



THE RELATIONSHIP BETWEEN MOTIVATION, ACADEMIC ENGAGEMENT AND LEARNING BEHAVIORS

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Abstract

Students' academic engagement is an essential pillar of their academic success, directly influencing their performance and motivation. This includes a wide range of behaviors, such as constructive feedback, involvement in extracurricular activities and adaptation to new educational technologies. It is also essential that educational institutions are aware of the external factors that can influence academic engagement, creating a learning environment that supports diversity and responds to the varied needs of students. In the current context, where technology plays an essential role in education, educational technologies and online platforms significantly influence students' behavioral engagement. Digital learning and distance learning have created both opportunities and challenges for students. The purpose of this study was driven by the need to systematically address the complex relationship between motivation, engagement and learning behaviors. This relationship profoundly influences students' academic performance and cognitive processes, determining the adoption of effective or ineffective learning strategies. In this context, the study involved 119 subjects who completed the questionnaire. The results of this study indicate that academic motivation and engagement are fundamental factors in the development of learning behaviors and in achieving educational success. However, digital learning can also bring challenges, such as digital distractions or lack of direct interaction, which can negatively affect student motivation and engagement. A deep understanding of the relationship between these factors allows the development of more effective educational strategies, adapted to the needs of students, thus encouraging a successful educational path and adequate preparation for professional challenges.

Keywords: *motivation, academic engagement, learning behaviors, competence, flexibility.*

1. INTRODUCTION

The research context related to student motivation and academic engagement is broad and complex, reflecting important concerns in the fields of educational psychology and educational sciences. Currently, universities and other higher education institutions face significant challenges in terms of increasing educational performance, promoting active learning and supporting student engagement. These demands are accentuated by economic and social changes, rapid technological development and the needs of the labor market, which require well-prepared graduates adapted to modern requirements.

Changes in higher education in recent decades have generated multiple challenges related to pedagogical methods, assessment and adapting curricula to current student needs and expectations. The internationalization of education, the integration of digital technologies in educational processes and the increasing diversification of the student population are some

of these changes that highlight the need for a thorough understanding of academic motivation and engagement. These aspects are fundamental for adapting curricula and increasing the quality of education (Booth, 2007).

Motivation can be defined as the set of intrinsic and extrinsic factors that determine a student's desire to learn, achieve academic performance, and achieve educational goals (Deci & Ryan, 1985). In the context of self-determination theory, intrinsic motivation is considered the most effective form of motivation, as it is related to the pleasure and satisfaction that the student obtains from academic activities. Extrinsic motivation is determined by external factors: evaluations and social pressures (Ryan & Deci, 2008). Studies dedicated to academic motivation show that a learning environment that supports student autonomy and initiative has a positive effect on their involvement and academic development (Schunk, 2007). Also, interpersonal relationships among students and teachers, the constructive feedback and also the emotional support, play an important role in stimulating academic motivation. Strong intrinsic motivation is associated with strong engagement in learning, superior academic performance, and also developing self-regulated learning skills.

Academic engagement is a diversified concept and includes cognitive, affective, and behavioral aspects which describes the level of energy and dedication that a student invests in academic activities (Fredricks, Blumenfeld & Paris, 2004). Cognitive engagement is related to cognitive processes and information processing strategies used by students, affective engagement contains feelings and attitudes related to learning, and behavioral engagement involves active participation in academic activities. Academic engagement has been identified as a significant predictor of educational success and persistence in higher education. Studies show that academic engagement has an important role in effective learning behaviors and in the personal and professional development of students (Kahu, 2013).

The relationship between motivation and academic engagement influences students' learning behaviors. Students with high intrinsic motivation are usually more involved in academic activities, and this is reflected in higher academic performance. Conversely, lack of motivation or a specific extrinsic motivation can induce passive learning behaviors, procrastination or avoidance of academic tasks (Schunk, Pintrich & Meece, 2008). The relationship between motivation and academic engagement is explained by couple of psychological theories, including self-determination theory, which indicates that intrinsically motivated students are actively engage in the learning process and develop positive learning behaviors. In addition, expectancy-value theory suggests that students' level of engagement and motivation are influenced by their expectations of their academic success and the value they attribute to learning activities (Eccles, 1983).

Dweck's (2006) research highlighted that students with a growth mindset are more able to accept internal attributions for their failures and learn from their mistakes. Promoting a growth mindset among students can reduce amotivation and increase their resilience in the face of academic challenges, stimulating a more active and persistent approach to learning. Educational interventions that support the development of a growth mindset can facilitate not only academic performance but also sustainable long-term motivation (Dweck, 2006).

Learning behaviors are an important indicator of student engagement and motivation, and their quality can influence long-term academic outcomes. The study by Pintrich and De Groot (1990) suggests that students who adopt effective learning behaviors, such as active learning strategies and self-regulation, tend to achieve higher academic results and develop greater competence in managing academic tasks. Furthermore, learning behaviors are not only a reflection of cognitive abilities, but also of attitudes towards learning, including self-motivation and perseverance in the face of educational challenges. Thus, it is essential to understand how these behaviors are formed and how they can be supported in the educational setting to improve the learning process and academic success of students (Pintrich, 2003).

Intrinsic motivation is one of the most powerful forces influencing students' learning behaviors, having a direct impact on their academic engagement. It refers to students' commitment to learning and engaging in educational activities out of an internal motivation, without being influenced by external rewards or extrinsic factors. When students are intrinsically motivated, they are guided by curiosity and interest in the field of study, and learning becomes a satisfying activity in itself (Ryan & Deci, 1985).

Creating a stimulating learning environment, where students have easy access to a variety of educational resources, is essential for promoting deep learning behaviors. This environment can include digital libraries, online learning platforms, and constant access to tutoring and academic assistance, which support the deepening of knowledge and provide opportunities for autonomous learning (Boekaerts, 2011). In addition, educational institutions can promote extracurricular activities, such as academic clubs, conferences, or workshops, that encourage students to apply their knowledge in practical contexts and develop interpersonal skills. Teachers, in turn, can support these behaviors by using active learning methods that encourage students to be involved in the educational process.

2. OBJECTIVE AND HYPOTHESES

2.1. OBJECTIVE

The proposed objectives for this research focus on the following aspects: highlighting possible links between motivation and academic engagement, identifying an association between motivation and learning behaviors in the academic environment, concluding a set of results regarding the link between academic engagement and effective learning behaviors of students.

2.2. HYPOTHESES

The hypotheses proposed for the research are as follows:

H1: There is a relation between academic engagement and academic motivation.

H2: There is a relation between academic engagement and learning behaviors.

H3: There is a relation between academic motivation and learning behaviors.

3. METHOD

This research involved 119 subjects who completed the questionnaire presented in Google Form, online. Participation was voluntary, anonymous and the responses were treated confidentially. Participants were informed that the research respected the confidentiality of the data collected in the study, as well as the anonymity and safety of the participants. The statistical processing of the data provided was analyzed only at the sample level, without being presented individually in any scientific publication. The questionnaire was distributed online for 4 months (October 2024 - January 2025). After statistical processing and performing descriptive and inferential statistical analyses, the final conclusions of the paper accumulated the study information, drawing on the theoretical basis, recent research in the field and the results obtained, identifying the limits of the study and possible future directions of the research. The research design is non-experimental (Vasiliu, 2018), of the type: N: O1 O2 O3, where O1 represents the measurement of academic engagement, O2 represents the measurement of academic motivation, and O3 represents the measurement of learning behaviors.

4. RESULTS

Exploratory and normality analysis of the dependent variables indicated that the dependent variables of the research have mixed distributions (normal and non-normal), so it was decided to apply non-parametric statistical tests to verify the hypotheses issued.

H1: There is a relation between academic engagement and academic motivation.

To verify this hypothesis, the Spearman correlation test was applied, with the following results:

Table 1. Associations between academic engagement, intrinsic motivation and extrinsic motivation

	1.	2.	3.
1. Academic engagement	1.000		
2. Intrinsic motivation	.813**	1.000	
3. Extrinsic motivation	.599**	.708**	1.000

** . Correlation is significant at the 0.01 level (2-tailed).

The findings confirm the rejection of the null hypothesis and indicate that there is a significant correlation between academic involvement and intrinsic motivation, which is positive and of high intensity. This means that when a student's level of intrinsic motivation is high, his level of academic involvement increases significantly. The effect size ($r^2 = 0.660$) indicates that approximately 66% of the variation in academic involvement scores can be explained by the variation in intrinsic motivation scores. According to widely accepted standards for interpreting effect size (Cohen, 1988), this value corresponds to a strong effect, which gives strong practical and theoretical relevance to the identified relationship. The results also show that there is a significant correlation between academic involvement and extrinsic motivation, which is positive and of good intensity. This means that when a student's level of extrinsic motivation increases, his level of academic involvement also increases. The effect size ($r^2 = 0.358$) indicates that approximately 35% of the variation in academic engagement scores can be explained by the variation in extrinsic motivation scores. According to widely accepted standards for interpreting effect size (Cohen, 1988), this value corresponds to a strong effect, which gives strong practical and theoretical relevance to the identified relationship.

H2: There is a relation between academic engagement and learning behaviors.

To verify this hypothesis, the Spearman correlation test was applied, with the following results:

Table 2. Associations between academic engagement, competence motivation and rigidity

	1.	2.	3.
1. Academic engagement	1.000		
2. Competence motivation	.415**	1.000	
3. Inflexibility/rigidity	-.115	-.653**	1.000

** . Correlation is significant at the 0.01 level (2-tailed).

The results indicate that there is a significant correlation between academic engagement and motivation for competence as a learning behavior, a positive correlation and of medium intensity. This means that when a student's level of motivation for competence increases, his level of academic engagement also increases. The null hypothesis for the first correlation is rejected. The effect size ($r^2 = 0.172$) indicates that approximately 18% of the variation in academic engagement scores can be explained by the variation in motivation for competence as a learning behavior. According to accepted standards for interpreting effect size, this value corresponds to a medium effect, which gives sufficient practical and theoretical relevance to the identified relationship. The other results show that there is no significant correlation between academic engagement and inflexibility as a learning behavior ($p > 0.05$), and in this case we retain the null hypothesis.

H3: There is a relation between academic motivation and learning behaviors.

To verify this hypothesis, the Spearman correlation test was applied, with the following results:

Table 3. Associations between motivation and learning behaviors

	1.	2.	3.	4.
1. Intrinsic motivation	1.000			
2. Extrinsic motivation	.708**	1.000		
3. Competence motivation	.483**	.222*	1.000	
4. Rigidity	-.161	-.007	-.653**	1.000
	.081	.943	.000	.

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

The results indicate that there is a significant correlation between intrinsic motivation and motivation for competence. This correlation is positive and has a high intensity. This confirms that when a student's level of intrinsic motivation is high, his level of motivation for competence will also be high. The null hypothesis for the first correlation is rejected. The effect size ($r^2 = 0.233$) indicates that approximately 23% of the variation in motivation for competence scores can be explained by the variation in intrinsic motivation scores. This value corresponds to a good effect, which confers important practical and theoretical relevance, according to the standards of interpreting effect size (Cohen, 1988). The findings also show that there is a significant correlation between extrinsic motivation and motivation for competence as a learning behavior. This correlation is positive, but of low intensity, indicating that with the increase in extrinsic motivation, the level of motivation for competence also increases. The null hypothesis for the second correlation is rejected. In this case, the effect size ($r^2 = 0.049$) indicates a small effect size.

5. CONCLUSIONS

Student academic engagement is a complex construct that involves behavioral, cognitive, emotional, and social commitment, all of which have a profound impact on academic performance and personal development. This engagement influences how students relate to learning tasks, set and pursue their academic goals, interact with peers and teachers, and overcome challenges encountered in the university environment. Academic motivation,

structured of intrinsic and extrinsic factors that determine a student's desire to learn, achievement of academic performance, and achievement of educational goals, is related to the pleasure and satisfaction that the student obtains from academic activities. Learning behaviors play a crucial role in academic success and are shaped by a number of factors, including the type of motivation that students demonstrate and the learning strategies adopted. Deep learning behaviors, which are supported by intrinsic motivation and a stimulating educational environment, are associated with higher academic performance and the development of cognitive and professional skills essential for future success. Thus, learning behaviors and intrinsic motivation must be continuously cultivated, and teachers and educational institutions have a critical role in supporting this process.

The purpose of this study was supported by the need to systematically address the complex relationship between motivation, engagement and learning behaviors. This relationship profoundly influences academic performance and cognitive processes of students, determining the adoption of effective or ineffective learning strategies.

The results confirm positive correlations between academic engagement, intrinsic motivation and extrinsic motivation, proving that when intrinsic or extrinsic motivation increases, academic engagement will increase accordingly. Also, there is a correlation between academic engagement and motivation for competence, highlighting the fact that when the motivation for competence in learning of the student increases, the academic engagement will increase accordingly. It was also confirmed the correlations between academic motivation and learning behaviors of students, specifically intrinsic motivation and motivation for competence, and also extrinsic motivation and motivation for competence, as part of learning behaviors. These conclude that, with the increase in intrinsic or extrinsic motivation, the motivation for competence within learning behaviors will also increase.

The research conducted is important in understanding and supporting academic engagement and implicitly academic motivation, essential for creating an educational environment in which students are motivated to learn and develop constantly, both intellectually and personally. Through educational approaches that encourage deep commitment and long-term involvement, educational institutions can significantly contribute to students' career success and to the formation of responsible, resilient and adaptable individuals to the continuous changes of contemporary society.

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