



INTEGRATION OF LOCALIZED LEARNING ACTIVITIES: OUTDOOR GAME-BASED INNOVATIVE SUPPLEMENTARY MATERIALS IN TEACHING SCIENCE

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ABSTRACT

This study was done to look after the effectivity of outdoor game-based learning activities as supplementary material in teaching science 8 to the academic performance. Specifically, it determines the level of the component and characteristics of localized learning activities, student's motivation, and the student's performance. The significant difference on the student's performance and the effect of localized learning activities to student's motivation were tested.

This study employed a descriptive research design to gather information about the significant effect of localized learning activities on the academic performance of selected Grade 8 students in science 8. One hundred forty (140) grade 8 students from Sampaguita Village National High School, San Pedro, Laguna were used as respondents of the study. This study used purposive sampling. The diagnostic test and Summative test, and the checklist questionnaires were the primary sources and instruments in gathering of data. The statistical treatment used for this study is mean, standard deviation, t-test and regression analysis.

Based on the data presented and interpreted, the overall statistical data revealed that level of the component of localized learning activities, the level of the characteristics of localized learning activities, and the level of student's motivation using the localized learning activities performance is in a very great extent. The difference between the diagnostic test and summative test, it showed an analysis of Significant. While the localized learning activities had no significant effect to students' motivation.

Based on the findings, there is a significant difference in the performance of the students in both diagnostic and summative test. Thus, the null hypothesis was rejected. This means that localized learning activities potentially enhanced the overall learning outcomes. There is no significant effect between localized learning activities and student's motivation. Therefore, the null hypothesis was accepted. This means that the localized learning activities in teaching science has no influence on the student's motivation. This means that the factors influencing motivation vary greatly depending on an individual's preferences.

It is highly recommended that localized learning activities may be utilized as supplemental material to enhance students' academic performance so that students will be able to develop engagement and understand the concepts. In addition, the performance monitoring may focus on the students' needs and enable them to learn. Educators may also highlight the significance of science concepts and encourage students. Long-term projects could aid in their understanding of how science benefits them on a daily basis.

KEYWORDS: outdoor game-based; effectivity; supplementary material

1. INTRODUCTION

Playing outside is a vital part of a child's education. Children may engage enjoyable lives if they are provided with a natural learning environment. Education facilitates a person's whole growth and development in terms of their mental, physical, and intellectual capacities. One approach to education that has gained traction in recent years is incorporating games into the classroom. It focuses on helping the learners develop connections so they can get involved in activities that are useful, meaningful, and applicable to real life. The purpose of outdoor games is to connect academic concepts to practical, everyday life knowledge and experiences. One of the outdoor games that is rarely played and nearly forgotten nowadays is the Laro ng Lahi.

Laro ng Lahi is a cultural treasure that has been loved by Filipinos for many years. Laro ng Lahi is not just a game but also an effective way to learn and improve, be it physical, mental, social, and even emotional development. (Art of Blade, n.d.). Filipinos across generations, including our grandparents, parents, and today's adolescents and young children, love to play Laro ng Lahi as their past time. Laro ng Lahi remains an escape for a stressful day, yields happiness to minds, and

improves physical and mental health. This meant that engagement in traditional games is greatly beneficial.

According to Baysal et al. (2022), learning environments should not be made boring. Otherwise, ordinary classroom environments would only be physically modified. This is the reason why teachers are encouraged to develop better methods and approaches in the teaching and learning process so that students may overcome problems, needs, and difficulties in both the school and the community. Republic Act No. 10533 also referred to as the Implementing Rules and Regulations (IRR) of the "Enhanced Basic Education Act of 2013" under rule II Curriculum Section 10, 10.3 Production and Development of Materials states that the production and development of locally produced teaching and learning materials shall be encouraged.

Since educational resources are an essential component of learning, by offering students actual representations of the material they need to learn provides them with relevant learning opportunities (Afolabi, 2019). There are things available everywhere that could be employed in the classroom given the current state of the educational system. Connections are made between the curriculum and the student's life using localized



resources. In teaching Science, using localized outdoor game-based instruction as an intervention will be effective to increase students' engagement and interest in learning. The use of “Larong Lahi” outdoor games in science lessons will help students develop a stronger connection to their cultural roots and helped them better appreciate the significance of their community's history, customs, and traditions.

Therefore, this research will be conducted to provide learners tools for locally designed performance tasks based on local demands will encourage their creativity and flexibility. Moreover, learners are provided with relevant outdoor game-based activities in a meaningful manner by putting these in the performance learning materials in science.

1.1 Statement of the Problem

Specifically, it aims to answer the following questions:

1. What is the level of the component of localized learning activities in terms of:
 - 1.1 objective
 - 1.2 content
 - 1.3 mechanics and
 - 1.4 question in the game?
2. What is the level of the characteristics of localized learning activities in terms of:
 - 2.1 usefulness
 - 2.2 adaptability
 - 2.3 appropriateness and
 - 2.4 integrative value?
3. What is the level of student’s performance in terms of:
 - 3.1 diagnostic test and
 - 3.2 summative test?
4. Is there a significant effect in the level of student’s performance in terms of diagnostic and summative test?
5. Is the localized learning activities significantly affect students’ motivation in terms of:

- 5.1 self-efficacy
- 5.2 self-determination
- 5.3 self-regulation
- 5.4 self-discipline
6. Do the localized learning activities significantly affect students summative test?

2. METHODOLOGY

This study employs a descriptive research methodology to determine the significant effect of localized performance tasks to the academic performance of selected Grade 8 students in science. Nassaji (2015) stated that the goal of descriptive research is to describe a phenomenon and its characteristics. This research is more concerned with what rather than how or why something has happened.

McCombes (2019) stated that descriptive research aims to accurately and systematically describe a population, situation or phenomenon. It can answer what, where, when and how questions, but not why questions. This meant that the primary goal of this research is to find out how the localized performance task affects the respondents' academic performance used in this study.

3. RESULTS AND DISCUSSION

This chapter enumerates the different results and discusses the results that were yielded from the treatment of the data that was gathered in this study. The following tabular presentations and discussions will further characterize the results of integrating localized learning materials as supplementary in teaching science.

Level of the Outdoor Game-based Intervention of Localized Features of Performance Task

In this study, the level of the outdoor game-based intervention of localized features of performance task in terms of objective, content, mechanics, and question was investigated.

Table 1 Level of Component of Localized Learning Activities in Terms of Objective

STATEMENTS	MEAN	SD	REMARKS
<i>The objective provides clear steps for the learners.</i>	4.89	0.32	Strongly Agree
<i>The objective provides a time frame that helps the learners create a sense of urgency.</i>	4.83	0.38	Strongly Agree
<i>The objective is appropriate to the comprehension level of the learners.</i>	4.83	0.38	Strongly Agree
<i>The objective is related to the expected learning outcomes.</i>	4.94	0.24	Agree
<i>The objective provides many connections to learners' interests and preferences.</i>	4.78	0.43	Strongly Agree
Weighted Mean	4.86		
SD	0.28		
Verbal Interpretation	<i>Very Great Extent</i>		

Table 1 illustrates the level of component of localized learning activities in terms of objective.

Respondents *Strongly Agree* that the objective is related to the expected learning outcomes (M=4.94, SD=0.24). The objective provides clear steps for the learners (M=4.89, SD=0.32). On the other hand, the respondents *Strongly Agree* that the objective provides many connections to learners' interests and preferences (M=4.78, SD=0.43).

The weighted mean score of 4.86 indicates that the level of the component of localized learning activities in terms of objective was *Very Great Extent*. This means that giving students a specific objective with detailed instructions helps them carry out specific tasks smoothly and creates better means to attain the predicted learning outcomes.



The Level of Component of Localized Learning Activities in terms of Content

Respondents *Strongly Agree* that the content is related to the expected learning outcomes (M=4.89, SD=0.32). The content was clearly stated and can easily be understood by the learners (M=4.78, SD=0.43). On the other hand, the respondents

Strongly Agree that the content is appropriate to the learner's comprehension level is essential for creating effective and inclusive learning experiences that support meaningful understanding and skill development (M=4.56, SD=0.51).

Table 2 Level of The Component of Localized Learning Activities in Terms of Content

STATEMENTS	MEAN	SD	REMARKS
<i>It is clearly stated and can easily be understood by the students.</i>	4.78	0.43	Strongly Agree
<i>It focuses on what learners must learn based on the objectives.</i>	4.89	0.32	Strongly Agree
<i>It is specific and attainable.</i>	4.72	0.46	Strongly Agree
<i>It yields consistent information about the knowledge, skills, or characteristics.</i>	4.67	0.59	Strongly Agree
<i>It is appropriate to the comprehension level of the learners.</i>	4.56	0.51	Strongly Agree
Weighted Mean	4.72		
SD	0.34		
Verbal Interpretation	<i>Very Great Extent</i>		

The level of the component of localized learning activities in terms of content attained a weighted mean score of 4.72 and a standard deviation of 0.34 and was *Very Great Extent* among the respondents. The content was easily understood and comprehended by the students, indicating that it effectively focuses on what learners need to grasp. This alignment with learning objectives ensures that the material meets the

comprehension levels of all students. Consequently, there is confidence that the content not only aligns with educational goals but also provides an inclusive opportunity for all learners to achieve understanding and the comprehension levels of all learners.

Table 3 Level of the Component of Localized Learning Activities in Terms of Mechanics

STATEMENTS	MEAN	SD	REMARKS
<i>Game mechanics are clearly stated and can easily be understood by the students.</i>	4.56	0.51	Strongly Agree
<i>Each challenge will satisfy the learning objective.</i>	4.72	0.46	Strongly Agree
<i>Encourage students to use games to escape into their studies.</i>	4.44	0.86	Strongly Agree
<i>There are many ways to accomplish each goal.</i>	4.33	0.91	Strongly Agree
<i>Players can feel a sense of accomplishment and progress within the game.</i>	4.67	0.49	Strongly Agree
Weighted Mean	4.54		
SD	0.53		
Verbal Interpretation	<i>Very Great Extent</i>		

Respondents *Strongly Agree* that the mechanics satisfy the learning objective (M=4.72, SD=0.46). The mechanics provides the sense of accomplishment and progress for the learners (M=4.67, SD=0.49). On the other hand, the respondents Strongly Agree that the mechanics provides many ways to accomplish each goal (M=4.33, SD=0.91).

The level of the component of localized learning activities in terms of mechanics attained a weighted mean score of 4.54 and a standard deviation of 0.53 and was *Very Great Extent* among the respondents. The mechanics are easy to understand, indicating that the instructions were straightforward and simple, effectively avoiding confusion. The instructions provided were clear and uncomplicated. This clarity is crucial for ensuring that participants can easily grasp and follow the guidelines, facilitating a smoother and more engaging experience.

Table 4 Level of The Component of Localized Learning Activities in Terms of Question in the Game

STATEMENTS	MEAN	SD	REMARKS
<i>The questions are simple and easy to understand.</i>	4.89	0.32	Agree
<i>It is relevant to the overall learning objectives.</i>	4.78	0.73	Strongly Agree
<i>It uses clear and understandable language.</i>	4.94	0.24	Strongly Agree
<i>It does not trick but to assess students' knowledge.</i>	4.89	0.47	Strongly Agree
<i>It focuses on one idea to evaluate.</i>	4.78	0.55	Strongly Agree
Weighted Mean	4.86		
SD	0.43		
Verbal Interpretation	<i>Very Great Extent</i>		



Table 4 illustrates the level of component of localized learning activities in terms of question in the game.

Respondents *Strongly Agree* that the question in the game uses clear and understandable language (M=4.94, SD=0.24). The questions are simple and easy to understand, and it assesses student's knowledge (M=4.89, SD=0.32, 0.47). On the other hand, the respondents Strongly Agree that the question in the game is relevant to the overall learning objectives and focuses only to one idea (M=4.78, SD=0.73, 0.55).

The level of the component of localized learning activities in terms of question in the game attained a weighted mean score of 4.86 and a standard deviation of 0.43 and was *Very Great Extent* among the respondents. The questions are clearly relevant to overall objectives, and it honestly assess students' knowledge focusing to one idea to evaluate. This implies that the questions used in the game are well-aligned with the overall objectives, ensuring that the questions are directly related to the goals of the study. This guarantees that the questions effectively address the core objectives, providing relevant and meaningful

data that contribute to achieving the study's aims.

Level of the Outdoor Game-based Intervention of Localized Features of Performance Task

This study discusses, the level of characteristics of localized learning activities in terms of usefulness, adaptability, appropriateness, and integrative value was investigated.

Level of Characteristics of Localized Learning Activities in terms of Usefulness

Respondents *Strongly Agree* that the learning activity is useful in the sense that the information helps the learner's achieve better result on the assigned task (M=4.11, SD=0.72). The localized learning activity can address the needs of the learner's (M=4.06, SD=0.75). On the other hand, the respondents Strongly Agree that the learning activity is established to organize learning habits towards attaining positive result (M=3.89, SD=0.75).

Table 5 illustrates the level of characteristic of localized learning activities in terms of usefulness.

Table 5 Level of Characteristics of Localized Learning Activities in Terms of Usefulness

STATEMENTS	MEAN	SD	REMARKS
<i>The information in the localized outdoor games helps the learners achieve better results on the assigned task.</i>	4.11	0.72	Strongly Agree
<i>The localized outdoor games provide clear guidelines for independent learning.</i>	3.96	0.72	Strongly Agree
<i>The learners can use it to establish organized learning habits towards attaining positive results.</i>	3.89	0.75	Agree
<i>It can address the needs of the learners across all disciplines.</i>	4.06	0.75	Strongly Agree
<i>It can be used as the basis for an intervention program.</i>	3.92	0.87	Strongly Agree
Weighted Mean	3.99		
SD	0.39		
Verbal Interpretation	<i>Very Great Extent</i>		

The level of characteristics of localized learning activities in terms of usefulness attained a weighted mean score of 3.99 and a standard deviation of 0.39 and was interpreted to Very Great Extent among the respondents. The usability of the localized learning activities provides clear guidelines for independent learning and can be useful to establish organized learning habits

towards attaining positive results. This means that the localized learning activities are designed in a way that makes them easy to use, providing clear instructions for students to follow on their own. This clarity helps students develop structured learning habits, which in turn leads to better outcomes and success in their studies.

Table 6 Level of Characteristics of Localized Learning Activities in Terms of Adaptability

STATEMENTS	MEAN	SD	REMARKS
<i>It creates social awareness and a better understanding of outdoor games.</i>	4.21	0.74	Strongly Agree
<i>It helps learners see the value of what they're learning.</i>	4.06	0.81	Strongly Agree
<i>It develops advanced skills and knowledge relevant to the lessons.</i>	4.22	0.72	Agree
<i>The games are culturally relevant and gender sensitive.</i>	4.30	0.75	Strongly Agree
<i>It helps the learners connect and relate the games in the lesson.</i>	4.13	0.75	Strongly Agree
Weighted Mean	4.18		
SD	0.40		
Verbal Interpretation	<i>Very Great Extent</i>		

Respondents *Strongly Agree* that the localized learning activity uses adaptable games that are culturally relevant and gender

sensitive (M=4.30, SD=0.75). The adaptability of learning activity develops advanced skills and knowledge relevant to the



lessons (M=4.22, SD=0.72). On the other hand, the respondents Strongly Agree that the learner’s adaptability see the value of what they are learning (M=4.06, SD=0.81).

The level of characteristics of localized learning activities in terms of adaptability attained a weighted mean score of 4.18 and a standard deviation of 0.40 and was interpreted to *Very Great Extent* among the respondents. The localized learning activities are adaptable, students are better able to understand the importance and relevance of what they are learning. This adaptability also helps students develop skills that are directly applicable to the tasks they are given, enhancing both their engagement and practical competence. The adaptability of the localized learning activities helps the students to see the value of what they are learning and developed skills relevant to task given.

Respondents *Strongly Agree* that the appropriateness of the learning activity uses instructions that are easy to follow (M=4.37, SD=0.74). The appropriateness of learning activity helps to supplement the teaching process (M=4.35, SD=0.62). On the other hand, the respondents Strongly Agree that the appropriateness of the learning activity is related to the topic and can be improvised (M=4.01, SD=0.71).

The level of characteristics of localized learning activities in terms of appropriateness attained a weighted mean score of 4.19 and a standard deviation of 0.47 and was interpreted to *Very Great Extent* among the respondents. The appropriateness of the localized learning activities helps the students to motivate their interest in playing and helps to facilitates the teaching process. The localized learning activities are well-suited to the students' needs and contexts, which boosts their interest and motivation to participate. The instructions were very easy to follow, thus it helps to the teachers in the teaching process.

Table 7 Level of Characteristics of Localized Learning Activities in Terms of Appropriateness

STATEMENTS	MEAN	SD	REMARKS
<i>It motivates students’ interest and facilitates the learning process.</i>	4.13	0.75	Strongly Agree
<i>It is related to the topic and can be improvised.</i>	4.01	0.71	Strongly Agree
<i>It can be helpful and be used in many lessons at different class levels.</i>	4.07	0.83	Agree
<i>It helps supplement the teaching process.</i>	4.35	0.62	Strongly Agree
<i>The instructions are easy to follow.</i>	4.37	0.74	Strongly Agree
Weighted Mean	4.19		
SD	0.47		
Verbal Interpretation	<i>Very Great Extent</i>		

Level of Characteristics of Localized Learning Activities in Terms of Integrative Value

Respondents Strongly Agree that integrative value of localized performance tasks apply to all learners without extensive teacher’s supervision (M=4.48, SD=0.67). The students

become more active in doing the performance task (M=4.23, SD=0.73). On the other hand, the respondents Strongly Agree that the localized performance task encourages personal responsibility for learning (M=3.90, SD=0.76).

Table 8 Level of Characteristics of Localized Learning Activities in Terms of Integrative Value

STATEMENTS	MEAN	SD	REMARKS
<i>The students become more active in doing the performance task.</i>	4.23	0.73	Strongly Agree
<i>The localized performance task encourages personal responsibility for learning.</i>	3.90	0.76	Strongly Agree
<i>The localized performance tasks are designed to address the needs of the learners to achieve better performance results in learning.</i>	4.41	0.69	Agree
<i>The localized performance tasks are suited to an observable performance task and to the learners' learning style.</i>	3.91	0.77	Strongly Agree
<i>The localized performance tasks apply to all learners without extensive teacher supervision.</i>	4.48	0.67	Strongly Agree
Weighted Mean	4.19		
SD	0.43		
Verbal Interpretation	<i>Very Great Extent</i>		

Integrative value attained a weighted mean score of 4.19 and a standard deviation of 0.43 and was interpreted to *Very Great Extent* among the respondents. This implies that the respondents perceive the integrative value of localized learning activities to be very high. This put forward that these activities

are highly effective in combining various educational elements, contributing significantly to a comprehensive learning experience. The integrative value of the localized learning activities helps the students to become more active in doing the performance task.



Level of Student’s Motivation While Using Localized Learning Activities

In this study, the level of student’s motivation while using

localized learning activities in terms of self-efficacy, self-determination, self-regulation, and self-discipline was investigated.

Table 9 Level of Student’s Motivation in Terms of Self-Efficacy

STATEMENTS	MEAN	SD	REMARKS
<i>I possess the fundamental skills of the game.</i>	4.89	0.32	Strongly Agree
<i>I have a positive attitude and interest in sports.</i>	4.94	0.24	Strongly Agree
<i>I am physically fit for my age.</i>	3.94	0.24	Strongly Agree
<i>I find the performance task easy and relatable.</i>	3.67	0.49	Strongly Agree
<i>My body feels good after the game.</i>	4.94	0.24	Strongly Agree
Weighted Mean	4.88		
SD	0.21		
Verbal Interpretation	<i>Very Great Extent</i>		

Table 9 illustrates the level of significance using the localized learning activities on students’ motivation in terms of self-efficacy. Respondents *Strongly Agree* that self-efficacy develops students to have a positive attitude and interest in sports, and they feel good after the game (M=4.94, SD=0.24). The students possess the fundamental skills of the game (M=4.89, SD=0.32). On the other hand, the respondents Strongly Agree that they find the performance task easy and relatable (M=3.67, SD=0.49).

The level of significance using localized learning activities on students’ motivation in terms of self-efficacy attained a weighted mean score of 4.88 and a standard deviation of 0.21 and was interpreted to *Very Great Extent* among the respondents. This means that localized learning activities have a very strong positive effect on students' motivation, particularly in enhancing their self-efficacy. This means that students feel significantly more capable and confident in their abilities when engaged in these activities. The high level of agreement among respondents suggests that this effect is consistently recognized and valued by the students.

Table 10 Level of Student’s Motivation in Terms of Self Determination

STATEMENTS	MEAN	SD	REMARKS
<i>I am more confident in my ability to win the game.</i>	4.83	0.38	Strongly Agree
<i>I felt motivated to interact with my peers during the game.</i>	4.78	0.43	Strongly Agree
<i>I am satisfied if I lose a match.</i>	4.78	0.43	Strongly Agree
<i>I did my best so that our team won.</i>	4.67	0.49	Strongly Agree
<i>I felt accomplished when I did the right thing in playing the game.</i>	4.39	0.70	Strongly Agree
Weighted Mean	4.69		
SD	0.40		
Verbal Interpretation	<i>Very Great Extent</i>		

Respondents *Strongly Agree* that they are more confident in their abilities to win the game (M=4.83, SD=0.38). The students felt motivated to interact with their peers during the game, and even though they lose the match they still have the feeling of satisfaction (M=4.78, SD=0.43). On the other hand, the respondents Strongly Agree when they accomplished the game right while playing it (M=4.39, SD=0.70).

motivation and their ability to take control of their own learning.

Level of Student’s Motivation in Terms of Self-Regulation

Table 11 illustrates the level of significance using the localized learning activities towards students’ motivation in terms of self-regulation.

The level of students’ motivation while using localized learning activities performance in terms of self-determination attained a weighted mean score of 4.69 and a standard deviation of 0.40 and was interpreted to *Very Great Extent* among the respondents. It implies that localized learning activities greatly enhance students' motivation by fostering a strong sense of self-determination. This indicates that students feel more autonomous and driven when participating in these activities. The consistency among respondents suggests a widely recognized and significant positive effect on students' intrinsic

Respondents *Strongly Agree* that they learn from their mistakes during the game (M=4.89, SD=0.32). The students can stick to the team plan, Students can feel the sense of urgency when challenges occurred and easily finds solution to the problem, and they do not give up easily (M=4.83, SD=0.38). On the other hand, sometimes students could not sense what they are doing unless their attention is called (M=4.72, SD=0.46).



Table 11 Level of Student's Motivation in Terms of Self-Regulation

STATEMENTS	MEAN	SD	REMARKS
<i>I can stick to the plan that the team sets.</i>	4.83	0.38	Strongly Agree
<i>As soon as I see a problem or challenge during the game, I immediately look for a possible solution.</i>	4.83	0.38	Strongly Agree
<i>Often, I don't notice what I'm doing until someone calls it to my attention.</i>	4.72	0.46	Strongly Agree
<i>I learn from my mistakes.</i>	4.89	0.32	Strongly Agree
<i>I do not give up quickly.</i>	4.83	0.38	Strongly Agree
Weighted Mean	4.82		
SD	0.33		
Verbal Interpretation	Very Great Extent		

The level of significance using localized learning activities on students' motivation in terms of self-regulation attained a weighted mean score of 4.82 and a standard deviation of 0.33 and was interpreted to *Very Great Extent* among the respondents. The self-regulation of the localized learning activities helps the students to learn from their mistakes and to

overcome challenges upon playing the game and develop unity among their peers. Localized learning activities that promote self-regulation enable students to independently identify and learn from their mistakes, effectively overcoming challenges they encounter during the game.

Table 12 Level of Student's Motivation in Terms of Self-Discipline

STATEMENTS	MEAN	SD	REMARKS
<i>I often act without thinking, even if the team plan has been set.</i>	5.00	0.00	Strongly Agree
<i>I can stay "cool-headed" when something angers or upsets me during the game.</i>	4.83	0.38	Strongly Agree
<i>I do not break the game rules.</i>	4.61	0.50	Agree
<i>My teammates can depend on me to do what I say I will do.</i>	4.67	0.49	Strongly Agree
<i>I do not cheat, even when the opportunity presents itself.</i>	4.89	0.32	Strongly Agree
Weighted Mean	4.80		
SD	0.27		
Verbal Interpretation	Very Great Extent		

Respondents *Strongly Agree* that they act quickly, of what had the team plan sets (M=5.00, SD=0.00). The students did not cheat even when the opportunity presents itself (M=4.89, SD=0.32). On the other hand, students did not break the game rules (M=4.61, SD=0.50).

significantly boost students' motivation by enhancing their self-discipline. This implies that students are much more capable of managing their own behavior, staying focused, and adhering to their study schedules when engaged in these activities. The strong consensus among respondents highlights the substantial and positive influence of localized learning on students' ability to self-regulate and maintain disciplined study habits.

The level of significance using localized learning activities on students' motivation in terms of self-discipline attained a weighted mean score of 4.80 and a standard deviation of 0.27 and was interpreted to *Very Great Extent* among the respondents. This means that localized learning activities

Level of Student's Performance

In this study, the level of student's performance in terms of diagnostic and summative test were investigated.

Table 13 Level of Student's Performance in Terms of Diagnostic Test

Score	f	%	Descriptive Equivalent
41 - 50	0	0.00	Outstanding
31 - 40	0	0.00	Very Satisfactory
21 - 30	10	7.09	Satisfactory
11 - 20	113	80.14	Fairly Satisfactory
0 - 10	18	12.77	Did not meet Expectation
Total	141	100	
Weighted Mean	14.74		
SD	3.75		
Verbal Interpretation	Fairly Satisfactory		

Out of total number of one hundred and forty-one respondents "11 to 20" received the highest frequency of one hundred and

thirteen (113) or 80.14% of the total population with descriptive equivalent of *Fairly Satisfactory*. While the scores "21 to 30"



received the lowest frequency of ten (10) or 7.09% of the total population with descriptive equivalent of *Satisfactory*. This means that while most participants met a basic level of achievement, relatively few exceeded this level, highlighting potential areas for improvement in the learning process or assessment methods.

With a (*Weighted Mean = 14.74, SD = 3.75*) it shows that the level of student’s performance in terms of diagnostic test has a

descriptive equivalent of *Fairly Satisfactory*. Students’ performance is below as expected since this is the kind of exam used to evaluate a student’s strengths and weaknesses emphasize areas in need of development and direct the formulation of an instructional plan. This highlights specific areas that require improvement and guides educators in developing a targeted instructional plan to address these deficiencies and enhance overall student performance.

Table 14 Level of Student’s Performance in Terms of Summative Test

Score	f	%	Descriptive Equivalent
41 - 50	8	5.67	Outstanding
31 - 40	75	53.19	Very Satisfactory
21 - 30	56	39.72	Satisfactory
11 - 20	2	1.42	Fairly Satisfactory
0 - 10	0	0.00	Did not meet Expectation
Total	141	100	
<i>Weighted Mean</i>	31.87		
<i>SD</i>	5.13		
<i>Verbal Interpretation</i>	<i>Very Satisfactory</i>		

Out of total number of one hundred and forty-one respondents “31 to 40” received the highest frequency of seventy-five (75) or 53.19% of the total population with descriptive equivalent of *Very Satisfactory*. While the scores “11 to 20” received the lowest frequency of two (2) or 1.42% of the total population with descriptive equivalent of *Fairly Satisfactory*. This means that most participants performed well, while only a few showed lower levels of achievement, highlighting the general effectiveness of the learning activities or interventions assessed.

With a (*Weighted Mean = 31.87, SD = 5.13*) it shows that the level of student’s performance in terms of summative test has a descriptive equivalent of *Very Satisfactory*. This means that an

average student is achieving a high level of understanding and competence in the material being assessed. The consistency in performance, as indicated by the relatively low variation, further supports the conclusion that the majority of students are performing well.

Test of Difference Between the Student’s Level of Performance in terms of Diagnostic and Summative Test

In this study, comparison of students’ mean performance in the diagnostic test and summative test is needed to determine the improvement of the learning outcomes.

Table 15 Test of Difference Between the Student’s Level of Performance in Terms of Diagnostic and Summative Test

Localized learning activities	Diagnostic test		Summative test		Mean Difference	95% Confidence Interval of Difference		t	df	Sig (2-tailed)
	Mn	SD	Mn	SD		L	U			
	<i>performance</i>	14.74	3.75	31.87		5.13	17.13			

Legend: *Significant at 0.05

Revealed in Table 18 is the test of difference between the performance of the student’s before and after using the localized learning activities in teaching science. Data obtained through a paired t-test indicated that the increase in the scores in *performance* are significant ($p < 0.05$).

This implies that the students performed better after using the localized learning activities in teaching science. The tailored learning activities effectively engaged students, leading to better understanding and mastery of scientific concepts. Their level of students learning experiences has significantly improved from low to very high. This means that the implementation of localized learning activities in teaching science resulted in improved student performance.



Regression Analysis on the Use of Localized Learning Activities in Teaching Science on Student’s Motivation

Table 16 Regression Analysis on the Use of Localized Learning Activities in Teaching Science on Student’s Motivation

Student’s motivation	B	SE	β	t	p
Constant	4.116	.588		6.996*	.000
<i>objective</i>		.105	.012	.11	.913
<i>content</i>		.098	.11	1.126	.262
<i>mechanics</i>		.062	-.034	-.544	.587
<i>question in the game</i>		.074	-.082	-1.109	.27
R-squared			.02		
Adjusted R-squared			-.009		
Standard Error of the Estimate		.317			
F(4, 136)				.698	.594
Student’s motivation	B	SE	β	t	p
Constant	3.154	.831		3.797*	.000
<i>usefulness</i>		.156	.103	.664	.508
<i>adaptability</i>		.085	-.094	-1.105	.271
<i>appropriateness</i>		.098	.137	1.4	.164
<i>integrative value</i>		.125	.055	0.44	.661
R-squared			.029		
Adjusted R-squared			.000		
Standard Error of the Estimate		.315			
F(4, 136)				1.011	.404

*p < 0.05

The table presents the results of a multiple regression analysis examining the effect of localized learning activities in teaching science on student’s motivation. The *Components and Characteristics* have no significant effect to the student’s motivation. The F-test of the overall model is not significant (F(4, 136) with, p > 0.05), indicating that the regression model is not a good fit for the data. This means that the overall regression model is not a good fit for the data, suggesting that these factors do not reliably predict or explain variations in students' motivation. It means that the statistical indicators implies that the model does not accurately represent the relationship between the independent variables and the dependent variable. This implies that other variables not included in the model may be more influential in affecting students' motivation in this context. This means that while there may be some effect, the data collected in this study do not provide strong enough support to confidently assert a significant effect.

4. CONCLUSION AND RECOMMENDATIONS

Based on the findings, there is a significant difference in the level of student’s performance between diagnostic test and summative test. Therefore, the null hypothesis was rejected. This implies that level of students learning experiences has improved from fairly satisfactory to very satisfactory.

There is no significant effect between the localized learning activities on students’ motivation. Therefore, the null hypothesis was accepted. This implies that the activities studied were not directly influenced students' motivation, potentially enhancing their engagement, interest, and overall learning outcomes.

When it comes to instruction, effective learning experiences often incorporate a combination of classroom instruction, independent study, hands-on activities, and supplemental resources to cater to the needs and preferences of learners.

Considering the aforementioned conclusions, it is recommended that:

1. Teachers may modify the performance tasks based on the students’ needs and level of understanding.
2. Teachers may increase their level of involvement in crafting task-related activities based on their locality.
3. School Heads may provide the allotted budget to produce this localized outdoor game-based learning activities through LAC sessions.

REFERENCE

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