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# A Review of Researches on Learning Motivation of EFL Students

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#### **Abstract**

Motivation is defined as the driving force that triggers and maintains an organism's behaviour, directing it towards a certain objective (Chand et al., 2003). Learning motivation is a crucial factor that propels and maintains English as a Foreign Language (EFL) students' engagement in learning activities, with the purpose of aligning their learning behaviour and orientation towards the desired learning outcomes. The level of motivation to learn plays a crucial role in shaping the degree of autonomy and effectiveness exhibited by students in their learning endeavours.

This article primarily centres on scholarly publications pertaining to the subject of learning motivation within the timeframe spanning from 2000 to 2023. The objective is to provide a concise overview of the findings derived from empirical investigations pertaining to learning motivation. Furthermore, the study endeavours to ascertain the attributes of the EFL student cohort with regards to their motivation to learn. The report additionally highlights deficiencies and patterns in existing research on learning motivation, with the intention of offering direction for future investigations in the field of learning motivations.

# **Study Objectives**

To assess the evolution of research trends in learning motivation of EFL students over the past 23 years.

To identify limitations and future directions of research.

# Overview Of Research Findings On The Learning Motivation Of Efl Students Learning Motivation Structure

Research on the structure of learning motivation can be categorised into two distinct types: the first type involves empirical descriptive studies conducted by scholars who summarise relevant theories and incorporate their own understanding, while the second type involves researchers investigating the motivation of study subjects through the creation of questionnaires, statistical

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analysis of the data using factor analysis, and ultimately drawing conclusions based on empirical evidence.

Zhang (2011) presented a theoretical framework aimed at comprehending the motivation to learn. This framework posits that motivation to learn encompasses four fundamental components, namely self-actualization, drives, expectations, and attributions. In their study, Daria, Anique, Andrew, Marina, and Jeroen (2022) investigated four distinct motivational components. These factors encompassed motivation to learn, affect, instrumental perception, and general self-efficacy. Li and Liu (2011) conducted an analysis of the theory pertaining to motivation for learning. The researchers successfully forecasted and substantiated the presence of four distinct dimensions of motivation in the context of learning, namely achievement motivation, cognitive motivation, authority motivation, and subordination motivation. Scholars have engaged in discussions regarding the phenomenon of motivational bias in the field of education, encompassing both intrinsic and extrinsic motivation (Baranovskaya, 2015; Hedi, 2000; Tokan & Imakulata, 2019; Vallerand, Pelletier, & Koestner, 2008). This perspective has garnered significant recognition within the academic discipline. Knowles et al. (2000) provide a definition of motivational orientation, which comprises three distinct types: non-motivation, external motivation, and internal motivation. The topic of interest pertains to the concepts of external motivation and internal motivation. External motivation encompasses the notion of making adjustments based on external factors. Numerous elements exert an effect on individual behaviour, including external adjustment, internal adjustment, and identity adjustment. Intrinsic motivation pertains to the inherent pleasure or contentment derived from the process of acquiring English as a supplementary language, alongside the feelings of accomplishment or gratification linked to the endeavour of attaining proficiency in the English language. The pursuit of acquiring proficiency in the English language engenders a deep sense of gratification and contentment, both during the learning journey and upon achieving a state of linguistic transcendence. The phenomenon of deriving pleasure or a sense of fulfilment from the process of learning knowledge The structural hypothesis on learning motivation, as posited by Chloe, Zhang, and Wang (2017), is derived from preexisting theories pertaining to learning motivation. The researchers propose that the construct of learning motivation can be understood as a multifaceted system comprising four distinct dimensions: learning needs, elicitation, cognition, and volition. The researchers established a correlation between learning motivation and beliefs pertaining to self and identity. Dörnyei (2005) proposed a dichotomous motivational framework that classifies motivation for acquiring a foreign language into three distinct categories: the ideal L2 self, the self that is expected to learn L2, and the L2 learning experience.

Amabile et al. (2006) undertook the translation of the Learning Motivation Scale and subsequently carried out a study including a sample of 270 EFL students with the aim of evaluating the suitability of the scale for this particular demographic. The measure comprises two distinct dimensions, specifically intrinsic motivation and extrinsic incentive. Intrinsic motivation encompasses two distinct components, namely challenge and passion. In contrast, extrinsic motivation encompasses four distinct characteristics, which encompass a reliance on external evaluations, a preference for straightforward activities, an emphasis on interpersonal competitiveness, and a desire for rewards.

In summation, it can be deduced that a multitude of scholars predominantly employ three distinct sorts of questionnaires in order to examine the phenomenon of learning motivation. The first category consists of scales that academic researchers have created. The second group consists of learning motivation surveys that scholars initially created, then translated and

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further reviewed by other scholars while taking into account the unique circumstances of students. The third group encompasses surveys that have been derived from theories of learning motivation and then tailored to suit the unique circumstances of students.

# **Research On The Levels Of Learning Motivation**

Ditual (2012) posits that learners' attitudes towards and motivation in the process of learning English tend to be positive and high, hence influencing their overall engagement and performance. The motivation exhibited by an individual arises from the utilisation of tools and the impact of diverse factors. According to the research conducted by Ding and Wang (2010), it was found that the primary form of motivation observed among English as a Foreign Language (EFL) students is deep-type motivation, with achievement-type motivation being the subsequent prevalent motive. Subsequently, the aforementioned is followed by achievementoriented motivation and surface-level motivation. In their study, Gao and Jia (2011) investigated the prevalence of learning motivation among college students at Binzhou College by employing a questionnaire. The findings of the investigation revealed that the general magnitude of motivation among college students to engage in learning activities was of a moderate nature. Moreover, discernible variations in motivation were observed across college students belonging to distinct genders, academic grades, and fields of study. According to Mazumder (2014), the level of motivation to acquire knowledge and skills is a crucial factor in shaping challenging contexts, focusing attention on objectives, and achieving success in complex undertakings. It is apparent that students display varying types of motivation to engage in learning, often arising from a multitude of factors rather than a singular driver that eventually propels them towards their educational objectives. In order to attain proficiency in the field of science education, students are required to exhibit elevated levels of desire, aptitude for learning, and expansion of skills, all of which are necessary for the acquisition of scientific competence. In the 2004 article by Katie, a theoretical framework was presented with the aim of delineating three distinct levels of motivation pertaining to the process of teaching and learning. This framework, referred to as Levels of Motivation (LOM), was provided. According to the author, the motivation for learning can be classified into three distinct levels: inclusive, recreational, and motivating. Motivation is assessed and interpreted within the context of social interaction. The primary objective of the concept is to clarify the active involvement of educators in the dynamic process of teacher-student interaction.

Based on the aforementioned findings, one may draw the conclusion that the population of English as a Foreign Language (EFL) students demonstrates a moderate degree of motivation towards the pursuit of learning. By looking at different types of motivation to learn, it is clear that the types of motivation that are focused on the individual—such as deep-type motivation, mastery goal motivation, and endogenous motivation—show a higher level of motivation than the types of motivation that are focused on society. This observation implies that the fundamental emphasis of learning motivation is on the acquisition of knowledge and the enhancement of personal competitiveness.

# **Research on Variations in Motivation for Learning**

Vernooij (2009) posits that students exhibit a range of diversities upon entering the classroom, encompassing their skills, personalities, learning styles, attitudes, and motives. There exists variability among learners across multiple areas, encompassing but not restricted to culture, intelligence quotient (IQ), language aptitude, socioeconomic status, gender, level of motivation, and personal interests (Tomlinson et al., [year]). Given these disparities, it is

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anticipated that they will enhance the educational experience due to the innate inclination of individuals to acquire knowledge that aligns with their particular interests and profound necessities (George, 2005). In their study, Liu, Zhang, and Zhang (2005) employed the College Student Motivation Questionnaire (CSMQ) designed by Huang, Xiting, et al. to collect data. The sample consisted of 720 students who were enrolled in a university located in Hunan Province. The findings of the research indicated that male students exhibited notably greater levels of personal success motivation in comparison to their female counterparts. In contrast, it was shown that female students exhibited markedly elevated levels of social orientation, fear of failure, and drive towards small group orientation. No statistically significant differences were seen in the levels of social orientation motivation and fear of failure motivation among students across different grade levels. Furthermore, it was observed that students pursuing arts and physical education exhibited greater levels of enthusiasm for knowledge acquisition and social orientation in comparison to students pursuing arts and sciences. There were no statistically significant variations observed in the degrees of motivation for learning in other domains. Based on the tenets of self-efficacy theory, the first factor influencing an individual's motivation to engage in the process of learning is their subjective assessment of their own competence in acquiring knowledge or skills. According to Schunk and Pajares (2009), existing empirical data indicates that self-efficacy holds significant significance in various dimensions of a student's educational journey, encompassing their level of involvement, activity selection, perseverance, curiosity, and academic performance. Theoretical theories pertaining to future-oriented motivation and self-regulation underscore the significance of personal and social expectations in cultivating motivation and accomplishment. Miller and Brickman (2004) propose that expectancy-value theory posits that the motivation to engage in learning activities is primarily shaped by individual expectancies and values, which are closely interconnected with psychological, social, and cultural factors (Wigfield, 2000; Wigfield, Tonks, & Lutz Klauda, 2009). Ryan and Deci (2000) found that there exists a positive association between intrinsic motivation and internal motivating factors, such as job satisfaction and personal interest, within a certain occupation. In contrast, extrinsic motivation is linked to social factors such as societal norms, social pressure, external incentives, and penalties.

In a study conducted by Wang (2013), a standardised questionnaire was employed to examine the motivation levels of students enrolled in teacher training institutes. The results of the study indicated notable disparities between genders in terms of social orientation and small group orientation, with females exhibiting higher levels compared to males. In contrast, our findings indicate that there are no substantial gender disparities in the domains of intellectual curiosity, materialistic aspirations, apprehension about failure, and personal achievements. Zhou, Yi, and Lin (2015) employed a comparable survey instrument to investigate motivational factors among university students. The findings of the study indicated that male students had notably diminished levels of social orientation and fear-of-failure motivation in comparison to their female counterparts. In contrast, male students exhibited a greater degree of drive towards personal achievement in comparison to their female counterparts. A comprehensive examination of the outcomes of the aforementioned studies indicates that despite the utilisation of a common questionnaire, variations in sample selection, school type, and survey timing across the researchers resulted in unavoidable discrepancies and even contradictions in the results. The findings of all three studies are significant as they consistently demonstrate that girls exhibit greater levels of motivation compared to boys in the context of socially oriented learning motivation. This observation indicates that girls

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exhibit a greater inclination towards prioritising interpersonal and social interests in comparison to guys.

In their study, Gao and Jia (2011) devised and implemented a survey instrument with the aim of evaluating the motivational factors influencing English as a Foreign Language (EFL) students. The questionnaire was designed based on Dweck's theory of motivation to facilitate learning. The study's subjects consisted of students enrolled at a comprehensive university who were required to submit a questionnaire as part of a larger survey. The findings of the survey indicate that there are notable variations in the levels of motivation among university students over several academic years. Furthermore, the motivation of students towards mastery goals was shown to be in line with the observed variations in overall motivation across different grade levels. In contrast, there were no significant variations observed in gender differences with regards to the general desire for learning and motivation for achieving goals. Furthermore, it was observed that there existed no statistically significant disparity in terms of motivation between male students with respect to their pursuit of mastery objectives and success goals. Additionally, there was no statistically significant disparity observed between the lower and upper classes in relation to their motivation to attain goals. Furthermore, it is noteworthy that gender differences did not have a statistically significant impact on both overall motivation and motivation towards goal attainment. Nevertheless, it is important to acknowledge that male individuals exhibited greater levels of motivation in the pursuit of mastery goals in contrast to their female counterparts.

# The Investigation Of The Influence Of Factors On Learning Motivation

The concept of motivation to study encompasses a diverse range of components. The aforementioned attributes collectively have an influence on the cognitive processes, emotional states, interpersonal relationships, and behavioural patterns of students in various educational and non-educational settings (Higgins, 2012). According to Hattie et al. (2020), the influence of individual motivational factors on student learning and achievement is contingent upon the comparative potency of other significant motivational factors. According to Harmer (2001:52), there is a strong emphasis on the emotive and interactive dimensions of student engagement in the educational process. The author delineates four distinct attributes that possess the capacity to exert an influence on students' achievement in the realm of English assignments, as well as their ability to seamlessly incorporate those assignments into their everyday routines. First and foremost, it is imperative to acknowledge that students play a crucial role within the societal framework. Furthermore, educators are usually acknowledged as significant catalysts in maintaining students' drive to acquire knowledge. Furthermore, it is imperative for both educators and learners to cultivate a sense of self-assurance in the pedagogical and knowledge acquisition processes. Hu (2010) proposed that motivation can be influenced by two primary categories of elements: internal and external forces. Internal influences can be classified into three categories: learning requirements, cognitive conflicts (such as discrepancies between personal ambitions and actual goals), and goal awareness. External effects can be classified as motivational elements, including scholarly and employment concerns, reinforcement, and environmental considerations.

Spolsky posits that several significant aspects exert influence on the process of education and learning. These factors include education level, age, cognitive ability, and the attitude of the learner. Among these characteristics, the final one, attitude, emerges as the most significant determinant of motivation. This phenomenon can be attributed to the close association

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between the educational history of the learner and their social environment, including teachers, friends, and family (Ogumadin & Redondo, 2015).

The study conducted by Briewer, Dejange, and colleagues (2001) demonstrated that teachers who have a high degree of structure, organisation, and a focus on achieving outcomes are capable of sustaining motivation. While the significance of classroom structure and organisation cannot be overstated, it is equally crucial to maintain a harmonious equilibrium between the classroom environment and flexibility, in conjunction with fostering student empowerment. One potential strategy for university faculty to enhance student motivation is by providing opportunities for students to actively engage in and sustain a flexible classroom environment. Moreover, there exists a subset of students that derive satisfaction from courses that provide a sense of structure and organisation (Brewer & Burgess, 2005). According to Linnenbrink and Pintrich (2003), it has been suggested that teachers have the ability to enhance student self-directed learning through the provision of precise feedback

ability to enhance student self-directed learning through the provision of precise feedback pertaining to specific tasks. It is argued that educators should refrain from offering positive feedback or excessive praise to their students. In cases where a student's performance does not warrant praise, it is advisable to provide constructive feedback that highlights areas for growth. This approach aids in fostering accurate assessments of efficiency among students. The authors propose the implementation of demanding assignments that necessitate additional exertion, enhance motivation, and facilitate the acquisition of skills and competence among students.

Zhang, Wang, and Gao (2019) developed a questionnaire to assess the level of motivating impacts among students at Jiang Engineering University. They performed statistical analyses on the income model and built a factor model. The topic of environmental motivation encompasses several factors that influence individuals' motivation towards environmental issues. In this context, four distinct motivational influences can be identified and analysed. In conclusion, the primary factor influencing the motivation of college students is combined motivation, which serves as the internal catalyst for errors.

In their study, Cai, Kaning, and Mo (2015) conducted surveys and interviews to investigate the contemporary state of motivation among college students. Their findings revealed a general decline in the overall growth of college students' motivation. After doing an analysis, four components were examined: the self, family, school, and society. The primary determinants encompass inadequate flexibility, underdeveloped ideology, and deficient self-regulation. Family variables mostly encompass parental apprehensions regarding their children's educational attainment. The primary determinants of school quality typically encompass the school's educational approach, physical infrastructure, and teaching staff. Online media is becoming an increasingly significant platform for social interactions. The impact of distractions on the attention and passion for learning among college students

In a broad sense, the collegiate experience is a distinct phase characterised by a multitude of intricate and varied aspects that influence the motivation of college students. Various contributing elements can be summarised by considering multiple aspects. The researcher suggests the administration of appropriate medications based on the identified influential factors. Please rephrase the user's text to make it more academic in tone. Strategies for the maintenance and enhancement of learning motivation

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# Generalisation of the qualities pertaining to study motivation among students.

Based on an analysis of the aforementioned study material pertaining to the motivation of college students, it can be deduced that the motivation of EFL students exhibits some distinguishing characteristics:

# Insufficient level of intrinsic drive to engage in the learning process.

Multiple research studies have revealed that the motivation of English as a Foreign Language (EFL) students exhibits variation across many aspects. Nevertheless, it is commonly seen that the level of motivation to engage in learning activities typically remains at a modest level. The majority of students expressed that their main objective was to attain a satisfactory grade or acquire course credits, indicating a potential decline in their intrinsic motivation to learn. On the other hand, factors outside of an individual's control have a big impact on their motivation to learn.

# The Notion Of Diversity

Family, education, society, and personal and psychological development are just a few of the factors that affect college students' motivation to participate in academic activities.

There are a multitude of elements that influence individuals' motivation to engage in learning activities, leading to a diverse range of motivational profiles. The learning behaviour of English as a Foreign Language (EFL) students is not solely motivated by a singular objective. Previous studies have indicated that English as a Foreign Language (EFL) students commonly demonstrate a range of motivations for learning, typically encompassing three to six elements. These motivations encompass several aspects, such as the desire to acquire knowledge, personal interests, expectations from parents, potential career opportunities, social recognition, and other related influences.

# **Disparities**

The motivation of English as a Foreign Language (EFL) students to engage in academic pursuits exhibits variability based on factors such as gender, academic discipline, and institutional classification. There are discernible variations based on gender, academic major, and institutional type. Inter-individual variances serve as a manifestation of variations in learning motivation. Every student possesses unique personality features and is shaped by diverse life experiences, needs, interests, and personalities. Consequently, these individual factors contribute to variations in learning motivation over the educational journey.

# The Phenomenon of Instability

In the process of language learning, students who are studying English as a foreign language (EFL) demonstrate varying forms and levels of motivation. Age and academic achievement are two factors that affect these motivational patterns. Individuals go through a progressive psychological maturation during the developmental trajectory that lasts from early childhood to adulthood, which is characterized by the development of a distinct self-concept and the improvement of cognitive abilities. Furthermore, it is imperative to acknowledge that the social milieu is susceptible to perpetual transformation, hence influencing the inherent and external needs and demands of pupils. As a result, the desire of students to engage in learning might readily fluctuate in response to these evolving demands.

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# **Limitations and Future Directions of Research**

Considerable research conducted in the realm of learning motivation thus far has produced a plethora of valuable findings that have significantly enriched the knowledge of several experts in this particular domain. Nevertheless, the domain of learning motivation continues to exhibit numerous limitations.

# One Notable Issue That Deserves Attention is the Absence of Solutions Specifically Tailored to Address the Identified Problem.

Multiple research investigations have consistently demonstrated a decline in student motivation levels, particularly within the context of higher education institutions. In light of this occurrence, a multitude of specialists have proposed diverse advice and coping tactics, primarily centred around the realms of education, familial dynamics, and societal factors. Nevertheless, it is evident that there exists a conspicuous dearth of recommendations or tactics originating from the standpoint of students themselves. Furthermore, many proposals and techniques showed a lack of feasibility and demonstrated lower efficacy compared to the implemented interventions. While several intervention studies have demonstrated favourable outcomes in enhancing students' motivation to engage in learning activities, it is important to acknowledge that diminished motivation can be influenced by a multitude of circumstances. It is important to acknowledge, nevertheless, that thus far, no intervention study has directly targeted a singular concern.

# One Weakness Of The Present Study Is The Absence Of Sample Representativeness.

Numerous studies investigating the motivation to engage in learning often demonstrate limits in their sample methodologies since they frequently concentrate on particular geographic regions, towns, institutional kinds, professions, or academic subjects. The primary drivers of this specific sampling approach are convenience and cost-effectiveness. Hence, the conclusions that ensue from this study exhibit intrinsic bias and pose challenges in terms of generalizability to a broader population.

# **Absence of Objectivity in Survey Methodology**

The majority of research efforts in the field of student motivation have included questionnaires, interviews, and other self-report survey methodologies. Nevertheless, it is important to acknowledge that the extent of students' self-awareness may be constrained, thus undermining the impartiality of the inferences derived from these one-dimensional surveys. To mitigate this constraint, it is recommended to administer surveys and conduct interviews with parents, teachers, and other individuals who engage with students in a more comprehensive manner.

In recent years, there has been a growing scholarly interest in the implementation of intervention studies that seek to examine the motivation of English as a Foreign Language (EFL) students in their pursuit of learning. This signifies a transition in the focus of this research from a theoretical investigation to a more pragmatic and applied investigation.

In summary, this study provides a significant contribution to the body of research pertaining to the motivation of EFL learners, encompassing both theoretical and contextual dimensions. This study synthesises the extant research findings and advancements in the domain of learning motivation, providing a concise summary and delineation of the distinctive attributes pertaining to the learning motivation of EFL learners. Additionally, it indicates deficiencies in the numerous existing studies on the motivation of EFL learners. Furthermore, this study

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extends beyond theoretical considerations to examine the practical consequences for educators and policy makers within the setting of EFL learners. The findings of the research offer efficacious approaches for enhancing motivation in the context of learning. This study serves as an essential resource for stakeholders who are dedicated to enhancing the educational standards for EFL learners, with the ultimate goal of establishing a more captivating and efficient learning atmosphere for students.

# References

- Chongde, L., Zhiliang., Y., & Xiting, H (2003). Dictionary of psychology. *Shanghai Education Press*.
- Ziwei,. Z. (2011). A study of structural hypothesis model of learning motivation. *Northern Literature Monthly.* 2:81.
- Fengjie,. L. & Wen,. L. (2007). The Structure and Developmental Characteristics of College Students' Motivation and Its Effects on Academic Achievement. *Research on Higher Education (Chengdu)*. 3: 30-32.
- Halawah, I. (2011). Factors Influencing College Students' Motivation To Learn From Students' Perspective. *Education*. 132(2).
- Esra, M. E. Ş. E., & Sevilen, Ç. (2021). Factors influencing EFL students' motivation in online learning: A qualitative case study. *Journal of Educational Technology and Online Learning*. 4(1), 11-22.
- Gedera, D., Williams, J., & Wright, N. (2015). Identifying factors influencing students' motivation and engagement in online courses. *Motivation, leadership and curriculum design: Engaging the net generation and 21st century learners.* 13-23.
- Lin, M. H., Chen, H. C., & Liu, K. S. (2017). A study of the effects of digital learning on learning motivation and learning outcome. *Eurasia Journal of Mathematics, Science and Technology Education*. 13(7), 3553-3564.
- Cook, D. A., & Artino Jr, A. R. (2016). Motivation to learn: an overview of contemporary theories. *Medical education*. *50*(10), 997-1014.
- Buckley, P., & Doyle, E. (2016). Gamification and student motivation. *Interactive learning environments*. 24(6), 1162-1175.
- Liping,. C & Ziqiang., X. (2006). Measurement of college students' motivation and its relationship with self-efficacy. *Psychological Development and Education*. 2:64-70.
- Lan, L & Weigang, P. A preliminary development of a questionnaire on college students' motivation to study. *Psychosocial Science*. *6*:44-48.
- Ting,. H (2017). The content structure of study motivation of college students in independent colleges and its influencing factors. *Journal of Wuhan University of Technology (Social Science Edition)*. 6.
- Hongyan,. D & Jiaquan,.W (2010). A study on the current situation of college students' motivation. *Journal of Jiangxi Youth Vocational College*. 1:6-8.
- Shasha,. D. (2015). Analysis and Suggestions on the Factors Influencing the Learning Motivation of University Teacher Trainees. *Talent*. 16:57.
- Dongmei,. Z. Wang Xingang & Gao Xuefen. (2017). Analysis of college students' interest in learning based on questionnaire Learning Interest Lack Factor Analysis. *Higher Education Research and Practice*. 1:16- 21+80.
- Abeysekera, L., & Dawson, P. (2015). Motivation and cognitive load in the flipped classroom: definition, rationale and a call for research. *Higher education research & development*. 34(1), 1-14.

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- Cook, D. A., & Artino Jr, A. R. (2016). Motivation to learn: an overview of contemporary theories. *Medical education*. *50*(10), 997-1014.
- Zheng, S., Rosson, M. B., Shih, P. C., & Carroll, J. M. (2015, February). Understanding student motivation, behaviors and perceptions in MOOCs. *In Proceedings of the 18th ACM conference on computer supported cooperative work & social computing*. pp. 1882-1895.
- Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. *Contemporary educational psychology.* 61, 101860.
- Alt, D. (2015). College students' academic motivation, media engagement and fear of missing out. *Computers in human behavior.* 49, 111-119.