship between the Motivation of Students and Implementation of 21st-century Learning Activities

Table 6 shows the relationship between motivation and the 21st-century learning activities implemented among students. Based on the correlation value there is a positive relationship between students' attention in learning and the 21st-century learning activities implemented in the classroom. For students' attention, the round table activity obtained the highest and most significant correlation value (r=0.723, p<0.01) which is a strong positive relationship. The same goes for the aspect of the relevance of the activity. Round table activity also has the highest and most significant correlation value compared to other activities which are (r=0.815, p<0.01). This value shows that there is a very strong and positive relationship between the round table activity implemented among students and the relevance of the content so that they can bridge the gap between content and the real world. This finding shows that the round table activity can motivate and create fun for students during teaching and learning. Students can move and at the same time, it will activate and make the classroom cheerful. This cheerful atmosphere will make it comfortable for the students and will engage their attention to understand a subject or topic more easily and effectively. Other than that, this activity can also encourage and increase students' capability in all aspects be it cognitive or affective aspect.

Next, the correlation value shows that there is a positive and significant relationship between the confidence aspect of the students and 21st-century activities. The confidence of the students shows a very strong relationship with the think pair share activity (r=0.826, p<0.01). The same goes for the satisfaction aspect. This aspect also shows a positive relationship with 21st-century learning activities. The highest correlation value is shown through the think pair share activity which is (r=0.795, p<0.01) showing a positively strong relationship.

Table 6. Relationship between student's motivation and 21st-century learning activities

Relationship of Motivation Aspect and 21st-century Activities	r	Sig	Relationship r
Attention Aspect - round table	0.723	0.0001	Positive (Strong)
Relevant Aspect - round table	0.815	0.0001	Positive (very strong)
Confidence Aspect - think pair share	0.826	0.0001	Positive (very strong)
Satisfaction Aspect - think pair share	0.795	0.0001	Positive (Strong)

r= Pearson Correlation, p= significant

*Significant correlation at 0.01 level (2 ways)

This finding is consistent with the one carried out by Rozita Radhiah et al. (2017) that teachers still prioritize choosing a cooperative learning method that focuses on the element of presentation and peer assistance in group discussions, through the think pair share method. Cooperative learning allows students to cooperate and interact with peers compared to traditional learning. This will enable the students to get some feedback that can facilitate their understanding during learning (Abdullah & Buket, 2019).

Conclusion

Based on the studies, it can be concluded that the student's motivation level is high through the 21st-century activities done in the classroom during teaching and learning where the activity that gives the most impact on the student's motivation is thinking pair share. Also, the relationship between students' motivation and the 21st-century activities implementation shows a positive relationship where both these items are associated. The authors hope that this study will become guidance to other studies to empower 21st-century activities and increase learning motivation among students especially school students in line with the country's demands aiming to produce the generation that fits with the demands of this 21st-century.

Acknowledgement

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