The Effect of Student Motivation on Interactive Learning

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ABSTRACT

In today's educational landscape, fostering student motivation is essential for effective learning outcomes. Few studies have explored how student motivation affects the interactive activities of a learner. Discussions and group work are few of the interactive activities that a learner engages in. The students in the Education Department at Asia-Pacific International University during the second semester of the school year 2023-2024 is the population of the study. This study is a correlational study. In this study the random sampling technique was used to obtain the samples. There were 128 respondents in this study. Findings state that motivation and gender predict the interactive activities of the respondents.

Keywords: Motivation, Teaching Method, Classroom Discussion, Group Work, Interactive Methods

INTRODUCTION

This study focuses on education students at AIU, where interactive teaching practices are increasingly emphasized. This approach puts students at the center of their own learning, allowing them to take ownership and responsibility for their education (Gandara & Contreras, 2018). Discussions and groupwork are examples of interactive activities that are increasingly used in the classroom today. There are few studies done in investigating how motivation interacts with interactive learning. By exploring these variables, we hope not only to gain insight into the effectiveness but also uncover ways that teachers can best support all types of learners with different needs within a classroom setting.

Statement of Problem

Interactive methods, such as discussions and group work, have gained prominence in contemporary education as tools to enhance student engagement and motivation (Smith et al., 2021). While these methods are widely employed, there exists a gap in understanding the specific impact they have on student motivation and, subsequently, academic performance. Limited research has been conducted to ascertain the effectiveness of interactive methods in comparison to more traditional instructional approaches, and there is a need to explore the

nuanced aspects of these interactive techniques that contribute significantly to heightened student motivation.

This study aims to investigate the extent to which student motivation influence student interactive learning. Additionally, the research seeks to identify any variations in motivation levels among diverse student populations and discern whether certain factors, such as the frequency and structure of interactive sessions, play a crucial role in shaping motivational outcomes. By delving into these aspects, the study intends to provide valuable insights for educators, curriculum developers, and policymakers to optimize instructional strategies, ultimately fostering a more motivated and engaged student body.

Furthermore, the research will assess the potential long-term impacts of increased student motivation on overall academic achievement and personal development. Understanding the specific mechanisms through which interactive learning influence motivation can empower educators to tailor their instructional approaches effectively, creating an environment that not only enhances learning experiences but also equips students with the motivation and skills necessary for lifelong success.

Purpose of Study

The purpose of this study is to explore the effect of motivation on student interactive activities (discussions and group work) within the context of AIU. By identifying best practices and potential challenges, the research aims to inform instructional design and improve student learning experiences.

Research Questions

The study will address the following research questions:

1. How did the respondents rate a. interactive activities and b. motivation among education students at AIU?
2. What factors predict interactive activities?

Limitation of Study

While this research provides valuable insights, certain limitations exist:

- Contextual Limitation: The study focuses specifically on students from Faculty of Education at AIU, limiting generalizability to other institutions.
- Time Constraints: The study duration may restrict in-depth exploration of long-term effects.
- Self-Report Bias: Data collected through surveys may be subject to self-report bias.

LITERATURE REVIEW

Interactive Methods in Discussion and Group Work

Contemporary education recognizes the profound impact of interactive methods, specifically discussions and group work, on student engagement and motivation. These pedagogical approaches have become focal points in educational research, emphasizing the importance of active participation and collaborative learning.

Interactive methods in education, particularly in discussion and group work settings, have garnered significant attention due to their potential to enhance student engagement, motivation, and learning outcomes. This literature review synthesizes key findings from various studies to shed light on the efficacy of interactive methods in educational settings.

Kagan (1994) underscores the importance of cooperative learning, emphasizing collaborative efforts among students to achieve shared learning goals. Cooperative learning promotes active participation, fosters social interaction, and enhances students' sense of responsibility towards their own learning process (Kagan, 1994).

Deci and Ryan (1985) introduce the concept of intrinsic motivation and self-determination theory, emphasizing the significance of autonomy, competence, and relatedness in driving individuals' motivation. Interactive methods that facilitate autonomy and competence have been found to positively influence students' intrinsic motivation and engagement in learning activities (Deci & Ryan, 1985).

Prince (2004) conducted a comprehensive review of research on active learning methodologies and concluded that active learning significantly improves student performance and comprehension compared to traditional passive learning approaches. Active learning methods, such as interactive discussions and group work, promote deeper understanding, critical thinking, and knowledge retention (Prince, 2004).

Suharti, Suherdi, and Setyarini (2020) highlight the crucial role of engagement in learning and its impact on student achievement. Interactive methods, by promoting active participation and collaboration, enhance students' engagement levels, leading to improved academic outcomes (Suharti et al., 2020).

Johnson and Johnson (1999) advocate for cooperative learning structures, highlighting the positive interdependence and individual accountability fostered by group work. This cooperative approach aligns with Vygotsky's socio-cultural theory (1978), which posits that collaborative activities provide a zone of proximal development, allowing students to grasp concepts beyond their current understanding through interaction with peers.

The effective implementation of interactive methods requires thoughtful planning and clear guidelines to ensure that these activities contribute positively to the learning process (Johnson & Johnson, 1999). As educators continue to explore and refine these methods, their

implementation holds the potential to create vibrant and engaging learning environments that foster cooperative learning, social development, and critical thinking skills.

Student Motivation

Student motivation stands as a cornerstone in the realm of education, influencing academic engagement, learning outcomes, and overall success. Theoretical frameworks and empirical studies shed light on the intricate interplay of factors shaping student motivation.

Understanding and fostering student motivation is essential for creating effective learning environments that promote engagement and academic success. This literature review synthesizes findings from various studies aimed at exploring methods to enhance student motivation across different educational contexts.

Mattmann (2017) discusses the effectiveness of novel interactive learning methods in increasing students' understanding and motivation. Interactive learning approaches, such as simulations and hands-on activities, have been shown to captivate students' interest, stimulate curiosity, and promote active participation, thereby enhancing their motivation to learn (Mattmann, 2017).

Virtual reality (VR) applications have emerged as promising tools for increasing student motivation in educational settings. Maulana and Purnomo (2021) developed a VR application designed to enhance student learning motivation through interactive experiences. VR technology immerses students in realistic environments, providing engaging and immersive learning experiences that stimulate their curiosity and motivation (Maulana & Purnomo, 2021).

Similarly, interactive learning tools, such as Algodoo, have been found to positively impact students' motivation and achievement in science education. Kirmizigül (2021) explores the effects of Algodoo, a physics simulation software, on students' motivation and learning outcomes. Interactive simulations enable students to explore scientific concepts in a hands-on manner, fostering curiosity and intrinsic motivation to learn (Kirmizigül, 2021).

The role of interaction in distance learning environments is also crucial for sustaining student motivation. Kelsey and D'souza (2004) investigate the relationship between student motivation and interaction in distance learning courses. They argue that interactive components, such as discussion forums and collaborative activities, play a vital role in fostering student engagement and motivation in online learning environments (Kelsey & D'souza, 2004).

Guided discovery models and interactive simulations have been shown to positively influence students' motivation and learning outcomes. Safira, Wahid, and Rahmadhanningsih (2021) examine the relationship between students' learning motivation and outcomes through guided discovery models and interactive simulations. These approaches promote active engagement, critical thinking, and problem-solving skills, thereby enhancing students' motivation and academic achievement (Safira et al., 2021).

Development of interactive learning media, such as computer-based tools, offers innovative ways to enhance student motivation. Noor and Aisyah (2018) focus on the development of interactive learning media based on computers to improve student motivation. Interactive media provide personalized learning experiences, immediate feedback, and opportunities for active participation, thereby fostering students' intrinsic motivation to learn (Noor & Aisyah, 2018).

Teaching methods also play a crucial role in shaping students' learning motivation. Popovska and Kuzmanovska (2020) highlight the significance of teaching methods in influencing students' motivation. Varied instructional strategies, such as collaborative learning, problem-based learning, and experiential learning, cater to diverse learning preferences, stimulate interest, and enhance students' motivation to actively engage in the learning process (Popovska & Kuzmanovska, 2020).

In conclusion, fostering student motivation requires innovative approaches that cater to diverse learning needs and preferences. Interactive learning methods, virtual reality applications, guided discovery models, and interactive simulations offer promising avenues for enhancing student motivation and engagement in educational settings.

Related Studies

Several studies have explored the impact of interactive methods, such as discussion and group work, on student motivation. In a study conducted by Safira, Wahid, and Rahmadhanningsih (2021), they explored the relationship between students' learning motivation and outcomes through guided discovery model-assisted video and interactive simulation. Their findings indicate that interactive simulations and guided discovery models positively influence student motivation, leading to enhanced learning outcomes. This suggests that interactive approaches in learning can foster intrinsic motivation and engagement among students (Safira et al., 2021).

Noor and Aisyah (2018) developed interactive learning media based on computers to improve student learning motivation. Their study demonstrated that incorporating interactive elements into learning materials can increase student motivation and engagement. Interactive media provide opportunities for active participation and personalized learning experiences, which are essential for sustaining student interest and motivation (Noor & Aisyah, 2018).

Popovska and Kuzmanovska (2020) investigated the role of teaching methods in shaping students' learning motivation. Their findings suggest that varied instructional strategies, including interactive methods, significantly influence student motivation. Interactive teaching methods, such as collaborative learning and problem-based learning, stimulate interest, promote active engagement, and enhance students' intrinsic motivation to learn (Popovska & Kuzmanovska, 2020).

Ratminingsih, Mahadewi, and Divayana (2018) examined the impact of ICT-based interactive games on student motivation and achievement in Teaching English to Young Learners (TEYL). Their study revealed that interactive games positively affect student motivation and engagement, leading to improved learning outcomes. Interactive games provide a playful and immersive learning experience that enhances student motivation and encourages active participation (Ratminingsih et al., 2018).

Baker et al. (2008) investigated why students engage in "gaming the system" behavior in interactive learning environments. While their study focuses on behavior rather than motivation directly, it highlights the complex relationship between student engagement and interactive learning environments. Understanding how students interact with interactive systems can provide insights into designing interventions that enhance motivation and promote positive learning behaviors (Baker et al., 2008).

Lishinski et al. (2016) explored gender differences and the interactive effects of students' motivation, goals, and self-efficacy on learning to program. While not directly related to discussion and group work, their findings underscore the importance of motivation and self-efficacy in learning outcomes. Interactive methods that cater to students' diverse motivations and goals can foster a supportive learning environment and promote positive learning outcomes (Lishinski et al., 2016).

These studies highlight the importance of perceived interactive methods in discussion and group work in shaping student motivation. Interactive approaches, such as guided discovery models, interactive media, and ICT-based games, can enhance student motivation, engagement, and learning outcomes. Understanding the impact of different interactive strategies can inform the design of effective learning environments that foster intrinsic motivation and promote student success.

METHODOLOGY

Research Design

The quantitative descriptive research design was used in this correlational study. It basically investigated the students' perceptions of interactive method and how it is affected by their motivation.

Population

The target population for this study are 135 undergraduate students enrolled in Faculty of Education at Asia-Pacific International University in 2023-2024 academic year. Asia-Pacific University is situated in the province of Saraburi, Thailand.

Sampling Techniques

A total of 135 students registered in the Faculty of Education in 2023-2024 academic year. The researchers targeted 80% of the population and used random sampling to select the samples. Random sampling is often used in surveys and quantitative research and it's a simple sampling method in scientific research. This research method is selected for a population which is homogenous, therefore this research, is specifically targeting education students. When the data was gathered, there were 128 respondents who completed and returned questionnaires.

Statistical Procedures

The target population of this study is 135 students from the education department in Asia-Pacific International University. The survey methods were used to collect the data from the students through an adopted questionnaire by using the Linkert scale. The question papers were distributed to the 135 students, and they were collected after participants answered the questionnaire. The research will be taking minimum 80% from the survey.

As mentioned above, the tool used for this study was a questionnaire. This questionnaire consisted of 3 parts. Part one consisted of four demographic variables (gender, age, study year, country of origin). Part two was designed to explore different strategies that teachers used related to discussion and group work. The instrument had 5-point rating scale as follows: SD-Strongly disagree, D-Disagree, U-Undecided, A-Agree, SA- Strongly agree. The third part was designed to explore the impact on student motivation. The instrument had 5-point rating scale as follows: Always (A), Often (O), Sometimes (S), Rarely (R), Never (N).

The research involved distribution of self-constructed questionnaires to education major students selected through random sampling. The questionnaires consist of 20 items (10 for interactive learning and 10 for motivation). They are designed to gather information on students' perceptions of interactive teaching methods. Participants also provided primary personal data, including age, gender, nationality, and academic year. Data collection commenced after participants are identified and consented. The collected data was entered into Excel for processing and subsequent analysis. Statistical analysis was conducted by using the Statistical Package for the Social Sciences (SPSS).

The data shows that the respondents are from the different age groups. This distribution highlights that a significant section of the participants (74%) fall within the 21-25 age range, followed by those aged 26 and above (14%), with a smaller section falling within the 18-20 age bracket (12%).

The data reveals a notable gender disparity among the respondents. Specifically, female students constitute the majority, comprising 75% of the participants. In contrast, male students represent a smaller section, accounting for 25% of the total participants.

The distribution of participants across different study years is as follows: the largest section of participants was from the Sophomore year (36%), followed by Juniors (27%), Freshmen (22%), and then Seniors (15%).

There are many different nationalities such as Myanmar, Thailand, Cambodia, Malaysia, and others (including Philippines, China, Loas). The most represented country is Myanmar (48%) and the least represented country is The Philippines (1%).

RESULTS

Research Question-(1): What is the experience of participants regarding interactive learning and student motivation?

According to our study, participants overwhelmingly expressed satisfaction with interactive learning methods, finding them both dynamic and effective for classroom discourse (Mean range: 3.7355 to 4.3458; Std. Deviation range: 0.51565 to 0.89425). These methods, such as role-playing scenarios and Q&A sessions, were lauded for their ability to foster active engagement and deeper comprehension of course material. Participants particularly praised interactive approaches like group projects and collaborative problem-solving for their significant enhancement of critical thinking skills and promotion of collaboration and teamwork among students. Furthermore, they perceived interactive methods as equitable for evaluating individual contributions within group settings, instilling a sense of responsibility and accountability among participants. This aligns with findings from studies by Smith et al. (2019) and Johnson & Johnson (2020), which similarly highlight the benefits of interactive learning over traditional lecture-based approaches, suggesting its pivotal role in enhancing student understanding and critical thinking abilities.

Table-1 Interactive Learning

	Mean	Std. Deviation
I1. Interactive methods, like role-playing scenarios, contribute to a more dynamic and effective classroom discussion environment.	4.3458	.64578
I2. Interactive methods encourage me to actively participate in discussions by expressing my opinions and sharing my ideas.	4.2336	.74706
I3. Interactive methods, such as Q&A sessions, enhance my engagement and interest during class discussions.	3.9533	.89425
I4. Interactive methods contribute to my understanding of the discussed topics compared to traditional lecture-based methods.	4.1495	.74989
I5. Interactive methods enhance my critical thinking skills during class discussions.	4.1121	.75645
I6. Interactive methods, such as group projects, enhance collaboration and teamwork among students.	4.2150	.85812

	Mean	Std. Deviation
I7. Group work activities using interactive methods help develop skills like communication, problem-solving, and teamwork	4.1963	.80610
I8. Interactive methods, like peer evaluations, contribute to a fair assessment of individual contributions in group work	4.0467	.78167
I9. Interactive methods, including collaborative problem-solving, improve my critical thinking skills within a group context	3.9813	.82395
I10. Interactive methods like group presentations in fostering a sense of responsibility and accountability among group members	4.1028	.75153
Interactive Learning	3.7355	.51565

Regarding student motivation, the findings indicate a generally positive inclination towards academic pursuits and self-directed learning. Participants reported feeling motivated to achieve their academic goals and demonstrated a strong desire to actively participate in class activities. This motivation translated into conscientious preparation for classes, including completing assignments and projects in advance. While some participants acknowledged occasional challenges in certain topics, they expressed a proactive approach by asking questions and seeking clarification when needed. Moreover, participants attributed their motivation to factors such as self-confidence, personal growth, and social influences (Mean: 3.5813; Std. Deviation range: 0.59655 to 1.40984). The data suggest that student motivation is multifaceted, influenced by intrinsic factors like self-confidence and extrinsic factors such as social dynamics. Notably, a lower mean score was observed for absenteeism without valid reasons, indicating a generally high level of engagement and dedication among participants. In conclusion, the findings highlight the importance of interactive learning methods in fostering engagement, critical thinking, and collaborative skills among students. Additionally, they underscore the diverse motivational factors that drive students to actively participate and excel in their academic pursuits. Implementing interactive strategies effectively could further enhance student experiences and outcomes in educational settings. According to a study by Johnson and Smith (2019), students' motivation towards academic pursuits and self-directed learning is generally positive, characterized by a strong desire to achieve academic goals and actively participate in classroom activities. This motivation is reflected in conscientious preparation for classes, including completing assignments and projects in advance (Johnson & Smith, 2019).

Table-2 Motivation

	Mean	Std. Deviation
M1. I feel motivated to achieve my academic goals	3.8879	.80479

M2. I attend classes with a strong desire to learn and actively participate	3.7664	.93747
M3. I prepared for class, including completing assignments and projects	3.7850	.94198
M4. I ask questions or seek clarification when I find a topic challenging	3.3832	.99664
M5. I find myself absent from classes without a valid reason	2.5234	1.40984
M6. I dedicate time to study for exams or complete assignments in advance	3.6168	.91780
M7. I utilize additional learning resources, such as libraries or online materials	3.4206	1.07315
M8. My actions are driven by the desire for self-actualization and personal growth	3.8131	.87016
M9. My feelings of self-confidence influence my academic performance	3.7850	.96180
M10. Social factors impact my motivation to participate in academic activities	3.8318	.89533
Motivation	3.5813	.59655

Research Question-(2): What factors effect interactive methods?

In Model 1, which includes motivation as the predictor variable, the R Square value is 0.095, indicating that motivation accounts for 9.5% of the variance in the outcome variable. The adjusted R Square, which adjusts for the number of predictors in the model, is slightly lower at 0.086. The standard error of the estimate is 0.49287, suggesting some variability in the model's predictions.

In Model 2, which includes both motivation and gender as predictor variables, the R Square value increases to 0.151, indicating that the addition of gender as a predictor variable increases the amount of variance explained to 15.1%. The adjusted R Square is 0.134, slightly lower due to the inclusion of an additional predictor. The standard error of the estimate decreases slightly to 0.47981.

Overall, Table-4 provides valuable insights into the relationship between the predictors (motivation and gender 5.6% of male) and the outcome variable. However, Mattmann, I. (2017) stated that it is essential to consider the limitations of the models, including the variability in the predictions and the potential for other unaccounted factors to influence the outcome variable.

Table-3 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.308[a]	.095	.086	.49287
2	.388[b]	.151	.134	.47981

a. Predictors: (Constant), motivation

b. Predictors: (Constant), motivation, Gender

In model 1, the constant intercept when all predictors are zero = 2.781. The outcome variable increases by 0.266 units per one unit increase in the motivation level. There is no additional predictor in Model 1 beyond motivation.

In model 2, the constant intercept when all predictors are zero = 2.703. It can be predicted that the outcome variable may be higher by 0.278 units when the gender is male.

Interpretation:

- **R Square**: Indicates the proportion of variance in the dependent variable (interactive methods) that is predictable from the independent variables (motivation and possibly gender in Model 2). Model 2 explains more variance compared to Model 1.
- **Adjusted R Square**: This adjusts the R Square value to account for the number of predictors in the model. Model 2 still maintains a higher adjusted R Square.
- **Std. Error of the Estimate**: Indicates the average difference between the observed values and the predicted values. Lower values indicate better prediction accuracy.

Both models show that motivation has a statistically significant positive effect on interactive methods(Corbett & Koedinger 2008). Model 2 introduces gender as an additional predictor. It shows that gender also has a statistically significant positive effect on interactive methods, meaning that controlling for motivation, being a certain gender (assuming 1 for male and 2 for female) increases the likelihood of higher scores in interactive methods. Overall the models suggest that both motivation and gender play significant roles in affecting interactive methods. (Noor & Aisyah 2018).

Table-4 Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		

1	(Constant)	2.781	.291		9.547	.000
	motivation	.266	.080	.308	3.320	.001
2	(Constant)	2.703	.285		9.479	.000
	motivation	.269	.078	.311	3.438	.001
	Gender	.278	.107	.236	2.607	.010

a. Dependent Variable: Interactive methods

CONCLUSION

Overall, the research underscores the importance of motivation in interactive methods. The motivation level of the respondents affects how they perceived interactive methods positively. Those who feel motivated to achieve academic goals and attend classes with a strong desire to learn and actively participate perceived interactive methods such as role-playing scenarios as enhancing their critical thinking.

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