ISSN 2522-6398 Vol. 7, Issue 11: 214-222, DOI: 10.25236/FER.2024.071133

Investigation on the Role of Student Engagement in the ICAP Model: Implications for Enhancing Learning Motivation

Qizhe Zhao[1,a,*], Chen Ni[1,b], Yuqing Sun[1,c], Meirong Du[1,d]

[1]*School of Education, City University of Macau, Macau, 999078, China*
[a]*M24092100281@cityu.edu.mo,* [b]*M24092100093@cityu.edu.mo,* [c]*M24092100330@cityu.edu.mo,*
[d]*M24092100349@cityu.edu.mo*
[*]*Corresponding author*

Abstract: *This article aims to investigate the role of the ICAP model that is student engagement as well as its impact and contribution to learning motivation. The ICAP model, introduced by Michelene Chi in 2006, classifies different involvement levels and highlights the need for interaction and active participation to better learning motivation. The introduction of the ICAP model in the classroom leads to more interactive and realistic teaching methods, which become useful in developing the learning commitment and motivation of students. With a detailed review of the authors' work, this article investigates the association between the ICAP model and student engagement and motivation and provides some practical guidelines for teachers. The research concluded that a considerable positive linkage between augmented student engagement and heightened learning motivation existed. High-engagement learning activities are the stepping stone for teachers in their quest to develop the students' inner motivation and self-reliance, which are the tools for mastering difficult concepts and skills. An article also touches on the fact that teachers can influence students to be more participatory in the classroom by applying varied teaching methods, feedback methods, and real-life learning experiences. To conclude, the paper reveals that the current research and practice of ICAP model indeed has several limitations and it suggests future studies to include a wider range of students from different educational backgrounds and schools to study more on the psychological and emotional changes that students experience in learning.*

Keywords: *Student Engagement; Learning Motivation; ICAP Model; Teaching Strategies; Educational Reform; Academic Outcomes; Self-Efficacy; Emotional Engagement; Cognitive Engagement; Behavioral Engagement*

1. Introduction

In the context of recent educational reforms, cultivating students' learning motivation has been of great significance not only for teachers' objective, but also for students' self requirement. Numerous evidence illustrates that studying motivation plays a pivotal role in enhancing students' academic outcomes, which not only affects their school performance but also greatly shapes their attitudes toward studying. This is especially evident in the range of knowledge acquisition, where student participation closely relate to both interest in the subject matter and the overall effectiveness in the learning process [32]. Study shows that insufficient study engagement can result in negative emotional responses [31]. Therefore, regarding to these academic challenges, Professor Michelene Chi proposed the ICAP model in 2006, which serves as an innovative pedagogical approach that describe various levels of learning engagements and highlight the necessity of interaction and active involvement in improving learning motivation [6]. By integrating the ICAP model into teachers' daily teaching practices, educators can adopt more interactive and practical in-class activities, which effectively foster students' learning engagement and motivation. Therefore, the ICAP model has been proven to be highly effective in practical and theoretical usage[24].

This artical aims to investigate the application of ICAP framework to maximize instructional methods and enhance students' learning experiences. It also seeks to find out the benefits of student engagement within the ICAP learning model, empathizing on its effects on boosting learning motivation. This study provides insights into practical teaching strategies through a comprehensive synthesis of the relevant literature concerning the ICAP Model and its relation to student engagement

ISSN 2522-6398 Vol. 7, Issue 11: 214-222, DOI: 10.25236/FER.2024.071133

and motivation. Besides, it will underscore the significance of necessity of fostering learner-centered environments that not only facilitate engagement but also cater to the diverse motivations and requirements of students across various educational settings.

2. ICAP Framework

In 2009, the ICAP theory was initiatively elicited by Chi [5]. It is a taxonomy from learning engagement approach[10]. It encompasses four different modes, which is interactive learning, constructive learning, active learning and passive learning [9]. Passive learning is learners receive information without any other processing in one's brain [9] Students can learn some superficial knowledge. Active learning occurs when students participate cognitively in classroom activities and take the initiative to engage in group work [16]. The constructive mode refers to learners' ability to critically and innovatively internalize what they have learned, forming their own views by making hypotheses, questioning, predicting, and evaluating [7]. During the process of learning, students can build up their knowledge gradually and have potentials to process in-depth information [37]. Constructive learning and interactive learning are both based on active learning [6]. In interactive mode, learners have verbal communication, work together and contribute to their group in a constructive and active way [9]. They give response and comments to other teammates' ideas and get involved in a dynamic discussion environment [16].

Knowledge is processed differently in these four modes. Correspondingly, the cognition changes distinct too. In passive learning, learners store novel information in an unsystematic way and the cognitive outcomes of learners is to recall [9]. In active learning, prior information is reactivated and integrated together. Learners can apply them to new scenarios and are able to solve problems that have similarities with what they have learned in the class [16]. Learners are competent to infer new knowledge by combining and integrating prior and new knowledge in the constructive mode. They can propose complex questions and make concept maps and make explanation [19]. As for the cognitive level, learners' schema and knowledge are enriched and strengthened and they are capable of transferring what they have obtained to explain and interpret new concepts [9]. In interactive learning mode, learners have discussions, infer new information together and their knowledge is iterative by activating and integrating. They integrate materials in the classroom through communication and they are supposed to have the capability to generate new ideas and make inventions to co-create [16]. The cognition change of ICAP framework conform to Bloom's taxonomy from the bottom to the top. Bloom' taxonomy emphasizes learners' cognition level. It divides to six hierarchies as figures[40]. In ICAP framework, the cognitive is from recalling to applying, and then from transferring to co-creating. Putting the change to Bloom's taxonomy, it correspond to remembering, applying, analyzing and evaluation, and creating, which is also a bottom-up process.

3. Student Engagement

The concept of student engagement, as articulated by Fredricks et al. (2004), presents a comprehensive three-dimensional framework that encompasses behavioral, emotional, and cognitive dimensions of engagement[27].

3.1 Cognitive Engagement

Bircan and Sungur [3] describe cognitive engagement as a vital tool that facilitates meaningful learning for students. Cognitive engagement is fostered through various learning strategies, which can be categorized as either cognitive or metacognitive. A learning strategy refers to intentional behaviors that encompass specific actions, tactics, or techniques [35]. Metacognitive strategies such as monitoring, regulation, planning, inductive exploration, and deductive reasoning reflect the thought processes of students while they are addressing problems [36].

3.2 Behavioral Engagement

The term "behavioral engagement" typically encompasses a wide array of behaviors demonstrated by students within educational institutions. This concept extends beyond mere attendance or active participation in academic and non-academic activities, including extracurricular and co-curricular engagements[26].

ISSN 2522-6398 Vol. 7, Issue 11: 214-222, DOI: 10.25236/FER.2024.071133

Behavioral engagement, in its broadest sense, encompasses the effort and consistent action involved in learning activities [25]. Its outcome—academic performance—is comprised of various elements such as processing skills, knowledge acquisition, level of understanding, and the contextual application of that knowledge [25].

3.3 Emotional Engagement

Learning engagement is conceptualized as an active state of learning that is fundamentally intertwined with the teaching process [26].When students experience a positive psychological state, they are more likely to invest additional time and energy, actively integrating their acquired knowledge into their cognitive frameworks.

Behavioral and emotional dimensions of student engagement are intricately intertwined, as evidenced by the literature that has often combined these aspects in their measurements [2]. However, the emotional dimension—often referred to as affective or psychological engagement—encompasses affective responses and a sense of belonging to the educational institution [14][41]. This sense of belonging signifies that students feel accepted, included, respected, and/or valued by individuals within the educational environment [18][41].

The interaction among these three dimensions plays a significant role in enhancing the academic performance of low-achieving learners, while simultaneously supporting high-achieving learners in reaching their zone of proximal development.

3.4 ICAP Framework and Student Engagement

The ICAP model offers learners a structured framework for understanding and optimizing the learning process by delineating four classifications of learning[5]. Progressing from passive to interactive learning modalities, this model illustrates that the effectiveness of learning increases progressively, while students' intrinsic cognition becomes increasingly complex and advanced[8].

In terms of student engagement, the ICAP framework highlights that elevated levels of cognitive engagement foster more meaningful learning experiences. When students transition from merely identifying or classifying information to actively applying and constructing knowledge, they are likely to retain information more effectively, develop deeper understanding, and cultivate greater motivation as learners[8].

Research indicates that within the context of the ICAP model pertaining to college students' learning engagement, constructivist approaches and active learning principles serve as foundational elements for interactive learning. Effective interactive learning facilitates students' construction of knowledge [11].Newmann [29] asserts that fostering a positive, interactive, and supportive educational environment is essential for enhancing student engagement.

Thus, guiding students towards a shift from passive to more active, constructivist, and interactive methods can result in a deeper comprehension of knowledge along with increased participation in the educational process—ultimately culminating in improved learning outcomes.

4. Learning Motivation and Engagement

4.1 Learning Motivation

Motivation refers to intrinsic stimulation by which an individual is engaged in a learning task. International scholar Jere Brophy[22] describes motivation to learn as the force dictating the level of concentration and hard work students devote to their various interests. Sarah Mercer and Marion Williams [33] propose another apropos view of motivation: it is talents and abilities showcased by learners when they commit actively in specific academic roles. There is one more critical approach: motivation is the inner driving factor that augments and encourages the students in intellectual curiosity in various disciplines, enabling them to continue forward and stay engaged despite frustration and setbacks in their academic endeavors.

Engagement denotes the observable expressions of students' motivation, which pertain to the ways through which the cognitive, behavioral, and emotional investments made during their school life and academic experiences are energized, directed, and sustained [38]. The success of learning, therefore,

ISSN 2522-6398 Vol. 7, Issue 11: 214-222, DOI: 10.25236/FER.2024.071133

rests on the combined effects of motivation and engagement, which have intrinsic links. These factors are quite important in education, since they are often associated with improved learning and academic performance.

In recent studies, Zheng [44] propose DGBL as a positive enhancement to students' motivation and engagement while teaching digital etiquette, showcasing how modern technology has affected education. Wang Huayang [38] underscores that the relationship between learning motivation and learning outcome is specifically significant in the context of online learning among the students of vocational colleges. This points to the direction of a gap in research needing further investigation.

4.2 Self-Efficacy

Self-efficacy refers to an individual's confidence in their ability to accomplish specific tasks under varying circumstances. In addition, Miksza [28]characterized self-efficacy as an indicator that signals intrinsic motivation, which is manifested as goal setting and perseverance in doing a task. Extensive research has established self-efficacy as a significant predictor of learners' achievements in language acquisition [12]. Students with high self-efficacy typically exhibit greater learning motivation and engagement because they believe in their ability to overcome challenges in learning [4]. Empirical research has found a positive correlation between self-efficacy and learning motivation. For instance, studies in music education indicate that self-efficacy can predict students' learning motivation and engagement, further highlighting its crucial role in learning motivation [4]. Moreover, enhancing students' self-efficacy through specific feedback, goal-setting, and modeling can effectively promote their learning motivation and outcomes [42].

4.3 Current Literature

The relationship between learning motivation and engagement has garnered the notable attention of educators in recent years. Researchers have shown how the student's learning motivation affects both their attitude and behavior as far as their academic performance is concerned[4]. According to Ge Zhikang [17], a definite positive relationship exists between learning motivation and student engagement in online learning, within which self-efficacy played an important mediating role. These findings are also confirmed by earlier findings reported by Olivier et al. [30], suggesting that students with higher self-efficacy are more likely to show increased engagement.

In the discourse on interdisciplinary courses, Zhang Jia and Liu Zhihui [43] undertook a series of empirical studies demonstrating how students' learning motivation and self-efficacy greatly influence their engagement. Hence, learning motivation does not only involve engagement in individual subjects but also appears to protect the overall educational system in situations requiring cross-disciplinary collaboration and communication. Further, Alqassab and León [1] studied the effect of teacher motivational messages on students' intrinsic motivation and engagement before an exam. The study demonstrated that affirmative motivational messages could generate an elevation in students' intrinsic motivation while simultaneously improving their engagement and academic performance, highlighting the decisive role teachers play in fostering learning motivation among students.

In summary, self-efficacy plays a key role in nurturing learners' intrinsic motivation. Highly self-efficacious learners tend to take charge of their motivation by forming particular objectives. They are inclined to fine-tune their enthusiasm by actively engaging in their learning process. Therefore, goal-setting and organization can enhance engagement by facilitating the attainment of these objectives [23]. Furthermore, individuals with strong self-efficacy are more likely to overcome obstacles, demonstrating resilience and persistence. As instructors, we should try to establish a vigorous and enthusiastic conditions for the learners in the classroom to preserve their self-efficacy that can consequently improve their engagement.

5. Relationship between ICAP framework and learning motivation

The main focus of this article is on the techniques researchers have recommended to empower the ICAP (Interactive, Constructive, Active, Passive) structure under teaching to stimulate students' engagement and their motivation to learn. Educators can benefit from the strategies outlined in an affirmative way. Our analysis of the engagement by students through the ICAP model came up with a strong positive correlation linking the engagement levels in students and their learning motivation. As shown in Figure 1, learners, as a matter of fact, with high engagement levels are more often likely to

ISSN 2522-6398 Vol. 7, Issue 11: 214-222, DOI: 10.25236/FER.2024.071133

have a motive to learn that is also high even if the tasks carried out are a mix of interactive and constructive. Usually, the most dedicated participants are the students who actively immerse themselves in their learning. This may occur when they possess intrinsic interest in the subject (which is often the case with interactive activities) or when they comprehend the task value and feel they can accomplish it successfully (in the case of the constructive activities).

The figure next to the ICAP theory displays this framework, which classifies the educational tasks in relation to the number of students involved: from the lowest engagement stage - Passive through Active, Constructive, to Interactive. ICAP is a sort of classification that motivates teachers to measure, escalate, and improve student engagement through diversified architectural programs, which, in the wake of the practical lessons learned, are linked with motivation and better learning outcomes.

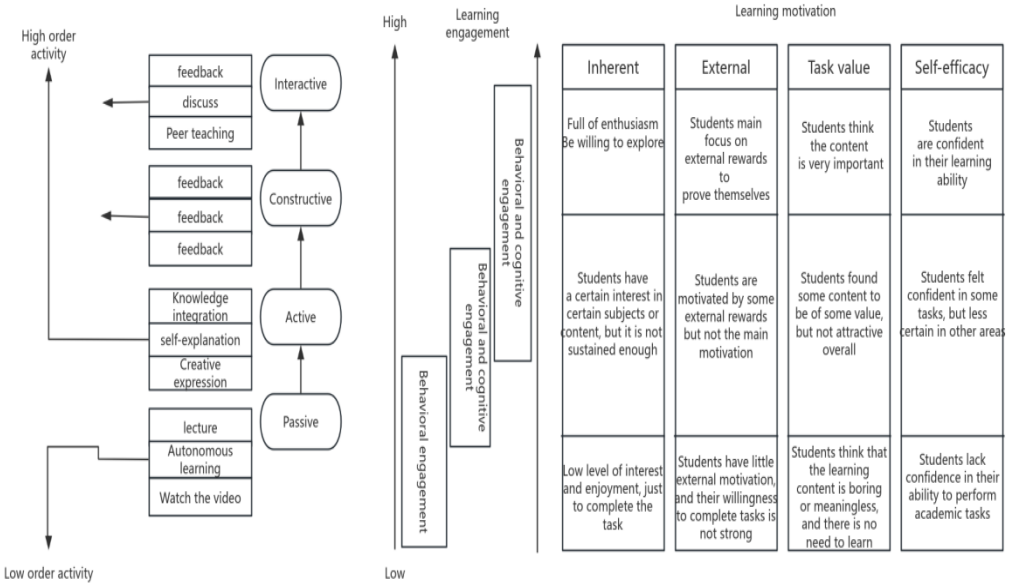

Figure 1: ICAP Learning Engagement and Motivation Framework

Passive learning activities (the lowest aggregate quote): Lectures, reading tasks, and videos, which are part of conventional components of learning, are the weakest levels of engagement. Here, students are primarily observed as being passive information receivers and are not able to understand the topic in a deep manner. This little contact with education usually ends up in a lesser degree of inner motivation and a weakening of the task value. Thus, the following process of learning is seen by students as a boring and meaningless task with which they have nothing useful to do.

Active Learning Activities: By being involved in practical experiences, such as responding to questions, searching for self-directed learning, and visiting hands-on learning tasks, students go beyond using active learning activities. It is most likely that as a result of these strategies, the intensity of students' engagement in the actions of behavioral and cognitive nature will increase, which will in turn help to promote their cognitive interest, i.e., what students are really interested in while studying. When they metamorphose from being complacent observers to being active participants, those who exhibit intrinsic motivation and a sense of accomplishment will usually have a two-fold experience of gaining new knowledge that is then confirmed practically.

Constructive Learning Activities: Active learning projects grab the students' attention even more by requiring them to integrate the information at a deeper level, employ self-explanation, and creative thought. In these situations, students receive and convert new messages, which is a strong factor encouraging the thought process and honing skills like critical thinking and creative problem-solving, for instance. In particular, these activities often serve to diversify the form of motivation, i.e., intrinsic motivation, self-efficacy, where students get a chance to achieve a goal and find their personal meaning within the workflow, which, in the end, leads to a more positive attitude and confidence while learning.

Interactive Learning Activities: At the top of the list are the guidance and participation in peer teaching, targeted group discussions, and the formulation of propositions in real classroom settings. It overstresses the role of instructors and the importance of those groups of students in cultivating the

ISSN 2522-6398 Vol. 7, Issue 11: 214-222, DOI: 10.25236/FER.2024.071133

world of learning by means of active communication and cooperation in complex discussions. The interaction through this learning context ameliorates educational satisfaction, permitting students to capture the content in depth and widen their knowledge through inquiry and dialogue methods while improving their intrinsic motivation, rewards associated with the task, and efficacy perception.

Thus, achieving student engagement is deemed the strongest factor that teachers can manipulate for the best educational outcomes. The introduction of high-engagement learning activities, prevailing among which are those that are constructive and interactive, will help teachers to improve students' internal fellowship and self-dependence. On the other hand, this technique encourages in-depth engagement in the learning process, thus facilitating the acquisition of more complex knowledge and skills. Thus, comprehending and implementing the ICAP theory is instrumental in ordering and enhancing instruction and improving the quality of education.

6. Strategies for Teachers

Multidimensional showing of the main learning concept: Diverse perspectives in the classroom will, of course, create more incentives, and this will lead to their identification with the core principles they have been exposed to. Consequently, they will be able to associate themselves with all the facts in the learned lessons. The use of this multidimensional approach captivates the students' attention, bringing about a deep sense of relevance of the curriculum to the students' present life.

6.1 The Role of the Class Environment:

The student-centered teacher approach should be encouraged to ensure positive outcomes in the learning process. Stimulating individuals' growth to develop their own communicative and cooperative worlds would allow teachers to consistently increase class participation and engagement from the whole team. In order to put into action these features which include the model of cultural traditions, educators will also manage to execute to this objective by improving the approach of the ICAP model to apply in students habitual pedagogical exercises with the aim of providing them a multitude of chances to initiate their homework engagement and tension from different shopping and learning activities which will in turn yield better learning results.

6.2 Setting up demanding tasks:

This replicates questioning for deeper thinking and developing thinking skills, which is beyond the learner's capability. Of course, curiosity is natural, and one wants to deal with all these phenomena so that there will be a clear understanding of it. Through these various diverse instructional techniques, for example, inquiry-based learning, level of team-based course assignments, and case study format, as interactive platforms, the faculty members will demonstrate the academic exploration of interest and cognitive learning environments. Moreover, the teacher will become more interested in those environments that closely relate to the content the student is learning. In this sense, students are given a chance to go beyond the assimilative knowledge thanks to discovering how it is practiced through experiential learning, in which they are directly involved. Here the teacher is expected to create supportive questioning, debate, and also team learning conditions in class. Primarily the class coming across periodic discussions and peer reviews, more than once an important point for the students' better understanding of the course contents appear during peer reviews and discussions.

6.3 Establishing needed feedback and motivation manifestations:

Continuous verbal valedictions in euphoric harmony at a particular student's small efforts or achievements will assist in steadily marking the student's progress thereafter. Terming these milestones, projects, or things done on your path to success is better than the implication of a win-win culture and organizational development, for it is more than just your achievement. To develop and maintain the model of a school that promotes learning, an effective method of feedback and evaluation should be in place. This should instill in students a normal self-writing habit and also supply the practical learning skills requisite for achievement. Feedback, based on empirical research, shows that providing students with timely feedback is effective not only in enhancing their self-efficacy but also in improving their academic performance. The establishment of clearer academic goals—refining, classifying, and structuring—constitutes purposeful work in the initial stage of learning motivation. Yet, when a course ends, the instructor can summarize briefly about the individual/overall performance of students and

ISSN 2522-6398 Vol. 7, Issue 11: 214-222, DOI: 10.25236/FER.2024.071133

also encourage them to do more of such activities by making her colleagues/friends more or less strong in comparison.

The application of the ICAP - Interactive, Constructive, Active, Passive - model consists of providing just the right stimulus when necessary for igniting students' interest and for developing their self-initiated studying skills. Achieving this goal, though, could only be possible by involving multi-level strategies, establishing a strong feedback route, and being on the list of the ones providing real life experience. The whole thing can therefore be said to be necessary for guaranteeing the holistic approach that includes also other aspects of students' lives. Furthermore, these methodologies enable not just enhancing the quality of teaching, but also for the betterment of students' results.

7. Conclusion

The present paper aspires to uncover the extent and the nature of relations between students' active participation and the motivational variables within the bounds of the ICAP framework. The multidimensionality of this educational model, which was empirically validated through conceptual and methodological synthesis, as well as its wide range of application, indicates that this model is a solid practical tool. However, the ICAP model is also known to have research gaps that need to be further explored and understood from different perspectives to add to the knowledge about the underlying concepts of the ICAP model.

In line with this aim, it would be crucial to increase the sample size to include more interesting subjects from various levels of education. At the moment, a significant amount of research is concentrated on specific grades and subject areas of students, thus better representing a more diverse population of the student body, including urban and rural educational contexts. Additionally, this comparative analysis might offer some valuable information concerning the impact of background education on the process of students' motivation.

Moreover, future studies should devote much time to the study of the psychological and emotional changes that manifest during the course of learning on the part of students. It is essential to study the emotional dynamics underlying the process in which students learn to differentiate between learning activities to construct their own learning methods and encourage their participation in the classroom. Researchers should consider both qualitative and quantitative data to understand the degree of participation by students in different learning activities, for example, journals, to analyze the involvement (and/or sequence) of different learning tasks. This approach would certainly contribute to the development of a more systematic model of students' learning participation.

References

[1] Alqassab, M., & León, J. (2024). Motivational messages from teachers before exams: Links to intrinsic motivation, engagement, and academic performance. Teaching and Teacher Education, 151, 104750. https://doi.org/10.1016/j.tate.2024.104750

[2] Appleton, J.J., Christenson, S.L., Kim, D. and Reschly, A.L. (2006), "Measuring cognitive and psychological engagement: Validation of the student engagement instrument", Journal of School Psychology, Vol. 44 No. 5, pp. 427-445.

[3] Bircan, H. and Sungur, S. (2016), "The role of motivation and cognitive engagement in science achievement", Science Education International, Vol. 27 No. 4, pp. 509-529.

[4] Chen, L. (2024). Delving into the role of self-efficacy in predicting motivation and engagement among music learners. Learning and Motivation, 86, 101961. https://doi.org/10.1016/j. lmot.2024. 101961

[5] Chi, M. T. (2009). Active-constructive-Interactive: A conceptual framework for differentiating learning activities. Topics in Cognitive Science, 1(1), 73-105. https://doi.org/10.1111/j.1756-8765. 2008. 01005.x

[6] Chi, M. T. H. (2009). Active-constructive-interactive: A conceptual framework for differentiating learning activities. In Learning and Instruction, 19(5), 394-401.

[7] Chi, M. T. H., & Wylie, R. (2014). The ICAP framework: Linking cognitive engagement to active learning outcomes. Educational Psychologist, 49, 219–243.

[8] Chi, M. T. H., Adams, J., Bogusch, E. B., Bruchok, C., Kang, S., Lancaster, M., Levy, R., Li, N., McEldoon, K. L., Stump, G. S., Wylie, R., Xu, D., & Yaghmourian, D. L. (2018). Translating the ICAP Theory of Cognitive Engagement Into Practice. Cognitive Science, 42(6), 1777–1832. https://doi.org/1

ISSN 2522-6398 Vol. 7, Issue 11: 214-222, DOI: 10.25236/FER.2024.071133

0.1111/cogs.12626
[9] Chi, M. T., & Wylie, R. (2014). The ICAP framework: Linking cognitive engagement to active learning outcomes. Educational Psychologist, 49(4), 219-243. https://doi.org/10.1080/ 00461520. 2014.965823
[10] Chi, M. T., Adams, J., Bogusch, E. B., Bruchok, C., Kang, S., Lancaster, M., Levy, R., Li, N., McEldoon, K. L., Stump, G. S., Wylie, R., Xu, D., & Yaghmourian, D. L. (2018). Translating the ICAP theory of cognitive engagement into practice. Cognitive Science, 42(6), 1777-1832. https://doi.org/10.1111/cogs.12626
[11] Cui, J., Zhang, X., & Wang, H. (2021). Analysis of the Influence Model of College Students' Learning Engagement from the Perspective of ICAP. Journal of Adult Education, Hebei University, 23(2), 99–107. https://doi.org/10.13983/j.cnki.jaechu.2021.02.014
[12] Erten, I. H., & Burden, R. L. (2014). The relationship between academic self-concept, attributions, and L2 achievement. System, 42(3), 391–401. https://doi.org/10.1016/j.system. 2014.01.006
[13] Finn, J.D. (1989), "Withdrawing from school", Review of Educational Research, Vol. 59 No. 2, pp. 117-142.
[14] Finn, J.D. (1993), School Engagement and Students at Risk, National Center for Education Statistics, Washington, DC.
[15] Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. Review of Educational Research, 74(1), 59-109.
[16] Gao, Z., Cheah, J., Lim, X., & Luo, X. (2024). Enhancing academic performance of business students using generative AI: An interactive-constructive-active-passive (ICAP) self-determination perspective. The International Journal of Management Education, 22(2), 100958. https://doi.org/10.1016/j.ijme.2024.100958
[17] Ge, Z. (2021). A Study on the Influence of High School Students' Learning Motivation and Self-Efficacy on English Online Learning Engagement. (Master's thesis, Minnan Normal University).
[18] Goodenow, C. and Grady, K.E. (1993), "The relationship of school belonging and friends' values to academic motivation among urban adolescent students", The Journal of Experimental Education, Vol. 62 No. 1, pp. 60-71.
[19] Greeno, J. G. (2015). Commentary: Some prospects for connecting concepts and methods of individual cognition and of situativity. Educational Psychologist, 50(3), 248e251. https://doi.org/10. 1080/00461520.2015.1077708
[20] Griffiths, A.J., Lilles, E., Furlong, M.J. and Sidhwa, J. (2012), "The relations of adolescent student engagement with troubling and high-risk behaviors", Handbook of Research on Student Engagement, Springer, Boston, pp. 563-584.
[21] Jalil Fathi, Ali Derakhshan, & Arash Saharkhiz Arabani. (2020). Investigating a Structural Model of Self-Efficacy, Collective Efficacy, and Psychological Well-Being among Iranian EFL Teachers. Iranian Journal of Applied Language Studies, 12(1), 123–150. https://doi.org/10.22111/ ijals. 2020.5725
[22] Jere Brophy, 2010. Motivating Students to Learn(Third Edition). Taylor&Francis e-Library.
[23] Kahu, E. R., & Nelson, K. (2018). Student engagement in the educational interface: Understanding the mechanisms of student success. Higher Education Research & Development, 37(1), 58–71. https://doi.org/10.1080/07294360.2017.134
[24] Kapur, M., & Bielaczyc, K. (2012). Designing for productive failure. Journal of the Learning Sciences, 21(1), 45-83.
[25] Lee, J.S. (2014), "The relationship between student engagement and academic performance: is it a myth or reality?", The Journal of Educational Research, Vol. 107 No. 3, pp. 177-185.
[26] Malik, S., Hazarika, D. D., & Dhaliwal, A. (2022). Deliverables of student engagement: Developing an outcome-oriented model. Journal of International Education in Business, 15(2), 221–249. https://doi.org/10.1108/JIEB-02-2020-0012
[27] Manwaring, K.C., Larsen, R., Graham, C.R., Henrie, C.R. and Halverson, L.R. (2017), "Investigating student engagement in blended learning settings using experience sampling and structural equation modeling", The Internet and Higher Education, Vol. 35, pp. 21-33.
[28] Miksza, P. (2012). The Development of a Measure of Self-Regulated Practice Behavior for Beginning and Intermediate Instrumental Music Students. Journal of Research in Music Education, 59(4), 321-338. https://doi.org/10.1177/0022429411414717
[29] Newmann, F. M., Roth, J., & Damico, S. B. (1996). Student engagement and achievement in American secondary schools [Review of Student engagement and achievement in American secondary schools]. Curriculum Inquiry, 26(1), 89.
[30] Olivier, E., Archambault, I., De Clercq, M., & Galand, B. (2019). Student self-efficacy, classroom engagement, and academic achievement: Comparing three theoretical frameworks. Journal of Youth

ISSN 2522-6398 Vol. 7, Issue 11: 214-222, DOI: 10.25236/FER.2024.071133

and Adolescence, 48(2), 326–340. https://doi.org/10. 1007/s10964-018-0952-0
[31] Pekrun, R., Frenzel, A. C., Goetz, T., & Perry, R. P. (2002). The affective, motivational, and cognitive processes in students' learning: A comprehensive model for classroom learning. Educational Psychologist, 37(2), 91-105.
[32] Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. American Psychologist, 55(1), 68-78.
[33] Sarah Mercer, Marion Williams, 2014. Multiple Perspectives on the Self in SLA. Great Britain by Short Run Press Ltd.
[34] Shum, K.Z. (2017), "Exploring the facilitators and barriers of cognitive engagement among ninth grade students in accelerated curricula", available at: https://scholarcommons. usf.edu/cgi/ viewcontent.cgi?article=8285&context=etd (accessed 23 November 2019).
[35] Suyitno, I., Susanto, G., Kamal, M. and Fawzi, A. (2017), "Cognitive learning strategy of BIPA students in learning the indonesian language", IAFOR Journal of Language Learning, Vol. 3 No. 2, pp. 175-190.
[36] Tetteh, G. (2018), "Effects of classroom attendance and learning strategies on the learning outcome", Journal of International Education in Business, Vol. 11 No. 2, pp. 195-219.
[37] Vosniadou, S., Lawson, M. J., Bodner, E., Stephenson, H., Jeffries, D., & Ngurah Darmawan, I. G. (2023). Using an extended ICAP-based coding guide as a framework for the analysis of classroom observations. Teaching and Teacher Education, 128, 104133. https://doi.org/10. 1016/j.tate. 2023.104133
[38] Wang, H. (2023). A Study on the Correlation Between High School Students' English Learning Motivation and Learning Engagement. Master's thesis, Northeast Normal University, 56
[39] Wang, M.-T., & Eccles, J. S. (2013). School context, achievement motivation, and academic engagement: A longitudinal study of school engagement using a multidimensional perspective. Learning and Instruction, 28, 12–23. https://doi.org/10.1016/j.learninstruc.2013.04.002
[40] Wang, Q. (2012). Reflections on achieving educational objectives of bloom's taxonomy in the simulated course for tour guides in Shanghai. Journal of Hospitality, Leisure, Sport & Tourism Education, 11(2), 161-167. https://doi.org/10.1016/j.jhlste.2012.05.002
[41] Willms, J.D. (2003),"Student engagement at school: a sense of belonging and participation: Results from PISA 2000", OECD publishing, available at: https://meteoreducation.com/wp-content/ uploads/oecd-student-engagement-study.pdf (accessed 25 October 2019).
[42] Wu, Y. (2019). A Study on the Correlation Between Junior High School Students' English Learning Motivation Self-System and Classroom English Learning Engagement. (Master's thesis, Jilin International Studies University).
[43] Zhang, J., & Liu, Z. (2023). Analysis of Undergraduate Students' Interdisciplinary Course Learning Engagement and Its Influencing Factors — A Comparison with Major Courses. Journal of Higher Education Science, 3, 42–53. https://doi.org/10.3969/j.issn.1672-0717.2023.03.05
[44] Zheng, Y., Zhang, J., Li, Y., Wu, X., Ding, R., Luo, X., Liu, P., & Huang, J. (2024). Effects of digital game-based learning on students' digital etiquette literacy, learning motivations, and engagement. Heliyon, 10(1), e23490–e23490. https://doi.org/10.1016/j.heliyon.2023.e23490