Research Article

THE ANALYSIS OF EFFECTIVE LEARNING METHODS ON ENGAGEMENT FOR LEARNING ACTIVITIES (The Case University of Internal Affairs, Mongolia)

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ABSTRACT

Our research focuses on how to support and implement active learning methods used in learning activities. Effective learning activities vary from person to person, as individuals have different learning styles and preferences. However, we studied the methods that tend to be effective for many people. Through our research work, in providing students with the basic understanding and imagination of professional foundation, professional, and specialization courses, teachers supported the use of methods such as dialogue, learning from real examples, posing problems, solving problems, role playing, and encouraging participation rather than using traditional teaching methods.

Keywords: classroom learning activities, skills of field trip activities, orientation activities, learning activities. cognitive theories, Problem-based learning, Active learning techniques.

INTRODUCTION

In the dynamic landscape of higher education, learning activities play a pivotal role in shaping the intellectual and professional growth of students. These activities extend beyond traditional classroom settings, encompassing a diverse range of experiences that foster critical thinking, collaboration, and skill development. In the higher education sector, students engage in a multifaceted learning journey that includes lectures, seminars, hands-on projects, and interactive discussions, creating a vibrant educational environment. These activities not only impart knowledge but also cultivate a holistic approach to learning, preparing students for the challenges and opportunities they will encounter in their academic and future professional endeavors.

CONCEPTUAL FRAMWEORK

Learning activities theory encompasses various principles and strategies designed to optimize the learning process.Cognitive theories of learning focus on understanding how mental processes such as thinking, memory, problem-solving, and attention influence learning. Several scholars have contributed significantly to the development of cognitive theories.

Albert Bandura's Social Learning Theory has indeed been highly influential in various fields, including education, psychology, and communication. The theory, developed in the 1960s, emphasizes the importance of observational learning, imitation, and modeling in the learning process and it has made an impact in the higher education sector.

We choose few theories from cognitive traditional theories as below:

Albert Bandura is a Canadian-American psychologist who is best known for his Social Learning Theory, which has had a significant impact on the field of psychology.

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We detailed explanation of Bandura's contributions in our study. There are two main concepts as a Social Learning Theory, Observational Learning and Self-Efficacy

The Social Learning Theory posits that people learn not only through direct experience but also through observational learning, where individuals observe and imitate the behaviors of others. This process is often referred to as modeling or vicarious learning. Bandura's Bobo Doll Experiment (1961)[1] is a classic example illustrating the principles of observational learning.

Observational Learning highlighted the importance of models in the learning process. Models can be individuals in the immediate environment (such as parents, peers, or teachers) or symbolic models portrayed in the media. The observed behaviors can be imitated if the observer perceives the model as competent, attractive, and rewarded for their actions[2].

A significant aspect of Bandura's work is the concept of *Self-Efficacy*, introduced in the 1970s. Self-efficacy refers to an individual's belief in their own capability to perform a specific task or achieve a particular goal. Bandura argued that self-efficacy influences motivation, learning, and performance. Individuals with high self-efficacy are more likely to set challenging goals, persevere in the face of difficulties, and recover quickly from setbacks[3].

The ongoing development and application of Bandura's theory continue to shape our understanding of learning and behavior in diverse contexts.Nextly, *David Ausubel's theory* of meaningful learning has been particularly influential in the field of higher education, where educators aim to foster deep understanding and retention of complex subject matter. Ausubel's ideas have been

[1]Bandura, A. (1961). "Transmission of aggression through imitation of aggressive models." Journal of Abnormal and Social Psychology, 63(3), 575-582.
[2]Bandura, A. (1961). "Transmission of aggression through imitation of aggressive models." Journal of Abnormal and Social Psychology, 63(3), 575-582.
[3]Bandura, A. (1977). "Social learning theory." Englewood Cliffs, NJ: Prentice-Hall.

applied in various ways to enhance teaching and learning at the college and university levels.

It explores the role of prior knowledge and the organization of information in the learning process. While not specifically focused on higher education, the principles discussed are applicable to various educational settings.David Ausubel delves into the psychology of meaningful learning. While not exclusive to higher education, it provides insights into the cognitive processes involved in learning and the role of prior knowledge.

In higher education, Ausubel's theory finds practical application in several ways:

Curriculum Design is educators use Ausubel's ideas to design curricula that build on students' prior knowledge. Courses are structured to help students connect new information to what they already know, facilitating meaningful learning. Curriculum design refers to the process of planning and organizing educational experiences for students. In this context, educators often draw upon various theories and models to inform their curriculum development.

Instructional Strategies are professors often incorporate advance organizers into their lectures and materials. These organizers serve as frameworks for students to grasp the structure and significance of upcoming content, promoting better understanding. In the realm of higher education, instructional strategies play a crucial role in shaping the learning experience for students. Professors often employ various techniques to enhance comprehension and engagement, and one prominent strategy influenced by David Ausubel's theories is the use of advance organizers.

Problem-Based Learning emphasis on meaningful learning aligns with pedagogical approaches like problem-based learning, where students work on real-world problems. This encourages the application of existing knowledge to solve complex issues, reinforcing meaningful learning. Problem-Based Learning **(PBL)**[4] is an educational approach that aligns well with the emphasis on meaningful learning, particularly because it focuses on the application of knowledge to real-world problems.

PBL often begins with the presentation of a real-world problem or scenario. This immediately contextualizes the learning experience, making it relevant and meaningful to students. The presented problem serves as a trigger for the acquisition of new knowledge and skills. PBL naturally involves the activation of students' prior knowledge. As they encounter a complex problem, they draw upon what they already know to make sense of the situation.

PBL typically involves collaborative learning, where students work in small groups to analyze and solve the given problem. This collaborative process allows for the sharing of diverse perspectives and existing knowledge among group members. PBL promotes the development of higher-order thinking skills, such as critical thinking, problem-solving, and decision-making. Students are not just memorizing facts but are actively engaged in analyzing, synthesizing, and applying their knowledge to solve complex, authentic problems. PBL is inherently inquiry-based, with students actively seeking information and resources to understand and solve the problem at hand. This process of inquiry encourages a deeper exploration of the subject matter, contributing to the meaningful construction of knowledge[5].

Active Learning Techniques, Ausubel's theory supports the use of active learning strategies, such as discussions, group activities, and case studies. These methods engage students and encourage them to relate new information to their existing knowledge, fostering deeper understanding. Active learning is an instructional approach that engages students in the learning process through activities and participation, moving beyond traditional lecture-based methods.

Active learning spaces are physical environments designed to facilitate interactive and collaborative learning. These spaces often feature flexible seating arrangements, technology integration, and other elements that encourage student engagement[6]. By recognizing the importance of prior knowledge and incorporating advance organizers, higher education institutions aim to create learning environments that facilitate the meaningful integration of new information. This approach contributes to the development of critical thinking skills and long-term retention of knowledge, key goals in the higher education sector.

These concepts represent a range of active learning techniques that have been widely discussed and implemented in various educational settings. The sources provided offer more in-depth exploration of each concept and can serve as valuable references for educators interested in incorporating active learning into their teaching practices.Inthis study, we categorized types of learning activities in higher education sector as below:

Active participation can include asking questions, participating in discussions, and seeking out hands-on activities.Active participation in higher education involves more than passive reception of information; it is a dynamic process wherein students actively engage with the learning material.

This includes asking questions to deepen their understanding, participating actively in discussions to exchange ideas and perspectives with peers, and actively seeking out hands-on activities to apply theoretical knowledge in practical scenarios. By asking questions, students demonstrate a proactive approach to their own learning, seeking clarification and additional insights.

Engaging in discussions fosters a collaborative learning environment, where diverse viewpoints contribute to a richer understanding of the subject matter. Actively seeking hands-on activities not only reinforces theoretical concepts but also hones practical skills, ensuring a well-rounded educational experience that goes beyond the confines of traditional classroom learning.

Set clear goals can define your learning objectives. Knowing what you want to achieve helps you stay focused and motivated.Clearly define your objectives, outlining specific and measurable targets that align with your overarching mission. Ensure that these goals are both challenging and attainable to drive motivation and focus.

Identify reputable and diverse sources of information that are relevant to your goals. Ensure that these sources are current, reliable, and well-vetted to provide a solid foundation for decision-making and strategy development.Establish a realistic timeline for achieving your goals, breaking down larger objectives into manageable milestones. Assign specific timeframes to each milestone to track progress effectively and to stay on course.

Periodically assess the goals, sources, and timeline to adapt to changing circumstances. Regular reviews allow for course

[4]Barrows, H. S., & Tamblyn, R. M. (1980). Problem-Based Learning: An Approach to Medical Education. Springer Publishing Company.
[5]Bergmann, J., & Sams, A. (2012). Flip Your Classroom: Reach Every Student in Every Class Every Day. International Society for Technology in Education.

[6]Lyman, F. (1981). The Responsive Classroom Discussion: The Inclusion of All Students. In A Practical Guide for Teaching in Active Learning Classrooms. Stylus Publishing.

corrections, ensuring that your objectives remain relevant and achievable in the evolving landscape.

Mindful Learning can practice mindfulness while learning. Be fully present and engaged in the task at hand. Minimize distractions to enhance concentration. Mindful learning involves applying principles of mindfulness to the process of acquiring knowledge and skills. When applied to learning, mindful learning encourages a focused and attentive approach to the educational experience[7].

Mindful learning encourages individuals to be fully present and engaged in the learning process. This means focusing your attention on the task at hand without allowing your mind to wander. It involves actively participating in the learning experience, whether it's reading a book, listening to a lecture, or solving a problem.Mindfulness involves cultivating awareness of your thoughts and surroundings. Minimizing distractions is crucial for maintaining concentration during learning activities. This could involve creating a quiet study environment, turning off notifications on electronic devices, and managing external interruptions[8].

Mindful learning incorporates mindfulness practices into the act of learning itself. This could involve techniques such as focused breathing, where you pay attention to your breath to anchor yourself in the present moment. Mindful awareness of thoughts and emotions related to the learning process can also be beneficial[9].

Join Study Groups is collaborative learning can be very effective. Joining study groups allows you to share ideas, gain different perspectives, and fill in gaps in your understanding.Celebrate Progress is acknowledge and celebrate your achievements, no matter how small. Positive reinforcement can motivate you to continue your learning journey[10].

Collaborative learning, such as joining study groups, is known to be an effective method for enhancing the learning experience. When you engage in a study group, you have the opportunity to share your ideas and perspectives with others, as well as gain insights from your peers.*Sharing Ideas:* Discussing concepts with others can deepen your understanding. Explaining concepts to a study group can solidify your knowledge as you articulate ideas and receive feedback.

Gaining Perspectives: Different individuals may approach problems or topics in unique ways. Exposure to diverse perspectives within a study group can broaden your understanding and provide alternative viewpoints.*Filling Gaps in Understanding:* Study groups allow you to identify and address gaps in your understanding. Peers may clarify concepts that you find challenging, leading to a more comprehensive grasp of the material.

We hypothezed difference between active and experiential learning methods in this study (table 1.).

Table 1. Difference between active and experiential learning methods

Active learning method	Experiential learning methods
• Students to think • Participate in problem solving activities	• Simulating some practical professional tasks

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[7]Langer, E. J. (1989). Mindfulness. Reading, MA: Addison-Wesley.

[8]Kabat-Zinn, J. (1994). Wherever You Go, There You Are: Mindfulness Meditation in Everyday Life. New York: Hyperion.

[9]Shapiro, S. L., Brown, K. W., & Astin, J. (2008). Toward the Integration of Meditation into Higher Education: A Review of Research. Teachers College Record, 113(3), 493-528.

[10]Johnson, D. W., Johnson, R. T., & Smith, K. A. (1991). Active learning: Cooperation in the college classroom. Edina, MN: Interaction Book Company.

• Teamwork
• Role play
• Report performance in your role
• Make progress by repeating tasks for a certain period of time
• Explore and generate new ideas
The methods for using in pur study:
• Students to think
• Participate in problem solving activities
•Teamwork
• Role play
• Report performance in your role
• Make progress by repeating tasks for a certain period of time
• Explore and generate new ideas
• Simulating some practical professional tasks
• Race by completing tasks within a certain time
• Use demos and touch them

• Race by completing tasks within a certain time
• Work with special tools
• Use demos and touch them
• Completing joint tasks through teamwork

Noted by: The results of study.

The relationship between the participants in role-playing of students and the dialogue between them during the role-playing are very important for the development of students' communication and language culture, while many of the indicators shown in the table above have a positive effect on the performance of the same task.

The above active learning methods could be applied to listener training games. According to the guidelines, our listeners use methods such as teamwork, discussion, presentation, play, and role-playing. Based on the active learning theory concept, the researchers of the research team made the following assumptions and conducted a qualitative study.

RESEARCH RESULTS AND PROCESSING

The results and performance of the students who studied 438 listeners of the University of Internal affairs, Mongolia included many participants at once and concluded that the opportunity to ensure full representativeness was fully achieved.The our study was conducted in the first semester of the 2021-2022 school year by taking and processing a qualitative survey evaluating the classroom learning process. In order to find out what factors are needed by students during active learning, this research is detailed in the research design by providing the opportunity to evaluate the variables without overlapping the questions expressing the latent variables of each variable.In the development of the research, each question, which is a hidden variable, is shown in a table.

For the participants of the research, it is believed that the fact that the comparison of gender and course categories is not important, and most importantly, the quality assessment given to each variable is important, which made the research real.

Hypothesis-1: Classroom learning activities will have a positive effect on learning activities.

Hypothesis-2: Skills of feld trip activities will have a positive effect on learning activities.

Hypothesis-3: Orientation activities will have a positive effect on learning activities.

Figure 1. The results of effect learning activities (algorithm).
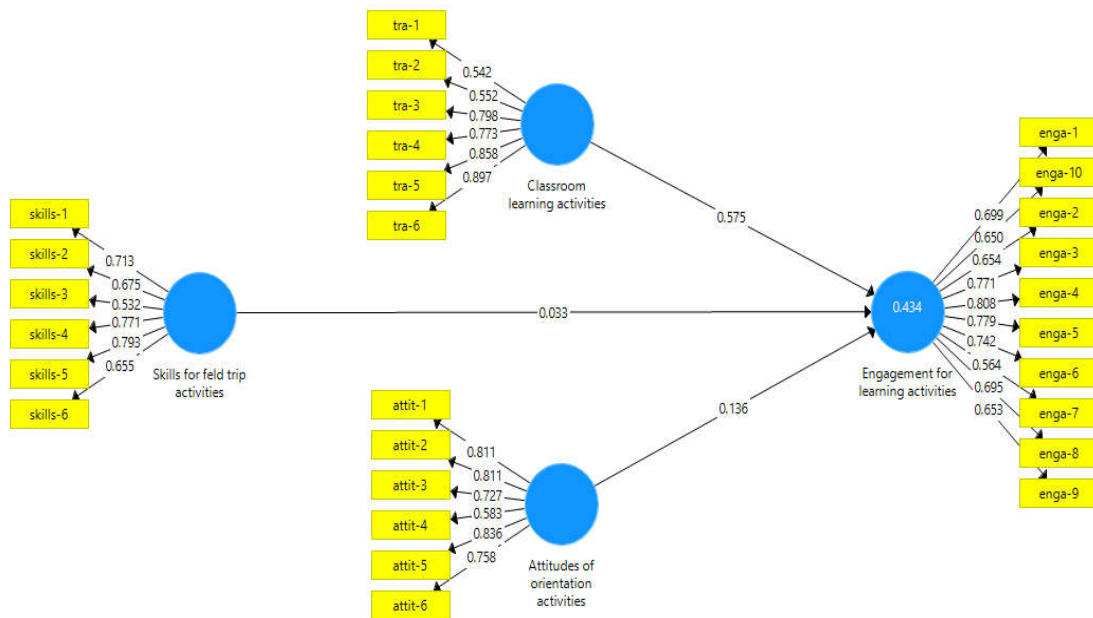
Nored by: tra-classroom learning activities, skills- Skills for field trip activities, attit-Attitudes of orientation activities, enga- Engagement for learning activities.

Cronbach's alpha is a measure of internal consistency reliability, often used in the context of psychometrics and reliability analysis for surveys or tests. The value of Cronbach's alpha ranges from 0 to 1, with higher values indicating greater internal consistency.In our study, the Cronbach's alpha values range from 0.791 to 0.887. Overall, these values suggest a good to very good level of internal consistency reliability in your data. It indicates that the items in your measure are consistent in measuring the same underlying construct or trait.In our study, the Rho_A values range from 0.815 to 0.898. These values generally suggest a good to excellent level of internal consistency reliability in your data. Higher values are indicative of a stronger and more reliable relationship among the items in your measure.

Composite reliability, like Cronbach's alpha and Rho_A, is a measure of internal consistency reliability used in the context of psychometrics and scale development. It assesses the extent to which the observed variables (items) in a scale are reliable indicators of an underlying latent construct. In our study, the composite reliability values range from 0.847 to 0.907. These values generally suggest a good to excellent level of internal consistency reliability in your data. It indicates that the observed variables in your scale are reliable indicators of the latent construct our measuring (table 2).

Table 2. The results of construct reliabilty and validity

№	Variables	Standard deviation	T statistics	P value	Results
1	Attitudes of oerientation activities ->Engagement for learning activities	0.130	1.050	0.294	Non supported
2	Skills for field trip activites ->Engagement for learning activities	0.123	0.267	0.790	Non supported
3	Classroom learning activities ->Engagement for learning activities	0.108	5.314	0.000	Supported

Figure 2. The results of effect learning activities (bootstrapping).
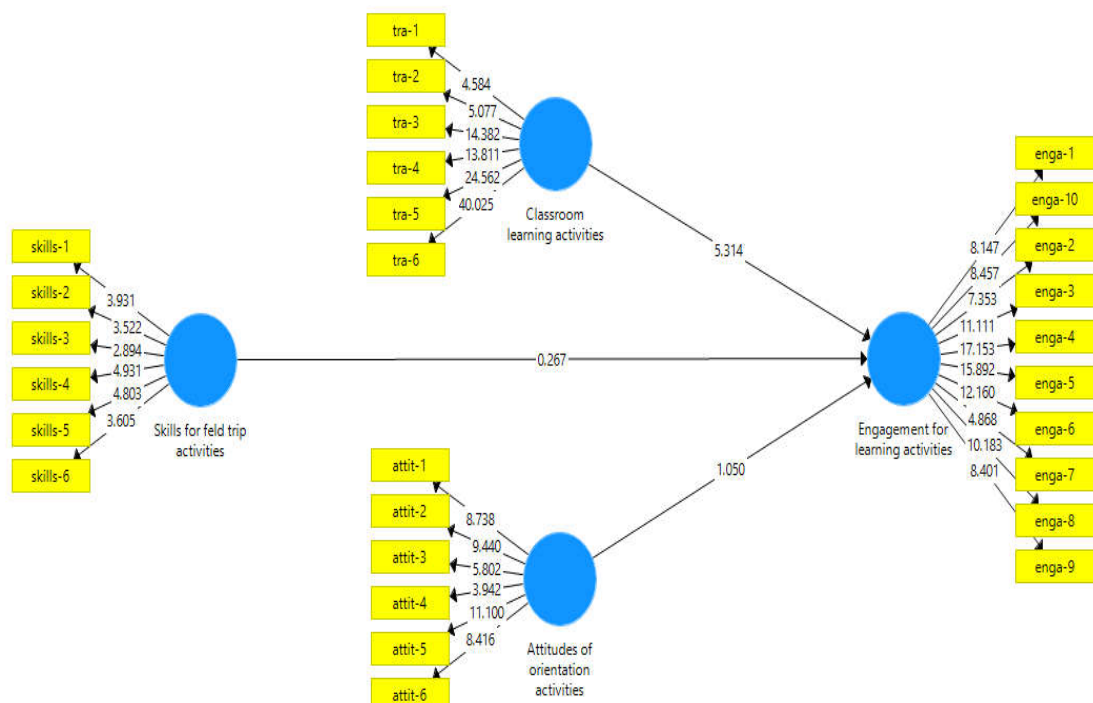
Table 3. The results of path coefficient

№	Variables	Standard deviation	T statistics	P value	Results
1	Attitudes of oerientation activities ->Engagement for learning activities	0.130	1.050	0.294	Non supported
2	Skills for field trip activites ->Engagement for learning activities	0.123	0.267	0.790	Non supported
3	Classroom learning activities ->Engagement for learning activities	0.108	5.314	0.000	Supported

Noted by: The results of study.

Standard deviation is a measure of the amount of variation or dispersion in a set of values. In other words, it quantifies the extent to which individual numbers in a data set differ from the mean (average) of the set. A smaller standard deviation indicates that the values tend to be close to the mean, while a larger standard deviation indicates that the values are spread out over a wider range. Here's a general interpretationstandad deviation in our study as below:

- 0.108: This set has the smallest standard deviation among the three, indicating that the values are relatively close to the mean.

- 0.123: This set has a slightly larger standard deviation compared to the first one, suggesting a bit more variability in the data.

- 0.130: This set has the largest standard deviation among the three, indicating the most variability in the data.

The T-statistic is a measure used in hypothesis testing to determine if the means of two groups are significantly different from each other. It's calculated by taking the difference between the sample mean and the hypothesized population mean and dividing that by the standard error of the mean. Here's a general interpretation of T statistics in our study as below:

- 1.050: This t-statistic indicates the difference between the sample mean and the population mean, relative to the standard error of the mean. The exact interpretation would depend on the context of the hypothesis test and the critical value associated with the desired level of significance. A t-statistic of 1.050 may or may not be considered statistically significant depending on factors such as the sample size and the chosen level of significance.

- 0.267: Similarly, this t-statistic represents the difference between the sample mean and the population mean, relative to the standard error. A t-statistic close to zero suggests that the sample mean is not significantly different from the population mean.

- 5.314: This t-statistic is considerably larger than the previous two. In hypothesis testing, a larger absolute value of the t-statistic is often associated with a greater likelihood of rejecting the null hypothesis. A t-statistic of 5.314 is more likely to be statistically significant, indicating a stronger evidence against the null hypothesis.

The P-value is a statistical measure that helps you determine the significance of your results in hypothesis testing. It represents the probability of obtaining results as extreme as, or more extreme than, the observed results under the assumption that the null hypothesis is true. Here's how to interpret the p-values in our study as below:

- 0.294: This p-value is relatively high (greater than 0.05, commonly used as a threshold). A p-value of 0.294 suggests that, if the null hypothesis were true (meaning there is no effect or no difference), the probability of observing the data you have or more extreme data is 29.4%. In most cases, with a p-value greater than 0.05, you wouldn't have enough evidence to reject the null hypothesis at a 5% significance level.

- 0.790: This p-value is even higher. With a p-value of 0.790, you would have even less evidence to reject the null hypothesis. The data you observed is not considered statistically significant, and you would typically fail to reject the null hypothesis.

- 0.000: A p-value of 0.000 (or less than 0.001, often reported as 0.000) indicates very strong evidence against the null hypothesis. In practice, it's rare to see an exactly zero p-value, and it often means that the observed data is highly inconsistent with the null hypothesis. In most cases, a p-value less than 0.05 is considered statistically significant, and you would likely reject the null hypothesis.

Limitations of the study

Regarding the research work, the following parameters are considered as the limited aspects of the research work. It includes:

1. The number of participants in the baseline survey was significantly lower than in the final survey.
2. Students studying in the 2022-2023 academic school years were included in our study.
3. It was not possible to include multiple factors as hypotheses in the model to fully represent the learning process.

Recommendations from the study:

The following recommendations were made from the results of the research. It includes:

- Practice reinforcing knowledge in a way that all students can understand when explaining the situation during a disaster
- To ensure the equality of team distribution, the number of students assigned to one team should be decided by polling students working in teams.
- When preparing to work in a disaster situation, provide each team with all the documents and documented information necessary for the tasks assigned to them.
- When creating an environment for learning games, pay attention to the distribution of classrooms, giving teams the opportunity to share knowledge and exchange experiences rather than competing teams.
- Give good instructions when creating an environment for field trips and training games on the training ground
- Provide complete equipment for training matches and provide necessary equipment to each team
- In order to make the teaching activities interesting for the teachers and for the participation of the students, teaching by guest professors,
- It is considered appropriate for teachers to be mentors outside of school hours, to pay attention to the needs of students, and to keep the time of independent work productive.

CONCLUSION

In summary, the composite reliability values ranging from 0.847 to 0.907 reflect a robust level of internal consistency reliability in the dataset. These results indicate that the observed variables within the

scale consistently and reliably measure the latent construct under consideration.The t-statistic values provide insights into the significance of differences between sample and population means. A t-statistic of 1.050's significance hinges on the context and critical value, influenced by factors like sample size and chosen significance level. Conversely, a t-statistic of 0.267, being close to zero, suggests little difference between sample and population means, while the substantially larger t-statistic of 5.314 indicates stronger evidence against the null hypothesis, making it more likely to be statistically significant in hypothesis testing.

Finally, the p-values of 0.294 and 0.790 suggest that, under the assumption of the null hypothesis, the observed data is not statistically significant at conventional significance levels (e.g., 0.05). On the contrary, a p-value of 0.000 indicates strong evidence against the null hypothesis, signaling a highly significant result and supporting the rejection of the null hypothesis in favor of the alternative hypothesis

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EVIDENCE OUR STUDY

Path Coefficients

	Original Sampl...	Sample Mean (...	Standard Devia...	T Statistics (|O/...	P Values
Attitudes of orientation activities -> Engagement for learning activities	0.136	0.165	0.130	1.050	0.294
Classroom learning activities -> Engagement for learning activities	0.575	0.558	0.108	5.314	0.000
Skills for feld trip activities -> Engagement for learning activities	0.033	0.058	0.123	0.267	0.790

Construct Reliability and Validity

	Cronbach's Al...	rho_A	Composite R...	Average Varian...
Attitudes of orientation activities	0.858	0.890	0.890	0.576
Classroom learning activities	0.841	0.892	0.881	0.562
Engagement for learning activities	0.887	0.898	0.907	0.497
Skills for feld trip activities	0.791	0.815	0.847	0.483

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Outer Loadings

🔳 Matrix

	Attitudes of ori...	Classroom lear...	Engagement f...	Skills for feld tr...
attit-1	0.811			
attit-2	0.811			
attit-3	0.727			
attit-4	0.583			
attit-5	0.836			
attit-6	0.758			
enga-1			0.699	
enga-10			0.650	
enga-2			0.654	
enga-3			0.771	
enga-4			0.808	
enga-5			0.779	
enga-6			0.742	
enga-7			0.564	
enga-8			0.695	
enga-9			0.653	
skills-1				0.713
skills-2				0.675
skills-3				0.532
skills-4				0.771
skills-5				0.793
skills-6				0.655
tra-1		0.542		
tra-2		0.552		
tra-3		0.798		
tra-4		0.773		
tra-5		0.858		

Final Results	**Quality Criteria**	**Interim Results**	**Base Data**
Path Coefficients	R Square	Stop Criterion Changes	Setting
Indirect Effects	f Square		Inner Model

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