Reading Attitude, Self-regulation and Technology-based Instruction for Effective Reading: A Structural Relationship Model in Students' Intercultural Communicative Competence

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ABSTRACT

Aims: To determine the most fit model for Senior High School Students' intercultural communicative competence, influenced by reading attitude, self-regulation, and technology-based instruction for effective reading.

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Study Design: A non-experimental quantitative research design employing descriptive, predictive, and structural equation modeling was utilized.

Place and Duration of Study: The respondents were Senior High School Students from public secondary schools in Region XI, Southern Mindanao, Philippines. The respondents were chosen using stratified random sampling. The study was conducted in school year 2023-2024.

Methodology: The collected data from an adapted survey questionnaire were analyzed using mean, Pearson product-moment correlation coefficient, linear regression, and structural equation modeling.

Results: The intercultural communicative competence of Senior High School Students in Region XI is significantly influenced by reading attitude, self-regulation, and technology-based instruction for effective reading, as demonstrated by Table 6 which is significantly lower than the .05 level of significance set for this study. Nonetheless, the overall model suggests that these three predictors together can significantly predict intercultural communicative competence.

Conclusion: The intercultural communication ability of the pupils is significantly correlated with the factors of reading attitude, self-regulation, and technology-based instruction for effective reading. As a result, the null hypothesis is rejected. The model that showed the greatest match for the data among the three examined was Model 3, which also exhibited consistent indices. Consequently, it was identified as the most appropriate model. Since all of the indices satisfied the predetermined criteria when compared to the values derived from the most appropriate model, the goodness of fit results for model 3 are satisfactory.

1. INTRODUCTION

Nowadays, a large number of individuals connect with foreigners. Everyday, communities become more multicultural and multilingual, and as more and more companies expand internationally, the demand for intercultural communication skills grows. When people travel to a foreign country, they become aware of the obstacles and constraints that exist there without the assistance of intercultural communication, which can cause confusion and misunderstandings. When it comes to obtaining effective communication through language instruction, it is thought important to provide a set of activities to enhance students' intercultural communicative competency to better prepare them for contact or conversation with people from different cultures. It improves intercultural communicative competence in addition to language competency and communication abilities [1].

The real issue with developing intercultural communicative skills in the educational process is the world's changing rapidly and the growth of intercultural communication. In the twenty-first century, a new personality type with the skills and traits that are instantly required for rational concentration in a heterogeneous society must be developed [2].

Improving students' ability to communicate across cultural boundaries is a pressing global concern. Research reveals that intercultural communicative competence fosters interdisciplinary connections, instills in students a persistent drive to overcome language barriers, emphasizes the importance of professional engagement, and cultivates tolerance towards speakers of other languages and cultures [3].

Although intercultural communication ability has been the focus of more research, interest in it in the field of education has grown recently. Furthermore, it still needs to be carefully considered and used in the classroom. The difficulties that educators encounter could be the cause of the extremely low integration rate of intercultural communication ability in the classroom. Most studies on intercultural communicative skills concentrate on students' growth in this area. Few research, nevertheless, have looked at the strategies teachers employ to help Senior High students learn based on intercultural communication skills [4].

According to some research, students with varying backgrounds experience fear and see learning a foreign language negatively, which is undoubtedly connected to the necessity of effective cross-cultural communication. If they are not engaged in this kind of communication

through social media and other channels, students are frequently unprepared for this [5].

In article, "Retesting Integrated Model of Intercultural Communication Competence (IMICC) On International Students from the Asian Context of Malaysia," the researchers made the claim that Malaysia ought to focus on the importance of intercultural knowledge in the instruction of foreign students studying there. It might have an impact on their cross-cultural interactions and cause cultural shock while they are in Malaysia, which could have positive effects on international students' academic performance [6].

Language instructors are required to support their students' development of intercultural communicative competence because of the increased recognition in recent years of the value of this skill in foreign language instruction. Her research demonstrates that educators are cognizant of the idea of intercultural communicative skills as well as the function that intercultural objectives serve in instruction. But because their application hasn't yet been included into their actual teaching routine, it still needs additional encouragement and support [7].

The necessity of learning to communicate across cultural boundaries has grown significantly in the twenty-first century. This is demonstrated by the substantial focus on the growth of intercultural communicative skills, which is regarded as one of the main components of global competence. In order to assist their students in becoming intercultural communicators in multicultural settings, this condition pushes educators to fully grasp intercultural communicative competency. However, due to the majority of them being reluctant to advance their knowledge in terms of incorporating intercultural communicative competence components into their teaching and learning processes, Indonesian teachers do not fully acknowledge this capacity [8].

A major objective of education in China is to increase students' intercultural communicative competence; English teachers' intercultural communicative competency is crucial to this end. The study recommends that universities emphasize the development of intercultural communicative competence in teaching, give English teachers more opportunities for intercultural conversations, and propose a policy regarding class division and instruction due to the low level of intercultural communicative competence among English teachers [9].

The objectives of this study are as follows: first, to ascertain the level of reading attitude of Senior High School students based on: 1.1 cognitive behavior; 1.2 conative behavior; 1.3 negative effects; 1.4 anxiety; and 1.5 self-assessment; second, to identify the level of self-regulation of Senior High School students based on: 2.1 receiving relevant information; 2.2 evaluating the information and comparing it to norms; 2.3 triggering change; 2.4 searching for options; 2.5 formulating a plan; 2.6 implementing the plan; and 2.7 assessing the plan's effectiveness; third, strategy based instruction facilitated by technologies to enhance reading comprehension of Senior High School students based on: 3.1 cognitive strategy; and 3.2 metacognitive strategy; fourth, to understand the level of intercultural communicative competence of Senior High School students based on: 4.1 skills; 4.2 attitude; 4.3 awareness; and 4.4 knowledge.
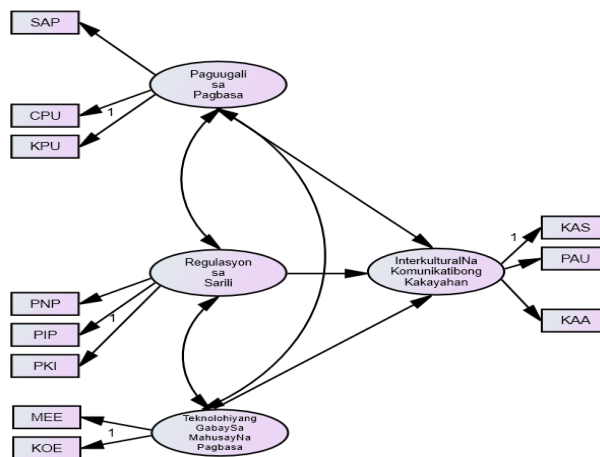

Fig. 1. Conceptual framework of the study

Additionally, the study also investigated the significant relationship between: 5.1 reading attitude and intercultural communicative competence; 5.2 self-regulation and intercultural communicative competence; and 5.3 strategy based instruction facilitated by technologies to enhance reading comprehension and intercultural communicative competence; sixth, to determine which factor has the most influence on the intercultural communicative competence of Senior High School students, and finally, to determine which model is most suitable for the intercultural communicative competence of Senior High School students.

2. MATERIALS AND METHODS

2.1 Respondents

The respondents of this study are four hundred Senior High School students who are in the public secondary schools in Region XI. The respondents were enrolled taken from the ten divisions of Region XI as follows: Davao City (136), Island Garden City of Samal (15), Panabo City (23), Digos City (9), Tagum City (23), Mati City (18), Davao Oriental (44), Davao del Norte (59), Davao del Sur (42), and Davao Occidental (31).

The sample was taken in each division depending on the size of their population to get 400 respondents. The data collection process adhered to health protocols. Respondents were at authority to engage in the study and make decisions of their own choice. Additionally, respondents are free to stop participating if they start to feel uneasy or threatened. To ensure that the study is conducted without causing harm to the respondents, the researcher constantly considers their physical, mental, and emotional states.

2.2 Research Instrument

The researcher used a variety of techniques to collect information on this study. A downloaded questionnaire was used in this research and reviewed by the experts to validate the instruments. After validation, the efficiency of the questionnaires was tested through pilot testing.

The questionnaire instrument used in the reading attitude has 57 items. It contains the following indicators: cognitive behavior, conative behavior, negative effect, anxiety and self-assessment. The self-regulation has 63 items. This instrument has the following indicators: receiving relevant information, evaluating the information and comparing it to norms, triggering change, searching for options, formulating a plan, implementing the plan, and assessing the plan's effectiveness. While the technology-based instruction for effective reading has 30 items. This instrument has subsequent indicators of cognitive strategies, and metacognitive strategies. Meanwhile, for the intercultural communicative competence it includes 52 items with the following indicators: skills, attitude, awareness, and knowledge.

2.3 Research Design and Methodology

Descriptive, correlational, and causal-comparative designs were used in this study. To investigate the causes of certain issues, the descriptive design was employed to illustrate the state of the scenario that prevailed during the research period. In descriptive research, a particular feature of a population of interest is defined using continuous data representing their responses. The straightforward normalcy approach is explained [10].

The researcher took precautions to guarantee that the study would go smoothly. Approved by the Professional School Dean, the researcher wrote a letter to the administrations of the participating institutions. Subsequently, authorization was requested from the Region XI regional director to carry out the research with a range of Senior High School pupils at public schools.

Furthermore, the Structural Equation Modeling (SEM) framework was applied to determine the optimal and most appropriate model for the research. Structural Equation Modeling (SEM) is a technique that falls under this category and can be used to combine complex path models into latent variables [11]. This allows the researcher to merge models from complex paths, regression models, and confirmatory factor analysis. Additionally, the Alternative Model was employed via Analysis of Moment Structure (AMOS) to derive Goodness of Fit Statistics. This is done to obtain the proper model for the investigation, since all the values given in the indices satisfy every requirement [12].

The study was tested through pilot testing using Cronbach's Alpha to determine its reliability using the following variables: reading attitude (.815), self-regulation (.903), technology-based instruction for effective reading (.837), and intercultural communicative competence (.919).

3. RESULTS AND DISCUSSION

3.1 Level of Attitude toward Reading among Senior High School Students

The reading attitude levels of Senior High School students in Region XI are shown in Table 1. The overall mean of 3.26 indicates a moderate descriptive level. With a mean of 3.95 and a standard deviation of 0.79, the cognitive behavior indicator has a good descriptive quality. Comparably, respondents' self-assessment level has a mean of 3.49 and a standard deviation of 0.76, both of which point to a high descriptive level. With a mean of 0.74 and a standard deviation of 3.36, the conative behavior indicator shows a modest descriptive quality. With a mean of 3.12 and a standard deviation of 0.88, the anxiety indicator likewise has a moderate descriptive level; in contrast, the negative effect has the lowest descriptive level, with a mean of 2.34 and a standard deviation of 0.81.

As can be seen from the table's observed results, there appears to be agreement among students on items pertaining to cognitive behavior, self-assessment, conative behavior, and anxiety. The overall mean has a descriptive level of moderate. They disagree with products that have negative impacts, though, because they are only slight. This only shows that, except for the negative effect indicator, pupils exhibit reading behavior.

In her Reader-Response Theory, Rosenblatt asserts that reading is a transactional activity involving the reader and the text in both directions at a given moment. According to Rosenblatt, printed words activate consciousness because of the contribution of both the text and the reader, and readers then consider their prior language experiences. She further states that "despite being listeners, writers, speakers, or readers, every person engages in an interaction using their own linguistic experiences and remnants of past transactions in life and language" [13].

Table 1. List of scale used, description, and interpretation of the data collected in the four variables of the study

Scale	Description	Interpretation
4.20-5.00	Very High	Reading attitude, self-regulation, technology-based instruction for effective reading, and intercultural communicative competence are always observed.
3.40-4.19	High	Reading attitude, self-regulation, technology-based instruction for effective reading, and intercultural communicative competence are often observed.
2.60-3.39	Moderate	Reading attitude, self-regulation, technology-based instruction for effective reading, and intercultural communicative competence are sometimes observed.
1.80-2.59	Low	Reading attitude, self-regulation, technology-based instruction for effective reading, and intercultural communicative competence should be observed.
1.00-1.79	Very Low	Reading attitude, self-regulation, technology-based instruction for effective reading, and intercultural communicative competence are never observed.

Table 2. Level of attitude toward reading of Senior High School Students

Indicators	SD	Mean	Descriptive Level
Cognitive behavior	0.79	3.95	High
Conative behavior	0.74	3.36	Moderate
Negative effects	0.81	2.34	Low
Anxiety	0.88	3.12	Moderate
Self-assessment	0.76	3.49	High
Overall	**0.48**	**3.26**	**Moderate**

Table 3. Level of self-regulation of Senior High School Students

Indicators	SD	Mean	Descriptive Level
Receiving Relevant Information	0.55	3.38	Moderate
Evaluating the Information and Comparing it to Norms	0.61	3.46	High
Triggering Change	0.60	3.43	High
Searching for Options	0.64	3.61	High
Formulating a Plan	0.62	3.49	High
Implementing the Plan	0.57	3.39	Moderate
Assessing the Plan's Effectiveness	0.61	3.57	High
Overall	**0.53**	**3.48**	**High**

3.2 Level of Self-regulation among Senior High School Students

With an overall mean of 3.48 and a standard deviation of 0.53, Table 2 illustrates the level of self-regulation among Senior High School pupils, suggesting a high descriptive level. This table shows that five indicators reached a high level. The following are the results of the analysis: options with a mean of 3.61 and a corresponding standard deviation of 0.64; plans with a mean of 3.57 and a corresponding standard deviation of 0.61; plans with a mean of 3.49 and a corresponding standard deviation of 0.62; information review and comparison with a mean of 3.46 and a corresponding standard deviation of 0.61; and changes with a mean of 3.43 and a corresponding standard deviation of 0.60. Conversely, two indicators achieved a moderate level. These include carrying out plans, which have an average of 3.39 and a standard deviation of 0.57, and obtaining pertinent information, which have an average of 3.38 and a standard deviation of 0.55.

This table's overall result has a high descriptive level, meaning that students strongly agree with the items about getting pertinent information, going over information and comparing it to standards, coming up with changes, looking for alternatives, making plans, carrying them out, and evaluating how effective the plans are. This implies that individuals exhibit self-control on a regular basis.

Albert Bandura's Social Cognitive Theory states that attitudes, behaviors, and surroundings all have an impact on learning. According to Bandura, practically all learning experiences can be had by paying attention to conduct and its effects. This theory provides an essential framework for comprehending how social interactions shape information, behavior, and talents. The approach places a strong emphasis on how practice and observation aid in learning. It demonstrates how learning can occur through observation of other individuals and their surroundings. It also emphasizes how cognition plays a part in learning, encompassing things like organizing knowledge, planning, and self-control [14].

3.3 Level of Technology- Based Instruction for Effective Reading among Senior High School Students

The effectiveness of technology-based instruction for effective reading among senior high school students is described in Table 3, which has a high descriptive level, an overall mean of 3.73, and a matching standard deviation of 0.69. Its two indicators both attained a high descriptive degree. The mean for the metacognitive strategy is 3.75, with a standard deviation of 0.73, and the mean for the cognitive approach is 3.71, with a similar standard deviation of 0.71.

Table 3's overall result is at a high descriptive level, meaning that all the items in the cognitive and metacognitive techniques are agreed upon by the students. This demonstrates how well they use technology to display their reading proficiency.

Table 4. Level of technology-based instruction for effective reading of Senior High School Students

Indicators	SD	Mean	Descriptive Level
Cognitive Strategy	0.71	3.71	High
Metacognitive Strategy	0.73	3.75	High
Overall	**0.69**	**3.73**	**High**

To build a set of abilities that will enable them to take charge of their own education, students should select the teaching strategies that best fit their learning preferences. Using technology tools to improve the teaching of lesson content in class or multimedia study resources can help students achieve their academic goals and have a more meaningful learning experience [15].

Sweller's Cognitive Load Theory is in favor of technology-based instruction for effective reading. The theory states that it offers instructional recommendations based on our comprehension of an individual's cognitive capacity. It seeks to facilitate and encourage active, collaborative learning that leads to better learning and comprehension. Instructors might employ strategies like assigning assignments that stress knowledge of each learning idea and utilizing multimedia presentations [16].

3.4 Level of Intercultural Communicative Competence among Senior High School Students

The international communication ability of Senior High School students is displayed in Table 4, where a high descriptive level is indicated by an overall mean of 3.47 and a corresponding standard deviation of 0.57. Two indicators also attained a high descriptive level. The overall mean for knowledge is 3.64, with a standard deviation of 0.75, and the mean for attitude is 3.61, with a standard deviation of 0.73. Both last two indicators attained a moderate level of descriptiveness. The mean score for skills is 3.34, with a standard deviation of 0.65, and the mean score for awareness is 3.28, with a standard deviation of 0.66.

This Table 5 shows the students' high levels of intercultural communicative ability in terms of abilities, attitudes, awareness, and knowledge. This indicates that they support and frequently exhibit each of the items listed in the variable's indicators.

Students who are more proficient in intercultural communication are better able to grasp how other people live in a community and how to become more self-aware. Stated differently, language learners ought to become into methodical, discerning observers and evaluators of the cultural attitudes, behaviors, and ideas that underpin these behaviors. When individuals become cultural intermediates, they should learn about and comprehend their own culture and be ready to convey it to others whose life experiences and worldviews differ greatly from their own [17].

According to Lev Vygotsky's Sociocultural Theory, a child's social interactions can influence and direct the development of their knowledge and learning skills. According to the theory, a person's cognitive talents play a significant role in their social environment, and social interactions help people develop their cognitive skills, which in turn reflect the impact of societal influences on cognitive capacities. It is believed that language serves as a vital instrument and mediator in social and cultural communication, laying the groundwork for future research. The importance of meaningful engagement in language learning is emphasized by this idea. Additionally, according to Vygotsky, learning is much improved when parents or other adults in the community with greater expertise mentor the child. According to his thesis, kids pick up new insights and perspectives from the opinions and beliefs they see in the world. According to him, knowledge develops differently in every culture because culture has a significant influence on it [18].

3.5 Significant Relationship between Reading Attitude and Intercultural Communicative Competence of Senior High School Students

With a total R-value of .593 and a corresponding probability value of .000, Table 5. demonstrates a significant connection between reading attitude and intercultural communication competence of Senior High School students. This correlation is significantly lower than the .05 significance criterion specified in this study. Consequently, the alternative hypothesis—which suggests a strong correlation between senior high school students' international communication competence and their reading behavior—is accepted and the null hypothesis is rejected.

The table's findings show a strong correlation between senior high school students' intercultural communicative competence and their reading attitude. This merely indicates that individuals are more likely to exhibit skill in international communication competence if they have strong reading behavior. This suggests that every student's intercultural communicative competence is greatly influenced by their reading habits.

Table 5. Level of intercultural communicative competence of Senior High School Students

Indicators	SD	Mean	Descriptive Level
Skills	0.65	3.34	Moderate
Attitude	0.73	3.61	High
Awareness	0.66	3.28	Moderate
Knowledge	0.75	3.64	High
Overall	**0.57**	**3.47**	**High**

Table 6. Significant relationship between reading attitude and intercultural communicative competence

Reading Attitude	Intercultural Communicative Competence				
	Skills	Attitude	Awareness	Knowledge	Total
Cognitive	.435**	.506**	.318**	.531**	**.555****
Behavior	.000	.000	.000	.000	**.000**
Conative	.417**	.413**	.262**	.387**	**.456****
Behavior	.000	.000	.000	.000	**.000**
Negative	-.008	-.083	.235**	-.161**	**-.015**
Effects	.879	.096	.000	.001	**.769**
Anxiety	.162**	.258**	.323**	.206**	**.290****
	.001	.000	.000	.000	**.000**
Self-assessment	.489**	.491**	.230**	.469**	**.520****
	.000	.000	.000	.000	**.000**
Overall	**.486****	**.519****	**.460****	**.467****	**.593****
	.000	**.000**	**.000**	**.000**	**.000**

Table 7. Significant relationship between self-regulation and intercultural communicative competence

Self-Regulation	Intercultural Communicative Competence				
	Skills	Attitude	Awareness	Knowledge	Total
Receiving Relevant Information	.463**	.549**	.551**	.525**	**.641****
	.000	.000	.000	.000	**.000**
Evaluating the Information and Comparing it to Norms	.518**	.545**	.460**	.523**	**.629****
	.000	.000	.000	.000	**.000**
Triggering Change	.543**	.595**	.526**	.583**	**.691****
	.000	.000	.000	.000	**.000**
Searching for Options	.592**	.659**	.449**	.639**	**.722****
	.000	.000	.000	.000	**.000**
Formulating a Plan	.460**	.607**	.582**	.561**	**.680****
	.000	.000	.000	.000	**.000**
Implementing the Plan	.483**	.583**	.548**	.531**	**.659****
	.000	.000	.000	.000	**.000**
Assessing the Plan's Effectiveness	.569**	.670**	.484**	.672**	**.739****
	.000	.000	.000	.000	**.000**
Overall	**.585****	**.679****	**.578****	**.651****	**.767****
	.000	**.000**	**.000**	**.000**	**.000**

Students' reading attitude are strongly correlated with intercultural communication skills, and reading perspectives appear to be shaped by experiences and personal reading histories. Additionally, a student's viewpoint on reading in a second language is influenced by their first language reading experience.

Furthermore, views toward reading, whether favorable or negative, also appear to be shaped

by cultural beliefs. A pupil may not develop a positive attitude toward reading in a culture that holds unfavorable opinions about reading. This argument emphasizes how important it is for parents, communities, and educators to establish favorable attitudes toward reading. Because each group is an integral element of the varied influence on a child, parents, teachers, and the community all play a key role in teaching and exhibiting a culture of reading [19].

3.6 Significant Relationship between Self-regulation and Intercultural Communicative Competence among Senior High School Students

With a total R-value of .767 and a *P* = .000 (significant), Table 5. shows the association between intercultural communication ability and self-regulation of Senior High School students in Region XI Division. This is significantly lower than the .05 significance criterion set in this study. As a result, the alternative hypothesis—which suggests that senior high school students' intercultural communication skill and self-regulation have a substantial relationship—is accepted and the null hypothesis is rejected.

According to the study, there is a significant correlation between students' intercultural communicative competence and self-regulation. This basically means that a lot of factors contribute to students' intercultural communicative competence, including getting pertinent information, evaluating and comparing information to standards, demonstrating change, looking for options, planning, carrying out plans, and evaluating the success of plans.

The concept of intercultural communicative competence (ICC) is closely related to self-regulation, and self-regulation is a major factor in the development of ICC. Students who can take charge of their own learning and establish goals for improving their communication skills in various cultural contexts are more likely to succeed in the long run in developing these skills. Moreover, ICC is not limited to being open-minded; it also includes having one's own convictions, understanding the process of expanding one's own culture, possessing knowledge and skills through new languages, and being able to pursue personal growth in this setting [20].

3.7 Significant Relationship between Technology-based Instruction for Effective Reading and Intercultural Communicative Competence among Senior High School Students

Table 5 shows the significant correlation—a total R-value of .803 and a *P* = .000 (significant), which is much lower than the .05 level of significance set for this study—between technology-based instruction for effective reading and intercultural communicative competence of Senior High School students in Region XI. Consequently, the hypothesis is rejected in favor of the alternative hypothesis, which shows a substantial correlation between senior high school students' intercultural communication competence and technology-based instruction for effective reading.

Overall, it is evident that there is a strong correlation between students' international communicative competence and technology-based instruction for effective reading. This suggests that students' international communicative skill is significantly influenced by the markers of technology-based instruction for effective reading, namely cognitive and metacognitive methods.

Table 8. Significant relationship between technology-based instruction for effective reading and intercultural communicative competence

Technology Based Instruction for Effective Reading	Intercultural Communicative Competence				
	Skills	Attitude	Awareness	Knowledge	Total
Cognitive Strategy	.592**	.728**	.427**	.711**	**.761****
	.000	.000	.000	.000	**.000**
Metacognitive Strategy	.646**	.737**	.402**	.730**	**.779****
	.000	.000	.000	.000	**.000**
Overall	**.645****	**.763****	**.432****	**.751****	**.803****
	.000	**.000**	**.000**	**.000**	**.000**

Technology-based instruction for effective reading and intercultural communicative skills are closely related. The latter can be leveraged to facilitate cross-cultural communication. Educators are essential in identifying workable answers and preventative measures for cross-cultural miscommunication. To execute the teaching of culture through literature in an effective manner, educators must look for appropriate approaches and strategies. Teachers should teach their pupils to communicate with people from various languages, identities, or cultures with greater empathy and decency, both in direct and indirect ways [21].

3.8 Significant Influence between Reading Attitude, Self-regulation, Technology-based Instruction for Effective Reading and Intercultural Communicative Competence of Senior High School Students

The intercultural communicative competence of Senior High School students in Region XI is significantly influenced by reading behavior, self-regulation, and technology-based instruction for effective reading, as demonstrated by Table 6's f-value of 319.650, R-value of .841, r² of .708, and $P = .000$, which is significantly lower than the .05 level of significance set for this study. The results show that 49% of the variance in the students' intercultural communicative competence that the regression model explains is represented by the adjusted R2 of .708. There could be other factors connected to the remaining 51% of the variation that are not covered in this study.

3.9 Regression Weights of the 3 Generated Models

With a regression weight of .077**, the first model illustrates the negative connection between intercultural communication competence and reading attitude. In the meantime, self-regulation has a positive association with intercultural communication competence, as evidenced by its regression weight of .302***. Finally, there is a link between students' intercultural communication competence and technology-based instruction for effective reading (a regression weight of 0.481***).

In contrast, the second model shows no significant link between intercultural communication competence and reading attitude, with a regression weight of .039NS. Furthermore, with a regression weight of .188**, there is no correlation between students' intercultural communication competence and self-regulation in this model. Regression weight of .553*** indicates a link between intercultural communication competence and technology-based instruction for effective reading, nonetheless.

With a regression weight of.607***, the third model only shows a positive correlation between technology-assisted reading and intercultural communication competence. The endogenous variable, the students' intercultural communicative skill, does not exhibit a link with either of the two exogenous variables: reading attitude (.054NS) or self-regulation (.092NS).

All things considered, senior high school students' intercultural communication skill is greatly influenced by their reading attitude, self-control, and technology-based instruction for effective reading. This suggests that the students' intercultural communicative competence is significantly influenced by these exogenous influences.

Table 9. Significant influence of between reading attitude, self-regulation, strategy-based instruction for effective reading and intercultural communicative competence

Intercultural Communicative Competence				
(Variables)	*B*	β	*t*	*Sig.*
Constant	.347		3.035	.003
Reading Attitude	.127	.106	2.850	.005
Self-regulation	.323	.302	6.244	.000
Strategy Based Instruction for Effective Reading	.425	.515	12.259	.000
R	.841			
R²	.708			
ΔR	.706			
F	319.650			
ρ	.000			

Table 10. Regression weights of the 3 generated models

	Exogenous Variables to Endogenous Variable		
Model	Reading Attitude	Self-regulation	Technology based Instruction for Effective Reading
1	.077**	.302***	.481***
2	.039[NS]	.188**	.553***
3	.054[NS]	.092[NS]	.607***

Students who possess higher intercultural communication competence have a better knowledge of the course material and are more confident in their ability to get academic support and guidance from classmates and advisors, which can alleviate academic pressure [22]. It is seen to be crucial for students to build their intercultural communicative ability in authentic learning settings. Improving their professional communication abilities can lead to fantastic employment chances [23].

3.10 Best Fit Model for Intercultural Communicative Competence of Senior High School Students

The investigation of the connection between reading attitude, self-regulation, and technology-based instruction for effective reading on intercultural communicative ability is the focus of this section. To determine which model best suited senior high school students' intercultural communicative competence, three models were put to the test.

The relationship between the exogenous variables—reading attitude, self-regulation, and technology-based instruction for effective reading—and their causal association with international communicative competence is illustrated by the theoretical structural model 1, which is displayed in the supplemental material. It shows how the predictors have a direct impact on the dependent variable, which is the students' intercultural communication competence. Since no index reached a level that was deemed sufficient, it was determined that this model was inadequate and weak.

The exogenous variables—reading behavior, self-regulation, and technology-based instruction for effective reading—and their direct causal linkages with intercultural communicative competence are presented in the theoretical structural model 2, which is also displayed in the supplemental material. The intercultural communicative skill of the students is the dependent variable in this model, and it shows the direct effects of the predictors on it. But none of the metrics were up to par. As a result, Model 2 is likewise thought to be weak.

The best fit for the data was shown by the theoretical structural model 3. The following values support this: P =.144, RMSEA =.026, CMIN/DF = 1.262, P = 0.971, and indices like NFI (.987), TLI (.995), CFI (.997), and GFI (.981). Every index and its related value is more than 0.95 or satisfies the goodness of fit metrics standards. It is determined that Model 3 is the most appropriate model for intercultural communicative skills, negating the need to examine the other models further. As so, the hypothesis is disproved.

All indices must fall within acceptable ranges to determine which model is the most appropriate. A P = 0.05 and a chi-square/degrees of freedom value less than 5 are required. The related p-close should be more than 0.05 and the root mean square approximation (RMSEA) value should be less than 0.05. It is recommended that other indices, including the goodness of fit index (GFI), comparative fit index (CFI), Tucker-Lewis index (TLI), and normed fit index (NFI), be greater than 0.95.

Table 11. Summary of the goodness of fit measure of the three structural models

Model	P-value (>0.05)	CMIN / DF (0<value<2)	GFI (>0.95)	CFI (>0.95)	NFI (>0.95)	TLI (>0.95)	RMSEA (<0.05)	P-Close (>0.05)
1	.000	10.446	.726	.791	.774	.757	.154	.000
2	.000	5.937	.786	.893	.875	.873	.111	.000
3	.144	1.262	.981	.997	.987	.995	.026	.971

Legend: CMIN/DF – Chi Square/Degrees of Freedom NFI –Normed Fit Index, GFI – Goodness of Fit Inde, TLI -Tucker-Lewis Index, RMSEA –Root Mean Square of Error Approximation CFI– Comparative Fit Index
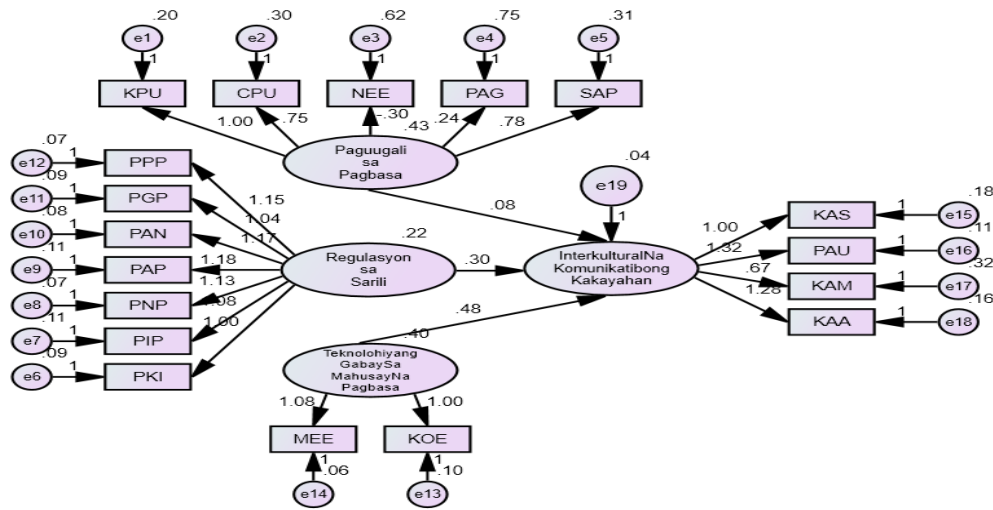
Fig. 2. Best fit model for intercultural communicative competence of senior high students

4. CONCLUSION

The intercultural communication ability of the pupils is significantly correlated with the factors of reading attitude, self-regulation, and technology-based instruction for effective reading. As a result, the null hypothesis is rejected. The model that showed the greatest match for the data among the three examined was Model 3, which also exhibited consistent indices. As a result, it was acknowledged as the most suitable model. Since all of the indices satisfied the predetermined criteria when compared to the values derived from the most appropriate model, the goodness of fit results for model 3 are satisfactory.

Because the analysis for this particular model was done in a sequential manner, the study was strengthened by the usage of the structural equation model. The findings demonstrated high levels of intercultural communicative ability, reading attitude, self-regulation, and technology-based instruction for effective reading. This shows that the Senior High respondents in Region XI agree with the attitudes and skills mentioned in these factors and frequently display them.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of manuscripts.

ETHICAL APPROVAL

Permission from Organization/Location, and Technology Issues were thoroughly followed as stipulated by the University of Mindanao Ethics Review Committee. Certification was issued to the researcher with the number UMERC-2024-140 for the implementation of the study.

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COMPETING INTERESTS

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