

The Role of Cognitive Engagement in Mediating the Relationship between Foreign Language Learning Motivation and Intercultural Effectiveness among Indigenous College Students

Genaro R. Dumayas II¹, Jerlyn G. Balones²

¹Professional Schools, University of Mindanao, Davao City

²Professional Schools, University of Mindanao, Davao City

Abstract: *This study delves into the intricate dynamics of foreign language learning motivation and intercultural effectiveness within the context of Indigenous People college students. Employing a quantitative descriptive-correlational research design, the investigation encompassed 157 participants and was conducted in Davao del Sur, Region XI, Philippines. The study unveiled the pivotal mediating role of cognitive engagement in bridging the relationship between foreign language learning motivation and intercultural effectiveness among these students. The results underscore not only the high levels of motivation, intercultural effectiveness, and cognitive engagement displayed by the participants but also the significant interplay between these variables. Through rigorous statistical analysis, it was elucidated that foreign language learning motivation directly influences both intercultural effectiveness and cognitive engagement. Moreover, cognitive engagement was identified as a substantial mediator, contributing to the enhancement of intercultural effectiveness in the realm of Indigenous People college students' education.*

Keywords: foreign language learning motivation, cognitive engagement, inter-cultural effectiveness, indigenous college students, indigenous people, mediating effect, Philippines

1. Introduction

Students need to develop intercultural effectiveness in higher education institutions where internationalization is becoming a fundamental component. It was found that some college students have intercultural effectiveness deficiency. Indigenous People college student capacity to effectively accomplish communication goals in cross-cultural interactions was found to be low level. They also possess poor knowledge about cultures and negative attitudes toward cultural differences, which are barriers to successful intercultural interaction (Avcılar and Gök, 533). Educators encountered problems with language learners' intercultural effectiveness because they could not communicate in the language during social interactions in the context of communicative language learning in natural situations and their capacity to form bonds with people from other cultures. The interactions between students revealed a lack of understanding of other identifiers and cultures (Akyildiz, 124).

Due to the effects of globalization on human civilization, the relevance of studying intercultural effectiveness has grown (Maharaja, 18), as well as the transition from a culturally homogenous to a multicultural academic community (Gonzales, 8). The significance of the transition can be viewed in the learners' capability to interact with individuals from diverse cultures and acclimatization to a new cultural environment. Learning intercultural language is one strategy used by language teachers to help their learners realize different cultures, this method helps learners strengthen their conversational language skills and intercultural competence (Lundry, 3; Romadloni and Mantasiah, 63).

Considering the relevance of intercultural effectiveness, the researcher reviewed various works of literature revealing the variables influencing intercultural effectiveness, these variables include cognitive engagement and language learning motivation. Cognitive engagement makes learners more interactive when receiving and conveying comprehensible messages during communicative situations (Rivers, 3). It is linked to intercultural interactions, which include student connectedness in the community (Casimiro, 441). On the other hand, highly motivated individuals are curious, interested in observing and learning about societal expectations in new cultural settings. Hence, they are more engaged in intercultural communication (Peng et al. 572). Learners are perceived to actively seek out engagement in intercultural interactions and activities if they have curiosity or motivation towards learning (Yamazaki and Kayes, 364). In addition, the variable motivation is also linked with cognitive engagement. By improving engagement quality, motivation facilitates cognitive engagement and promotes performance. Consequently, students' comprehension of the material and skill levels are improved if they can increase their knowledge and use more profound learning methodologies (Blumenfeld et al., 475).

Additionally, the researcher has not come across any research on the role of cognitive engagement as a mediator in the relationship between foreign language learning motivation and intercultural effectiveness of college indigenous people learners among private higher education institutions in the local setting. Although there was already literature on the relationship between and among cognitive engagement, foreign language learning motivation, and intercultural effectiveness (Blumenfeld et al., 475; Casimiro,

441; Peng et al., 572; Rivers, 3; Yamazaki and Kayes, 364), the interrelationships between and among the three variables were not included in the previous studies, which primarily dealt with bivariate connections. Additionally, only a small number of these studies, particularly those focusing on indigenous students, were conducted in higher educational institutions. This study added new knowledge since it focused on the three variables, with one variable as the mediating construct. In light of the situation, as mentioned earlier, the researcher decided to carry out the study to determine whether cognitive engagement has a mediating effect on the relationship between motivation for learning a foreign language and intercultural effectiveness among college students who are indigenous in Davao del Sur private higher education institutions. Further, the need for this study was motivated by the possibility that it could raise concerns for the study's intended beneficiaries and lead to the possible development of action plans to improve the college Indigenous People students' motivation to learn foreign languages and intercultural effectiveness.

2. Literature Review

Foreign Language Learning Motivation

A key component of language learning is motivation, a term that has been defined in various ways because it encompasses so many ideas, it has been identified to be significant in evaluating learners' success and retention in higher education (Edgar et al., 2; Steinmayr et al., 1). Learners' learning motivation also plays a variety of functions, including identifying the resources that can be utilized to explain and reinforce learning objectives and identify various barriers to learning stimulation and commitment. It is essential to ascertain the appropriate method or innovative learning process to increase motivation (Shinta, 461).

From an educational perspective, learning motivation is often defined as an "energy and drive to learn, work effectively, and achieve to their potential." (Martin, 134). It is a motive force that arouses, incites, or stimulates action. A learner with more motivation will take more responsibility for their learning, and a learner given more autonomy will subsequently have more motivation (Ruiz-Funes, 5). Without the desire to learn, students are less likely to cooperate, take self-responsibility, or fully engage in language learning (Unsworth et al., 530).

In the Philippine education context, learners are internally stimulated to learn because of external factors like media and environment (Lucas et al., 17). This is because Filipinos are exposed to a bilingual environment. Learners are more motivated when teachers give their foreign language classes the necessary structure and assistance. Additionally, when students acquire favorable attitudes toward learning a foreign language, it can inspire them for the rest of their lives, making the process appealing. These statements encourage a wide range of cultural interpretations while maintaining the crucial underlying idea that drives learners' enthusiasm to learn other languages (Oga-Baldwin et al., 140, 149). The first indicator of foreign language learning motivation is a desire for career and economic advantage, which highlight learners' motivation to reach better status in

their career (Koyuncuoglu, 127) and economic advantage (Gobena, 208). The indicator accentuates the complex connection between personal desires in their career aspirations and decision-making that influences their socioeconomic status. Consequently, highly driven young people may decide on their job based on ancillary perks like cash compensation, which come with a particular profession. This further illustrates that motivation aids in the characterization of learners' holistic careers and economic advantage (Akosah-Twumasi, P. et al. 2).

The desire to become a global citizen, the second indicator of foreign language learning motivation, pertains to the learners' motivation and basis to identify their selves in a global social structure (Lindahl, 41). In light of this education, particularly, the study of the social sciences, must help people comprehend these new kinds of citizenship and involvement. (González-Valencia et al., 2). Learners are expected to gain the knowledge, values, and attitudes necessary for global citizenship and sustainable development to make informed decisions, address local and global issues, and live productive and fulfilling lives. (UNESCO, 1). However, this desire was contradicted by several researchers insisting that this can be difficult for learners because they may believe that their credentials or degrees, rather than their attitudes and professional skills, will define them as global citizens (Aktas, Fatih, et al., 65).

The third indicator of foreign language learning motivation is the desire to communicate and affiliate with foreigners. The indicator was defined as the learners' motivation to initiate communication and discourse with the foreign audience (Arabai; Maftoon and Amiri, 135) using the second language. Research (Lee, 4) cited those learners who experience gratification in learning a second language are motivated to engage in classroom interaction constantly, which enables them to be more fluent and effective in learning their target language.

The desire for self-satisfaction is another indicator of foreign language learning motivation that pertains to a distinct concept that represents the global cognitive judgment of the quality of one's life (Pavot and Diener, 137; Wang et al., 2). In a more straightforward definition, a positive evaluation of a person's life in light of the criteria they have established for themselves is called life satisfaction. Studies revealed learners' life satisfaction is an indicator in evaluating the effectiveness of learning programs. In such a manner, several institutions are interested in discovering whether their learners are generally satisfied with their educational experience (Rajabalee and Santally, 2624).

Self-efficacy is one of the essential factors that influence learning motivation, and learners' academic experience. The concept of self-efficacy refers to learners' attitudes and beliefs including their potential for academic success, as well as their confidence to perform academic tasks and understand the subject successfully. Self-efficacy is among the strongest predictors of learners' academic performance (Doménech-Betoret, Abellán-Roselló, and Gómez-Artiga, 2; Hayat et al., 2). Relative to motivation, researchers (Coutinho, 166; Dullas, 2) cited that self-efficacy enables learners to be confident of their abilities and inspired to

accomplish whatever outcome they perceive.

The last indicator of foreign language learning motivation is the desire to be integrated with other cultures. The term is defined as when learners from a specific culture adopt the essence of another culture while keeping their own culture (Niemi, 69). Essentially, both inside and outside formal classroom settings, learners' sense of belongingness to their school community is developed. The core process of being integrated with other cultures is reflected in the cohesiveness and membership of the community of learners. The integration of different cultures promotes community cohesion. Additionally, it improves a community by giving residents access to opportunities they might not otherwise have (Habermas and Blazek, 5).

Cognitive Engagement

One of the things that has been incorporated into the teaching-learning process is cognitive engagement. The definition of teaching and learning, cognitive engagement pertains to the extent of psychological investment exhibited by the learner (Barlow et al., 2; Pagán, 4), which ranges from memorization to facilitating profound understanding. The concept specifies that students must engage in the learning process and use creativity to complete their assignments. As a result, they must become more adept at learning new content (Burch et al., 2015; Greene, 15; Schmidt, Benzing, and Kamer, 2). Researchers (Baber, Faulkner, and Lyles, 2) also revealed that cognitively engaged learners are stimulated by being influenced by their learning environment. It was thought to raise their scholastic standing, encourage school attendance, and prevent dangerous teenage behavior. (Gunuc and Kuzu, 588).

An abridged version of another point emphasized that students' competence in handling the learning assignment, and the level of effort students are prepared to put in when working on the assignment are determined by their cognitive engagement (Huang, Hew, and Lo, 2019). They are profoundly contemplating the newly supplied knowledge and utilizing self-regulated learning techniques that deepen their comprehension of the subject matter (Robb, 361). Research (Teubner-Rhodes, 568) also inferred that a person with cognitive solid persistence who is under-capable of performing a task could put a lot of effort into it, resulting in more excellent performance than expected given their level of competence.

Conclusively, cognitive engagement is one of the elements recognized as having the potential to change how students approach their academic work, and it acknowledges that cognitive engagement and school connection have been established in studies to be significant predictors of educational achievement (Conner, 15; Gregory and Korth, 178; Lam and Muldner, 93). It was further believed that learners' level of cognitive engagement is influenced by their goal-oriented behavior, the range of approaches they employ, and their underlying motivational components, such as learning motivation. In this premise, it can be surmised that cognitive engagement is influenced by several components, prompting other factors such as motivation and academic achievement (Hidayah et al., 24).

One essential factor in measuring cognitive engagement is self-regulation. These procedures are designed and modified to promote the achievement of individual objectives in dynamic learning settings. By learning specific tactics that work for them and give them more control over their environment and behavior, it was claimed that teachers could help students become more self-regulated learners. (Vohs and Baumeister, 79; Bridgett, et al, 602). It is noteworthy that students who employed more self-regulating techniques had success with both future planning and self-efficacy. By controlling their emotions and emotional influences, students with more robust cognitive self-regulation can perform better academically (Sahranavard, Miri, and Salehiniya, 154).

Moreover, it was recommended for the students that they should stop evaluating their performance in relation to their peers' comments, as well as switching from being reactive to proactive learners, thus practicing self-regulate. Additionally, goals direct activities, and students need to understand that there are various ways to achieve goals as well as how to choose the most effective strategy for completing a given activity (Blaustein and Kinniburgh, 302; Teixeira et al., 3). Teachers frequently take on most of the responsibility for the learning process in classrooms, and the students rely on this form of learning (Leventhal, Phillips, and Burns, 937).

The students' deep strategy use is a vital factor one must consider when measuring cognitive engagement. Deep strategies are all of the work that students must put forth to analyze, comprehend, and apply the knowledge provided during learning-teaching procedures or their preparation. Deep strategies, then, might be defined as the entirety of the actions taken by learners to provide meaning to data in cognitive and affective processes. Deep learning strategies comprise several actions, as can be inferred from definitions, suggesting that these activities may be classified in various ways (Howie and Bagnall, 350; Patterson and Gibson; Postareff, Parpala, and Lindblom-Ylänne, 318).

Moreover, shallow strategy use is also a must when measuring cognitive engagement. Shallow learning strategy is the reverse of deep learning strategy and consists of mindlessly accepting new facts and ideas while striving to store them as isolated, unconnected items (Duffy and Azevedo, 341; Fatimatuzroh; Lu et al., 81).

Further, the shallow strategy emphasizes meeting course requirements with the least amount of effort; the expressions "cutting corners" and "sweeping under the rug" communicate the idea that the task looks to have been completed even though it has not been (Chen et al., 172). In addition, shallow strategies are generally considered ineffective and are frequently linked to subpar academic performance. However, some simplistic learning techniques, like memory, are thought to have a role in studying languages, mathematics, and the sciences. Therefore, it was suggested to use deep strategy learning in these areas (Derri, Vasiliadou, and Kioumourtzoglou, 237).

Lastly, perseverance is an essential component that allows learners to keep doing and never give up despite the

difficulties and challenges in their learning experiences (Allen, Kannangara, and Carson, 76). As stipulated, learners who demonstrate a high-level persistence are perceived to continue the learning process in pursuit of a goal despite the challenges encountered in the learning process. A student who has a high level of perseverance not only completes assignments but also keeps track of goals as he advances through his education, he is also interested in learning involvement, the longevity of dedication, and perseverance through motivating instruction (Tinto, 7).

Intercultural Effectiveness

The capacity to engage and work together with people from various cultural backgrounds to improve positive outcomes is known as intercultural effectiveness. Intercultural effectiveness seeks to reduce failure risk and help increase both an individual and an organization's chances of success in a global setting (Stevens et al., 21; Petrovskaya and Shaposhnikov, 347; Smolyaninova, 1991). For once, students' academic experience improves their intercultural level (Avcilar and Gök, 533). Consequently, intercultural effectiveness encourages psychological health and access to social assistance. As has been demonstrated, intercultural success has predictive value in social contexts with many individuals of different ethnic backgrounds. Intercultural Effectiveness promotes engagement and dialogue between domestic and international students in the academic setting (Kiel, Syring, and Weiss, 245).

Given the requirement to provide education for all in the higher education system, intercultural effectiveness is paramount. The efficiency of students in cross-cultural interactions is shaped by higher education, based on research. Similar studies' findings (Akin, 32; Penbek et al., 236) demonstrated that when students advance to higher school, their intercultural sensitivity levels and respect for many cultures rise. Additionally, international student exchange has helped colleges create internationalization policies in response to the shift from a monocultural to a multicultural student body (Casinader, 258; Frawley, Dang and, Kittiphanh, 5). Most colleges reflect broader societal values, whether people keep their cultural values from an intercultural perspective or whether people adapt to mainstream society (Sawir, 362).

In general, today's world is generally diverse in terms of culture and other factors. Cultural blending has become more pronounced over the past several decades due to an increase in population movements, which are frequently brought on by disasters and conflicts, as well as economic and other factors (Binti Marsani et al., 21; Ferguson-Patrick and Jolliffe; Skubic, 9). The world has become a global village due to the quick growth of information technologies, which has necessitated the development of new means of interaction and collaboration with people from different cultural backgrounds. Higher intercultural intelligence and abilities are required for efficient and fruitful communication and cooperation (Genç, 187).

One essential factor in determining the intercultural effectiveness of students is their behavioral flexibility. The ability to observe an interaction, recognize and employ the proper actions, and adjust to the situational setting is called

behavioral flexibility. Further, it was suggested that while people must make proper behavioral choices, they must also modify their objectives within the encounter to plan and adjust to the circumstance (Kilgo, 867; Messner; Özdemir, 512) more effectively. Additionally, it was claimed that verbal intimacy cues, face-saving techniques, and the selection of relational messages during interaction can all help to achieve behavioral flexibility. As a result, people with an adequate behavioral flexibility are accurate and adaptive when paying attention to information and can use various behavioral techniques to realize communication objectives (Becirovic, BrdarevicCeljo and, Zavrl, 1339).

Further, flexibility allows people to come up with fresh solutions to problems, adapt to changes in routines, and deal with the unexpected. It was proposed that individuals must be conscious of their own physical and social environment to be adaptive while integrating the many cultural attitudes, values, and beliefs with an endless number of potential communication encounters (Blummer, Kenton, and Wiatrowski, 51; Read, Aldridge, Ala'i, Fraser, and Fozdar, 31; Arslan et al.). Additionally, the capacity for effective self-monitoring and cognitive awareness of cultural changes, are baseline for comparison and necessary for the development of behavioral flexibility (Kiel, Syring, and Weiss, 245). Also, for the students to have high intercultural effectiveness, they must be established with good message skills. Message skills are the capacity to communicate in another culture's language while emulating verbal and nonverbal cues (Petrovskaya and Shaposhnikov, 347). Creating and maintaining equal learning environments for students who speak different languages will be difficult for the teachers, who must play a significant part in this endeavor. (Hastjarjo and Nuryana, 25). However, those who possess the skill of intercultural effectiveness may recognize, interpret, and use the messages during interaction, as well as react correctly and pay attention when other does not understand the message (Zhang, 31). In other words, as researchers indicated (Portalla and Chen, 34), to maintain high level of intercultural effectiveness, one must be able to use the counterpart's verbal and nonverbal or messaging skills.

However, message skill is only one of the few critical factors for intercultural effectiveness. To have a high intercultural effectiveness, students must also acquire good interaction management. Competency is closely correlated to an individual's capacity to control those procedural features since interaction management is primarily concerns the procedural elements that sustain an engagement (Altan, 3; Hajisoteriou and Angelides, 363; Singh et al., 27). In addition to starting and ending conversations, it was mentioned that speaking turns should be exchanged smoothly. A person is more likely adept at communicating with people in their culture if they are more familiar with the mannerisms and behavioral norms of that culture. Interaction management has been identified as a crucial component of intercultural communication competence (O'Connell, 2434).

Another vital factor in measuring intercultural effectiveness is relationship cultivation. A strong teacher-student connections have long been regarded as an essential component in attaining successful educational experience

(Cummins, 457; Dimitrijevic, Starcevic, and Marjanovic, 102; Wang and Ching, 15). Most students spend more time with their instructors during the week than they do with any other adults in their lives. Studies have shown that the quality of the teacher-student relationship and the students' future social and academic performance have a significant connection, throughout childhood and adolescent stages of the learners. As an illustration, poor connections with instructors are risk factors (Hajisoteriou, Maniatis, and Angelides, 168).

Lastly, one of the factors that completes the indicator for intercultural effectiveness is identity management. It emphasized internalizing one's experiences during interaction dramatically shapes and influences one's identity. (Fantini, 53; Perkins et al.; Zhang and Zhou, 32). Each interaction, whether with a family member, friend, or unrelated member of society, contributes to the definition of the person. Because each person has a distinct and substantial cultural identity that must be negotiated, upheld, and supported by both parties involved, intercultural communication adds another layer of complexity to managing an individual's identity. In other words, identity management enables someone to preserve the identity of their counterpart, which is created through verbal and nonverbal communication (Antolínez-Domínguez, Marquez-Lepe, and Torrico, 97).

Relationship between Variables

Empirical studies of several studies were cited, seeking to establish the correlation of the variables. As evident in recent literature, the higher the student's motivation to learn leads to an increase in their intercultural effectiveness. Highly motivated individuals are curious and interested in observing and learning about societal expectations in new cultural settings (Peng et al., 572). The claim was further strengthened by Yamazaki and Kayes (364), citing those learners are perceived to seek out engagement to intercultural interactions and activities actively, and they are curious about new perspectives. Rivers (7) further highlights the value of cognitive engagement in the learning process based on the notion that students are more interactive when their attention is directed toward understanding and communicating comprehensible messages; emphasizes the value of cognitive engagement in the learning and development of languages based on messages that are of mutual interest and importance in a communicative situation.

Moreover, intercultural effectiveness matters a lot for the student's cognitive engagement. Interculturally competent teachers can improve student engagement and learning by bridging cultural gaps in the classroom and cultivating deep bonds with their students (Dimitrov and Haque, 438). In addition, several researchers (Petrovskaya and Shaposhnikov, 351; Stevens et al., 22) cited those effective intercultural learning facilitators can serve as role models for students by adopting other viewpoints and being receptive to various modes of knowing. By utilizing courteous, inclusive, and culturally appropriate teaching practices, they may encourage discussion about global issues, and their approaches to assessment and curriculum design encourage the development of different viewpoints among their

students. Through various scholarly lenses, including culturally relevant or responsive teaching, intercultural fluency in the classroom, inclusive education, social justice education, critical pedagogy, decolonizing the classroom, and transcultural education, among others, the effectiveness of teachers in fostering cross-cultural understanding was linked. These factors are all related to students' cognitive engagement in school, which is the cause or result of these lenses. After all, it was asserted that teachers could engage students in learning when they could interact with them in a way that supported their learning despite their differences from the instructor or one another on a wide range of perceived differences and group identity. (Casinader, 259; Frawley, Dang, and Kittiphanh, 5).

As a support, it was noted that intercultural teaching competence enables instructors to bridge cultural, linguistic, or other differences in the classroom, communicate successfully across disciplinary cultures, and establish meaningful relationships with and among students to promote student engagement and facilitate learning (Fantini, 54; Perkins et al., 22; Zhang and Zhou, 35). In addition, Dimitrov (439) affirmed that interculturally effective teachers can use inclusive, respectful, and culturally relevant teaching practices to enable discussions about global concerns and serve as role models for intercultural competence for students.

Also, when choosing content, readings, and learning activities, interculturally competent teachers encourage numerous points of view and are open to different ways of learning. They also use reflection in their approaches to evaluation and curriculum design. Further, teachers play a significant influence in shaping student engagement, and in making student engagement in the classroom a reality (Ben-Eliyahu et al., 89; Bircan, 11; Chi et al., 1792). It was claimed that rich learning occurs when the work at hand, the student's performance level, and the availability or presence of a more skilled person (or professional) to help the learner go to the next phase of learning are all in good alignment (Hajisoteriou, Maniatis and Angelides, 169).

Furthermore, the constructivist paradigm of knowledge formation, which emphasizes enthusiastically creating and integrating knowledge through a reciprocal process with the "teacher" and their peers, provided additional support for the claims as mentioned above. As a result, the learning is more in-depth, more meaningful to the learner personally, and becomes a part of their identity rather than something they possess. The assumption is that instructors create the settings that excite and encourage student involvement and consider both social and academic components of the student experience so that learning is mainly dependent on them. (Abayadeera, Mihret and Hewa Dulige, 186; Tran and Duong, 5).

Other research has shown that instructor characteristics raise student involvement and the most essential attribute that contributes a lot to the cognitive engagement of diverse students is the teachers' intercultural effectiveness. Thus, it was often believed that teacher is more influential, the more likely the learner to participate actively is dependent to the teacher's strategies, which will finally result in the students'

academic progress. The student academic growth is primarily influenced by teachers' effectiveness inside the classroom (Stronge, 21). Ortiz and Robertson (279) emphasized that the most important factor influencing student accomplishment is the classroom teachers.

The teacher behaviors that affect the teaching-learning process as measured by assessments are the root of teacher effectiveness. Students' evaluations to the teacher's performance and the teachers' impact to their learners can be used to illustrate the effectiveness of a teacher. Accordingly, to this notion, a teacher is effective if they can develop students' thinking abilities, spark their interest in the subject, encourage them to take charge of their learning, present the lesson materials effectively, challenge students intellectually, set high standards, and have adequate public speaking abilities, including their interpersonal skills (Weimer, 99).

3. Theoretical Framework

The study is anchored on the Identity Negotiation Theory (INT) of Ting-Toomey (2). The theory emphasizes the importance of negotiating sociocultural membership identity and personal identity facets elastically in individuals' various boundary-crossing journey. According to the INT, people in all cultures yearn for validation of their positive identities in a range of communication contexts. The proper technique to demonstrate identity affirmation and concern differs from one cultural environment and one circumstance to another. The INT plays a vital role in identifying domains as they relate on how people interact in daily life. Ting-Toomey (2) highlighted one cultural boundary-crossing identity dialectical theme, which is emotional security. There exist emotional forces within a discourse communication system. Further, the concept of the identity negotiation process includes an internal cognitive aspect, which is a factor in reaching for effective intergroup communication.

In the context of this study, this theory can explain the role of cognitive and emotional factors in developing intercultural communication effectiveness. As the theory highlighted that there are emotional forces within a discourse communication system implies that foreign language learning motivation of students as an emotional force plays a significant role in intercultural effectiveness. In the same vein, the theory emphasized that the cognitive aspect is a factor in reaching for effective intergroup communication, indicating that the cognitive engagement of students influences their intercultural effectiveness. This was supported by various propositions that explained the concepts of how cognitive engagement and language learning motivation influences intercultural effectiveness. As mentioned, cognitive engagement makes learners more interactive when receiving and conveying comprehensible messages during communicative situations (Rivers, 3). Cognitive engagement is linked to intercultural interactions of learners, which includes student connectedness in the community (Casimiro, 441). In addition, highly motivated individuals are curious, interested in observing and learning about societal expectations in new cultural settings. Hence, they are more engaged in intercultural communication (Peng

et al., 572). Learners are perceived to actively seek out engagement in intercultural interactions and activities if they have curiosity or motivation towards learning (Yamazaki and Kayes, 364).

3.1 Research Questions

The study's primary goal was to determine the importance of the mediation of cognitive engagement on the relationship between foreign language learning motivation and intercultural effectiveness among college indigenous people (IP) students among private higher education institutions in Davao del Sur. Moreover, it had the following objectives:

- 1) To describe the level of foreign language learning motivation among college IP students in terms of:
 - a) Desire for career and economic enhancement,
 - b) Desire to become a global citizen,
 - c) Desire to communicate and affiliate with foreigners,
 - d) Desire for self-satisfaction in learning,
 - e) Self-efficacy, and
 - f) Desire to be integrated with other cultures.
- 2) To ascertain the level of intercultural effectiveness among college IP students in terms of:
 - a) Behavioral flexibility,
 - b) Interaction relaxation,
 - c) Interactant respect,
 - d) Message skills,
 - e) Identity maintenance, and
 - f) Interaction management.
- 3) To determine the level of cognitive engagement among college IP students.
- 4) To establish the significance of the relationship between:
 - a) Foreign language learning motivation and intercultural effectiveness;
 - b) Foreign language learning motivation and cognitive engagement; and
 - c) Cognitive engagement and intercultural effectiveness.
- 5) To determine the significance of the mediation of cognitive engagement on the relationship between the foreign language learning motivation and intercultural effectiveness of college IP students.

3.2 Research Methods and Materials

The quantitative, non-experimental design of research using correlational technique was used in this study. Moreover, a mediation model was used in this study. The mediation model seeks to identify and explain the mechanism or process that underlies an observed relationship between an independent variable (foreign language learning motivation) and a dependent variable (intercultural effectiveness) via the inclusion of a third explanatory variable, known as a mediator variable (cognitive engagement). The study was conducted in Davao del Sur, Region XI, Philippines. It was conducted from March to April 2023 among selected private higher education institutions. There were three private higher education institutions known for their number of college indigenous people students where the study was conducted. The study's respondents were the 157 identified indigenous people college students among selected private higher education institutions in the school year 2022-2023. The questionnaire for foreign language learning motivation was adapted from Gonzales (8) while the questionnaire for

intercultural effectiveness was adapted from Portalla and Chen (34). Moreover, the questionnaire for cognitive engagement was adapted from Greene and Miller (185). Data collection commenced after asking permission to conduct the study through a formal letter to be addressed to the Dean of the Professional Schools of the University of Mindanao and forwarded to the deans and directors of higher education institutions in the Province of Davao del Sur to gain endorsement for the conduct of the survey. A letter of approval was also forwarded to the NCIP to inform that IP college students were used as respondents and that no harm was involved during the survey phase. The researchers used statistical tools used in the computation of data and testing of the hypotheses at a 0.05 level of significance. Mean and Standard Deviation were used to measure the level and variability of foreign language learning motivation, intercultural effectiveness, and cognitive engagement among college IP students. Product Moment Correlation (Pearson r) was used to determine the relationship between foreign language learning motivation and intercultural effectiveness, between foreign language learning motivation and cognitive engagement, and between cognitive engagement and intercultural effectiveness among indigenous people college students. Regression as Input to the Medgraph was used to determine the influence of foreign language learning motivation on intercultural effectiveness as mediated by cognitive engagement. Sobel z Test was utilized to determine if cognitive engagement significantly mediates the relationship between foreign language learning motivation and the intercultural effectiveness of indigenous people college students. The University of Mindanao Ethics Committee's ethical standards and guidelines were strictly followed.

4. Results and Discussion

Level of Foreign Language Learning Motivation of IP College Students

Shown in Table 1 is the descriptive statistics results on assessing the level of foreign language learning motivation of college IP students, which has an overall mean of 4.45 with a standard deviation of 0.578, and described as very high, indicating that all enumerated indicators are always manifested by the respondents. The overall mean was the result obtained from the indicators appended in this study. As shown in the table, all indicators obtained a very high assessment with a desire for career and economic advancement with a mean of 4.57 and a standard deviation of 0.519 and a desire to become a global citizen with a mean of 4.57 and a standard deviation of 0.595 being the highest. Meanwhile, self-efficacy obtained the lowest mean score of 4.32 and a standard deviation of 0.716.

Foreign language learning motivation of college indigenous people students obtained a very high-level assessment as evaluated by the respondents. This suggests that IP college students exhibit a very high level of perceived characteristics that positively influence their enthusiasm and willingness to engage with or commit effort to complete a task relative to language learning. Motivation provides learners with an aim and direction to follow. This is in line with the idea of Ruiz-Funes (10), which insinuated that a student with more motivation will take more responsibility for their learning,

and a student given more autonomy will subsequently have more motivation. The findings further conform to the claim of Unsworth et al. (527), specifying that with the desire to learn, students are more likely to cooperate, take self-responsibility, or fully engage in the language learning process.

Table 1: Level of Foreign Language Learning Motivation of College IP Students

Indicators	Mean	SD	Descriptive Level
Desire for career and economic advancement	4.57	.519	very high
Desire to become a global citizen	4.57	.595	very high
Desire to communicate and affiliate with foreigners	4.53	.612	very high
Desire for self-satisfaction	4.33	.705	very high
Self-efficacy	4.32	.716	very high
Desire to be integrated with other cultures	4.38	.695	very high
Overall	4.45	.578	very high

Level of Intercultural Effectiveness of IP College Students

Table 2 shows that the level of intercultural effectiveness of college indigenous people students was high, with a mean score of 3.45 and a standard deviation of 0.338. Interactant respect obtained the highest mean of 4.31 and standard deviation of 0.424 and was described as very high. The result implies that interactant respect is always manifested by the respondents based on their responses. Meanwhile, message skills obtained the lowest mean of 2.17 and a standard deviation of 0.912, with a descriptive interpretation of low. This reveals that indigenous people college students message skill is seldom manifested.

The overall extent of intercultural effectiveness of college IP students obtained a high assessment. This implies that participants in the study have a high level of ability to interact and work with people from various cultural backgrounds to create positive outcomes. It makes communication and engagement between local and international students easier within an academic institution. The result corroborates with the pronouncement of Avçilar and Gök (533), stating that students' experience in academe improves their intercultural level. Higher education influences students' intercultural efficiency, as Deardorff (241) stressed. Similar studies' findings (Akin, 29; Penbek et al., 232) demonstrated that when students advance to higher school, their intercultural sensitivity levels and respect for many cultures rise.

Interactant respect attained a very high-level assessment which signifies those respondents exhibit a relatively high affective reaction to their culturally different counterparts. In this investigation, it is noteworthy that respondents who exhibited with a high level of interactant respect holds significant value in maintaining a harmonious relationship between various cultures existing in their academic communities. The result reflects the assertion of Yilmaz et al. (27), who state that an interculturally competent individual respects other cultures and conducts themselves in a way that is appropriate to the host culture. Most

academic institutions reflect broader community norms, whether people from different cultures assimilate into mainstream society or keep their cultural values as in the intercultural approach (Sawir 359).

make sense, I skip it and hope that the teacher explains it in class obtained the lowest mean of 2.13 and a standard deviation of 1.096.

Level of Cognitive Engagement of IP College Students

Illustrated in Table 3 is the results of the descriptive statistics on assessing the level of cognitive engagement of IP college students. The overall mean obtained a value of 3.98, and standard deviation of 0.413 and, a descriptive interpretation as high. Among the 28 items of the cognitive engagement of IP college students, When I finish working a problem, I check my answer to see if it is reasonable got the highest mean of 4.51 and standard deviation of 0.690. Meanwhile, When I read something in the book that doesn't

Table 2: Level of Intercultural Effectiveness of College IP Students

Indicators	Mean	SD	Descriptive Level
Behavioral Flexibility	2.57	.424	low
Interaction Relaxation	3.93	.731	high
Interactant Respect	4.31	.649	very high
Message Skills	2.17	.912	low
Identity Maintenance	3.76	.829	high
Interaction Management	3.94	.840	high
Overall	3.45	.338	high

Table 3: Level of Cognitive Engagement of IP College Students

Item Statements	Mean	SD	Descriptive Level
Before a quiz or exam, I plan how to study the material.	4.48	.699	very high
It is easy for me to establish goals for learning in this class.	4.27	.756	very high
When I study, I take note of the material I have or have not mastered.	4.50	.699	very high
I organize my study time well for this class.	4.35	.744	very high
I have a clear idea of what I am trying to accomplish in this class.	4.33	.714	very high
When I read a problem, I know what I am asked to do before I begin.	4.47	.680	very high
When I finish working on a problem, I check my answer to see if it is reasonable.	4.51	.690	very high
I organize an approach in my mind before I start problems.	4.41	.746	very high
When I finished working on practice problems, I checked my work to see errors.	4.44	.669	very high
When studying, I combine different information from course material in new ways.	4.33	.740	very high
I draw pictures or diagrams to help me solve some problems.	4.03	.918	high
I work on several examples of the same type of problem when studying mathematics to understand the problems better.	4.24	.810	very high
I work on practice problems to check my understanding of new concepts or rules.	4.29	.721	very high
I examine example problems that have already been worked on to help me figure out how to do similar problems on my own.	4.39	.699	very high
I classify problems before I begin to work on them.	4.27	.707	very high
When I work on a problem, I analyze it to see if there is more than one way to get the right answer.	4.35	.711	very high
I memorize the steps for solving problems presented in the text or class.	4.35	.702	very high
When I study for tests, I will review my class notes and look at solved problems.	4.48	.681	very high
When I study for tests, I use solved problems in my notes or in the book to help me memorize the steps involved.	4.43	.668	very high
I find reviewing previously solved problems to be a good way to study for a test.	4.40	.701	very high
If I have trouble understanding a problem, I go over it again until I understand it.	4.41	.754	very high
I complete homework assignments quickly possible without checking my accuracy.	2.16	1.177	low
If I have trouble solving a problem, I'm more likely to guess the answer than to look at examples in the book.	2.26	1.212	low
If I have trouble solving a homework problem in the book, I copy down the answer in the back if it is available.	2.27	1.255	low
If I have trouble solving a problem, I'll try to get someone else to solve it.	2.57	1.340	low
When I read something in the book that doesn't make sense, I skip it and hope that the teacher explains it in class.	2.13	1.096	low
When I run into a difficult homework problem, I keep working at it until I think I've solved it.	4.27	.750	very high
When I run into a complex homework problem, I give up and go on to the next problem.	2.35	1.315	low
Grand Mean	3.98	.413	high

The perceived level of cognitive engagement of college IP students obtained a high-level assessment. The result revealed that college IP students exhibit a high-level willingness and effort to understanding a topic, which some students persist in studying for long period. The result affirms the statement of Robb (361), that students who are cognitively engaged in the learning process reflect thoughtfully on the recently delivered material and employ self-regulatory learning techniques that deepen their comprehension of the subject. The result further alluded to

the claim of several researchers (Schmidt et al., 1474; Greene, 14; Burch et al., 224), implying that students with high levels of cognitive engagement are participative in the learning process and creative in accomplishing the task.

Relationship between Variables

Displayed in Table 4 are the results of the relationship between the independent variable (foreign language learning motivation), dependent variable (intercultural effectiveness), and mediator (cognitive engagement) variables. Bivariate

correlation analysis using Pearson product-moment correlation was employed to determine the relationship between the variables mentioned.

The first correlation analysis between foreign language learning motivation and intercultural effectiveness revealed a computed r-value of 0.425 with a probability value of $p=0.000$ which is significant at the 0.05 level. This indicates a positive correlation and a strong association between the two variables. Thus, the null hypothesis of no significant correlation is therefore rejected.

Table 3: Relationship between Variables

Pair	Variables	Correlation Coefficient	p-value	Interpretation
IV and DV	foreign language learning motivation and intercultural effectiveness	0.425	0.000*	Significant
IV and MV	foreign language learning motivation and cognitive engagement	0.453	0.000*	Significant
MV and DV	cognitive engagement and intercultural effectiveness	0.469	0.000*	Significant

In the same way, the second bivariate correlation analysis involving foreign language learning motivation and cognitive engagement obtained an r-value of 0.453 with a probability value of $p=0.000^*$, which is significant at the 0.05 level. This indicates that there exists a positive association between the two variables. Thus, the null hypothesis of no significant relationship is also rejected.

The third correlational analysis between cognitive engagement and intercultural effectiveness yielded an r-value of 0.469 with a probability value of $p=0.000^*$, which is significant at the 0.05 level. This indicates a positive correlation and a strong association between the two variables. Thus, the null hypothesis of no significant correlation is therefore rejected.

The significance of the relationship between learning motivation and intercultural effectiveness indicates that at a certain confidence, the better the perceived learning motivation of the respondents correlates with the extent of intercultural effectiveness. The extent of such a relationship is substantial, which portends that learning motivation and intercultural effectiveness are closed concepts that can be discussed in solidarity in the context of IP college students. In this premise, it can be deduced that learning motivation is an important domain influencing intercultural effectiveness. The result reflects that of the study of Peng et al. (572), who cited that the higher the student's motivation to learn leads to an increase in their intercultural effectiveness. Further, highly motivated individuals are curious, interested in observing and learning about societal expectations in new cultural settings. They actively seek out engagement in intercultural interactions and activities, and they are curious about new perspectives (Yamazaki & Kayes, 362).

Conversely, results revealed that learning motivation is positively and significantly correlated with cognitive

engagement in the context of IP college students. This implies that for every unit of change in the variability of learning motivation, a unit of change is affected in the perceived cognitive engagement, holding other variables constant. This finding concurs with the proposition of Bircan (11), citing the essential influence of motivation on the cognitive engagement of middle school students. The finding expressly implies that motivation creates the conditions for cognitive engagement. Motivation raises the level of cognitive engagement, which results in achievement. The claim was further strengthened with the claim of Kim et al. (261), who specify that engagement and motivation are strongly intertwined, and the former may change into the latter in the presence of helpful and welcoming surroundings. For instance, students who feel their needs have been addressed and are driven to participate in class activities are more likely to be invested in their education and use cognitive techniques. As a result, high learning motivation will predict the level of cognitive engagement of the students.

Lastly, the link between cognitive engagement and intercultural effectiveness in the context of IP college students rejects the first null hypothesis of no correlation between variables. The result indicates that the higher the cognitive engagement, the higher the corresponding intercultural effectiveness. This finding is in harmony with the pronouncement of Dimitrov and Haque (437), who saw the reciprocal relationship between intercultural effectiveness and cognitive engagement of the students. They specify interculturally adept teachers can raise student cognitive engagement by overcoming cultural gaps in the classroom and cultivating deep bonds with their charges.

In addition, to support learning and cognitive engagement, interculturally competent teachers should be open to different ways of knowing, thoughtful in their approaches to assessment and curriculum design, and promote many views when choosing content, readings, and learning activities. Hence, expanding cognitive engagement and learning resources will enable students' intercultural learning more effective. The significant role of the teachers in promoting student cognitive engagement cannot be overlooked, in fact, the performances of the teachers are the main factor materializing student engagement (Ben-Eliyahu et al., 87; Chi et al., 1777; Bircan, 11).

Significance of the Mediation of Cognitive Engagement on the Relationship between Foreign Language Learning Motivation and Intercultural Effectiveness of College IP Students

Data were analyzed with the linear regression method as input to the medgraph. Mediation analysis developed by Baron and Kenny (1986) is the mediating effect of a third variable in the relationship between two variables.

There are four steps to be met for a third variable to be acting as a mediator. In Table 5, these are categorized as Steps 1 to 4. In Step 1, learning motivation as the independent variable (IV) significantly predicts the intercultural effectiveness of IP college students, which is this study's dependent variable (DV). In step 2, learning

motivation significantly predicts cognitive engagement, the mediator (M). In step 3, cognitive engagement significantly predicts the intercultural effectiveness of IP college students.

Because the three steps (paths a, b and, c) are significant, further mediation analysis through medgraph is warranted, involving the Sobel z test to assess the significance of the mediation effect. If the effect of the independent variable on the dependent variable becomes non-significant at the final step of the analysis, full mediation will be achieved. It means all the effects are mediated by the mediator variable. In addition, if the regression coefficient is substantially reduced at the final step but remains significant, only partial mediation is obtained, which implies that part of the independent variable (learning motivation is mediated by the mediator (cognitive engagement), other parts are either direct or mediated by other variables that are not included in the model. In this case, as gleaned in step 4 (denoted as c'), the effect of learning motivation on intercultural effectiveness was even found to decrease after mediated by cognitive engagement. With this, partial mediation took place since the effect was found to be significant at $p < 0.05$ level.

Table 5: Regression analysis showing the influence of foreign language learning motivation on intercultural effectiveness as mediated by cognitive engagement

Step	Path	B	S.E.	β
Step 1	c	0.248	0.042	0.425**
Step 2	a	0.323	0.051	0.453**
Step 3	b	0.285	0.062	0.348**
Step 4	c'	0.156	0.044	0.267**

Note: ** $p < 0.01$

Furthermore, the result of the computation of mediating effects is shown in Figure 3. The Sobel test yielded a z-value of 3.72, $p < 0.05$ level. This means that mediating effect is partial, such that the original direct effect of learning motivation to intercultural effectiveness altered upon the addition of cognitive engagement. The positive value of Sobel z indicates that the addition of cognitive engagement reduces the effect of learning motivation on intercultural effectiveness. The figure also shows the results of the computation of the effect size in the mediation test conducted between the three variables. The effect size measures how much of the effect of learning motivation towards intercultural effectiveness can be attributed to the indirect path. The total effect value of 0.248 is the beta of learning motivation toward intercultural effectiveness. The direct effect value of 0.156 is the beta of learning motivation toward intercultural effectiveness with adversity response included in the regression. The indirect effect value of 0.323 is the amount of the original beta between learning motivation towards intercultural effectiveness that now goes through cognitive engagement to intercultural effectiveness (a * b, where "a" refers to the path between AC \square IC and "b" refers to the path between IC \square ESE). The ratio index is computed by dividing the indirect effect by the total effect; in this case, 0.323 by 0.248 equals 1.302. It seems that about 132 percent of the total effect of learning motivation on intercultural effectiveness goes through cognitive engagement.

Mediation Analysis

Sobel z 3.7256061, $p < 0.01$ **
 Percentage of the total effect that is mediated 37.070773%
 The ratio of the indirect to direct effect is 0.589087

Effect Size Measures

Unstandardized Coefficients
 Total: .248
 Direct: .156
 Indirect: .323
 Ratio Index: 1.302

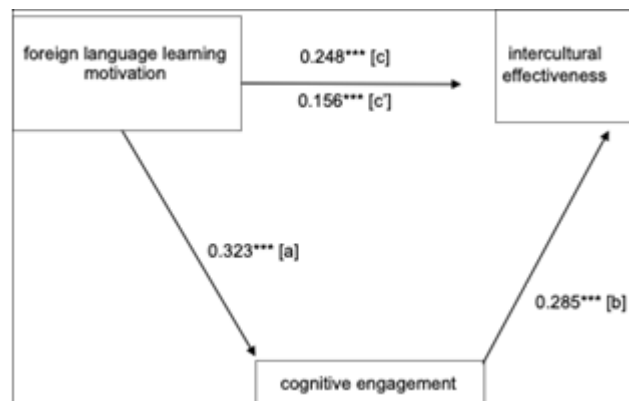


Figure 3: Medgraph showing the variables of the study

5. Conclusion and Recommendations

The academic inquiry has revealed a very high level of foreign language learning motivation. This is true in all its indicators: desire for career and economic advancement, desire to become a global citizen, desire to communicate and affiliate with foreigners, desire for self-satisfaction, self-efficacy, and desire to be integrated with other cultures. Intercultural effectiveness also revealed an overall high level as assessed by the respondents. Among its indicators, interactant respect obtain a very high assessment, interactant relaxation, message skills, and interaction management attain a high-level assessment, in contrast, behavioral flexibility and message skills acquire low-level assessment. Meanwhile, the overall level of cognitive engagement attained a high assessment. Collectively, the high level of assessment on these variables indicates that foreign language learning motivation, intercultural effectiveness, and cognitive engagement are linked to the aspects that can be strengthened to guarantee that college IP students have acquired significant competencies.

Moreover, the study revealed a correlation between foreign language learning motivation, cognitive engagement, and intercultural effectiveness. This is in harmony with the assumptions of several authors (Martin et al., 133), who highlight the importance of learning motivation and engagement in learning a foreign language. The benefits of motivation and engagement will extend beyond language acquisition to other fields, such as intercultural competence and effectiveness. In any case, Altan (15) specify that only through the intercultural effectiveness of teachers can students from different cultures achieve their goals effectively and appropriately in the process of intercultural interaction.

Significantly, the study confirmed the Identity Negotiation Theory (INT) of Ting-Toomey (2). It substantiates the role of cognitive and emotional factors in developing intercultural communication effectiveness. As the theory highlighted, there are emotional forces within a discourse communication system which implies that foreign language learning motivation of students plays an essential role in intercultural effectiveness. In the same vein, the theory emphasized that the cognitive aspect is a factor for effective intergroup communication indicating that the cognitive engagement of students influences their intercultural effectiveness.

Teachers' pedagogical enhancement in English may focus on improving English self-efficacy among students as a component of foreign language learning motivation since data revealed this as the lowest indicator. Teachers may implement Intensive English Program to expose IP students to various English language learning activities geared towards improving their language learning motivation, particularly their self-efficacy beliefs.

As to the intercultural effectiveness of IP students, behavioral flexibility and message skills acquired low levels, this finding recommended that English teachers may implement communicative tasks in the classroom that will mold student flexibility in communication and the ability to adjust to various communicative contexts. Also, to improve message skills among students, collaborative and negotiation activities in the English classroom may be initiated. By doing this, the intercultural effectiveness of students may be augmented.

Considering the results of the cognitive engagement, it was found that students have a low level of difficulty in completing homework assignments and in solving problems, it is recommended that English teachers in the classroom may emphasize the value of time and focus on understanding the purpose of English classroom tasks and their processes. When students fully understand the material given by the teachers, they can avoid rushing them and consequently thoroughly complete tasks effectively. Moreover, teachers may dedicate time teaching students problem-solving strategies in the English classroom. Teachers may provide additional tools for improving the problem-solving skills of students, which gives them the avenue to break down complex concepts in English into smaller and manageable parts. Hence, English learning becomes more accessible and more effective.

Since cognitive engagement partially mediates the relationship between foreign language learning motivation and intercultural effectiveness of college IP students, it is recommended that English teachers may implement inquiry-based learning tasks in the English classroom by requiring IP students to answer higher-order thinking questions and engage in critical thinking activities, and problem-solving tasks when learning English contents. By doing this, the IP students can strengthen their motivation towards learning English and consequently improve their intercultural effectiveness. The findings of the current research work may be extended and validated further by comparable studies presented by future scholars.

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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