Digital Readiness, Academic Motivation, Learning Strategies: A Structural Approach to Motivation in Writing Performance of Freshmen College Students

ABSTRACT

Aims: To determine the best influencing motivation in the writing performance of students in Region 12, in the Philippines.
Study design: This research used the descriptive-causal design.
Place and Duration of Study: The study was conducted among freshmen students from different universities in Region 12 during the school year 2021-2022.
Methodology: The respondents of the study were 400 selected freshmen students from different universities in Region 12. The respondents were chosen using stratified random sampling.
Results: The results of the study showed that the level of digital readiness, academic motivation, learning strategies, and motivation in writing performance were high. Likewise, the data revealed that digital readiness, academic motivation, and learning strategies had a significant relationship with motivation in students' performance. The result of structural equation modeling (SEM) revealed three exogenous variables which had significant influences as predictors of motivation in writing performance. However, among the five models, model 5 appeared to be the most suitable model of motivation in writing performance because all its indices met the set criteria against the obtained model fit value.
Conclusion: The high level of digital readiness implies that have conducted the foundation regarding the use of digital equipment. Likewise, the high level of academic motivation among students indicates that teachers ensure that there are feedbacks that the students receive regarding the submitted work so that they can be guided in what they are doing. The high level of learning strategies is contributed to the teachers' having consultation time so that students can ask questions about things they do not understand well. Lastly, the student's high level of motivation in writing indicates that teachers used different writing strategies. The study implies that the writing performance of freshmen college students is better achieved if it is anchored on digital readiness, academic motivation, and learning strategies.

Keywords: Education, academic motivation, learning strategies, motivation in writing performance, SEM, Philippines

1. INTRODUCTION

One language skill that is important to academic success is writing because it is an active and productive skill for language learners (Hussin, 2015). Writing performance is a great opportunity for students to become proficient in the way of writing in various fields and should be given opportunities to develop their motivation in writing performance (Renau, 2016; Duran & Dokme, 2016; Elsayed, 2017; cited by Rezeq, 2020. When a student has difficulty writing, his or her self-confidence, self-efficacy, and motivation may also decrease, further hindering their learning process and affecting writing performance (Kırmızı & Kırmızı 57-66).

According to Olanezhad (2015), writing performance is important because it helps people to express their achievements, goals, and vision. Students are expected to learn, prepare assignments, and projects and interact with others. Additionally, Mingo (2000) said that having the ability to organize ideas and write objectively is just one of the benefits of writing. Add to that the pleasure of discovering new knowledge and an opportunity to contribute knowledge to the society we belong to. Students' writing performance is very important in achieving their goals in life as professionals, so it is only appropriate to study what factors can help to cultivate it.

On the other hand, the purpose of a study is to fill the gap in the existing literature by examining, in-depth, the relationship between the use of digital applications and its effect on motivation in writing performance (measured by score) and various text characteristics under the assessment context. In addition, based on the results of the study by Gong et al. (2022), the data support that the idea of using digital has been beneficial for various stakeholders, including practitioners, researchers, practitioners, and policymakers. They also have implications for teaching and learning writing in a digital classroom, as well as providing appropriate feedback on improving students' writing performance and motivational skills. Based on Vygotsky's Sociocultural Theory, in terms of technology, word processing software has long been useful in teaching writing (for example Microsoft Word), however, with the increasing application of technology in the 21st century that allows for online work, storage, and document sharing across platforms, devices, and users, a new set of opportunities for improving writing instruction has emerged.

Meanwhile, the author looks at academic motivation to see what instructional strategies are related to students' writing performance. The authors found that students were more active and engaged when teachers used more motivating teaching tactics. Students will perform better in writing if they are encouraged more by teachers according to Lam and Yin 145-164 which was cited in the study by Xing (2018). On the other hand, a study on learning strategies that self-regulation assessed the effects of a five-month writing instruction program and found some positive results in terms of motivation in second language writing performance, and academic self-efficacy. Students became more active in developing different self-regulation strategies and this strategy was effective according to the educational program, improved writing performance skills, and created positive self-esteem in writing (Teng & Zhang, 2018). Learning strategies are an important component of success in the classroom, but little research exists that examines differences across key domains regarding teachers' use and emphasis on learning strategies (Dumford et al. 2016). The Social Constructivism theory proposed by Piaget emphasizes our knowledge and how to build it. In addition, the theory of learning Social Constructivism proposed by Vygotsky (1978) which gives -emphasizes the need for social interaction.

The researcher chose to focus on the Digital Readiness for Academic Engagement (DRAE) Scale because according to Hong and Kim (2018), it measures college students' digital readiness for engagement in academic terms, and perceived digital competence for academic work. The study of digital readiness contains the following indicators: Digital tool application refers to digital programs, websites, or online resources that can make tasks easier to complete. Many of these can be accessed in web browsers without the need to download and can be accessed both at home and work. Digital application usage is a method to access, store, acquire, create, analyze, communicate and participate in collaborative networks using the Internet and share information.

On the other hand, digital media awareness refers to the ability to recognize and analyze digital content in a digital media context which is considered a small part of digital readiness for academic engagement. The information seeking skills refers to the process of

considering and identifying all possible sources of information, including the exact sources that are the types of information that will be needed. The information-sharing behavior is a collaboration and basis for the cooperation of people, collaboration, and collective action, it will contribute to the compression of knowledge, transparency, and initiation of openness in the process, and the efficiency in technology information acquisition.

For academic motivation, validating the inventory of school Motivation with Mainland Chinese students by Li (2017) contains the following indicators: The task refers to students' perceptions of the interest, usefulness, importance, and value of a task. The effort is related to interest in the task and level of willingness to work hard in school. Competition is a mental concept that can be interpreted in different ways, such as a person's value, character, or motivation. Social power refers to individual goals to dominate others and assumes leadership roles. Meanwhile, affiliation is the belief that people want to belong to a group or organization. Social concern related to individuals' preference for cooperation with other students and seeking success in a supportive and caring group. Praise is a tool used by teachers to increase students' intrinsic motivation to engage in positive behavior and tokens are related to individuals' goals to seek social recognition and tangible rewards.

The learning strategy, learning strategies, learning anxiety, and knowledge acquisition, by Warr and Downing (2000) contain various indicators. cognitive learning strategy, behavioral learning strategy, and self-regulatory strategy. Cognitive learning strategies are strategies that enhance a learner's ability to process information more deeply, transfer and apply information to new situations, and result in improved and sustained learning. Behavioral learning strategy is a popular concept that focuses on how students learn. Behaviorism focuses on the idea that all behavior is learned through interaction with the environment. Self-regulatory strategies are those used by students to select, monitor, and use learning strategies.

The latent endogenous variable is the motivation in the writing performance of first-year college students adapted from the study of Lam & Law (2007) with six indicators: challenge, real-life significance, curiosity, autonomy, recognition, and evaluation. Testing for students is most motivated when they expect to complete a writing task that they value. The importance of real life in writing performance has been criticized by Bruning and Horn (2000), that the reality of writing in schools often occurs in unnatural situations and many writing assignments, such as summarizing chapters and books, completion of essay tests, and composition of term papers, is the work of the teacher.

In addition, curiosity plays an important role in the development of intelligence, wisdom, happiness, meaning in life, stress tolerance, and satisfying and engaging social relationships In autonomy, encourage students to write, teachers can allow more autonomy, the writing processes, such as giving freedom to choose content, and style. Recognition is a need to appreciate teachers who have worked hard and recognize the achievements of students in improving themselves. Assessment, on the other hand, is the assessment process used to determine the merit or value of a student's writing output or performance.

In the diagram, the relationship between digital readiness, academic motivation, learning strategies, and motivation on the writing performance of First Year College students is shown.

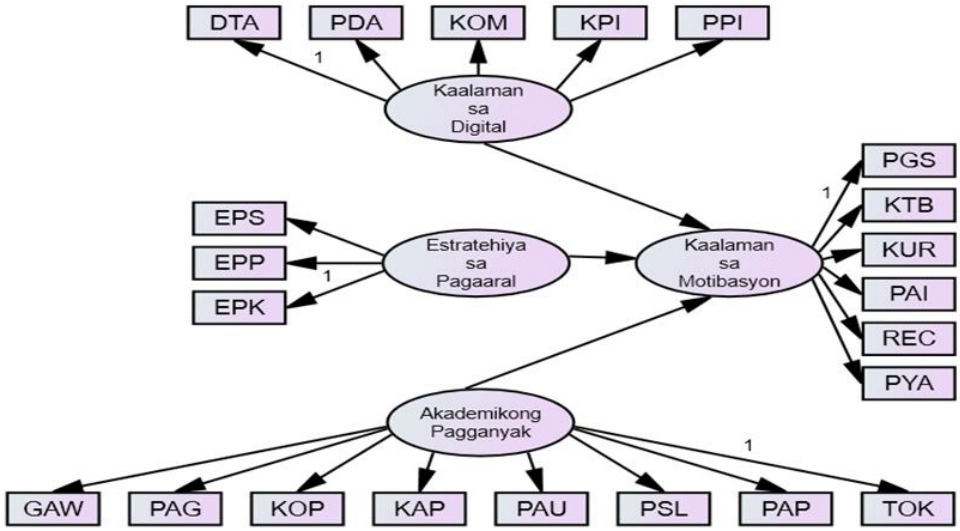

Figure 1. The relationship between digital readiness, academic motivation, learning strategies, and motivation on the writing performance

LEGENDS:

DTA-digital tool application	KOM-competition	EPK-cognitive learning strategies
PDA- digital tool application usage	KAP-social power	EPS-self-regulatory strategies
KOM-Digital media awareness	PAU-affiliation	EPP-behavioral learning strategies
KSPI-Information-seeking skills	PSL-social concern	PGS-challenge
PPI-Information-sharing behavior	REC-recognition	KTBreal-life significance
GAW-task	PYA-evaluation	PAA-curiosity
PAG-effort		PSA-autonomy

It is a big challenge for the student in the First Year of College because the performance in Filipino subjects is to write different types of academic writing. Therefore, this study wants to ensure motivation in writing performance that has a great influence on students to achieve the performance requirement in the subject. Although there have been studies related to digital readiness, (Hong& Kim, 2018), academic motivation (Li, 2017), learning strategies (Warr & Downing, 2000) of students, and measuring the level of motivation in writing performance (Lam & Law, 2007), no research has been conducted regarding measuring motivation in students' writing performance with the help of the aforementioned variables in a structural approach, therefore, it requires urgent study. Thus, identifying a research gap in this approach. There is a need to study the exogenous variable and its relationship with the endogenous variable.

This study aimed to investigate the most appropriate model of students' knowledge of motivation in writing performance. This study also aims to answer the following questions: To know the level of knowledge of digital readiness of college students through digital tool application, use of the digital application, digital media awareness, information seeking skills, and information sharing behavior. To know the level of academic motivation of college students through task, effort, competition, social power, contact, social concern, praise, and token. To measure the level of learning strategy through mental development strategy, behavioral learning strategy, and self-regulation strategy. To ensure the level of motivational knowledge in college students' writing performance through challenge, real-life significance, curiosity, autonomy, recognition, and evaluation. Identify the significant relationships between digital readiness and motivation in writing performance, academic motivation and motivation in writing performance, and learning strategies and motivation in writing performance. There was no combined and single influence of the level of digital knowledge on college students' learning readiness, academic motivation, and learning strategies on knowledge motivation on students' writing performance in college Finally, find out the most

appropriate motivational model for writing performance. Lastly, find out the most appropriate motivational model for writing performance.

In the field of education, the welfare of students is always considered. The discovery and research on different methods of effective learning continue to realize the goal of every academic institution to obtain a useful and quality education, especially during the pandemic. Functional writing skills also support students in expanding their thoughts, organizing their knowledge, enriching their intelligence, and improving their knowledge by engaging in thought processes and providing -allowing them to write at a higher level.

2. MATERIAL AND METHODS

2.1 Respondents

The respondents of this study were the 400 students who came from different universities of Region 12 and were officially enrolled in the Filipino subject as freshmen College during the Academic Year 2021-2022. They came from the universities of Tacurong City, General Santos City, and North Cotabato. To determine the 400 participants, the researcher followed the rule of thumb was followed as advised by Parsons (2017), and stratified random sampling was used. Only the students who were named were included in the stratified sampling technique. Regarding the number of participants, there were several arguments from experts. Ismael (2013), explained that there must be 400 participants to prove a connection. According to Frankel et al. (2012), the minimum acceptable sample size of less than 400 can result in an inaccurate level result in the correlation of variables.

Freshmen college students who were studying outside of the research colleges and universities were not part of the number of respondents. Students who were in the mentioned college; however, not taking Filipino subjects were also not considered respondents. Some students voluntarily participated in the conducted research but without consent from their parents or guardians were also not allowed to participate in the study. Students who failed to attend the orientation conducted regarding the required information were also not allowed to participate. Since it was a proportional percentage, the number of respondents from each college or university varied depending on the number of groups and the total number of populations.

2.2 Research Instrument

Survey-questionnaire was the main instrument used in this study. To ensure the validity of the instrument created, the researcher approached his advisor and panel of experts and corrected the questionnaire. The instrument underwent pilot testing. Each item was analyzed and presented to the statistician to assess the validity of each item. The "Cronbach alpha procedure" was used to determine the "validity of the items".

The instrument was divided into four. The first part was from the "College Students' Digital Readiness for Academic Engagement (DRAE) Scale: Scale Development and Validation adapted from a previous study by Hong and Kim (2018). The second part was the Academic Motivation adapted from previous studies Validating the Inventory of School Motivation with Mainland Chinese Students by Li (2017). The third part was the learning strategy from the questionnaire developed from the study of Learning strategies, learning anxiety, and knowledge acquisition by Warr and Downing (2000). The fourth part was the motivation in writing performance used from The roles of instructional practices and motivation in writing performance by Lam and Law (2007) which had six indicators. The responses for each learning indicator item were used with the following scales, descriptive equivalents, and interpretations:

Chart 1: Academic Engagement (DRAE) Scale

Range of Mean	Level	Interpretation
4.20- 5.00	Highest	Consistently demonstrates digital readiness, academic motivation, learning strategies, and motivation in writing performance.
3.40- 4.19	High	Often demonstrates digital readiness, academic motivation, learning strategies, and motivation in writing performance
2.60- 3.39	Medium	Occasionally demonstrates digital readiness, academic motivation, learning strategies, and motivation in writing performance.
1.80- 2.59	Low	Rarely demonstrates digital readiness, academic motivation, learning strategies, and motivation in writing performance
1.00- 1.79	Lowest	Never demonstrated digital readiness, academic motivation, learning strategies, and motivation in writing performance

2.3 Data Gathering Procedure

Several methods were used to collect the data used in the study. The first procedure was obtaining consent to administer the study. The consent was obtained from the University of Mindanao Ethics Review Committee (UMERC). After receiving certification from UMERC, the researcher conducted pilot testing. The questionnaire was validated by six expert validators with an overall rating of 4.83 or Excellent. After validation, pilot testing was conducted. Cronbach alpha was used to evaluate the validity of the questionnaire in the following dimensions: digital readiness (.851), academic motivation (.861), learning strategy (.948), and motivation in writing performance (.906).

2.4 Research Design

This study used a quantitative causal research method using the appropriate Structural Equation Model because it gathered the different types of quantitative data about digital readiness knowledge, academic motivation, learning strategies, and motivation in writing performance. As variables, Oppewal (2010) defined causal research as explanatory research that investigates the causes and effects of relationships. To determine causation, it was important to observe the difference in the variable that was hypothesized to cause the change in other variables, and then measure the changes in the other variables. Similarly, the method measured and described statistical associations of variables with different scale levels (Crossman & Hardesty, 2018; Ullman & Bentler, 2003). Compared to other statistical methods, structural equation modeling is one of the more complex methods of data analysis in that determine a structure for the covariance between independent variables, giving the alternative name of covariance. Thus, it offers more meaningful and valid results according to Collier (2020). It is an advanced multivariate technique to examine multiple causal relationships between variables simultaneously.

By using the Structural Equation Model (SEM) in the study, the study was strengthened by integrity and rigor because the analysis goes through the steps of model specification, data collection, model estimation, model analysis, and possible model modification. Thus, when the hypothesized model was rejected based on the goodness of fit statistics, an alternative model that fits the data needs to be created (Iacobucci, 1990).

The goodness of Fit Statistics for Alternative Models by Analysis of Moment Structure (AMOS). To determine the most appropriate model, all the presented important signs must be aligned with the following criteria:

Chart 2: Descriptive statistics

Chi-Square/Degree of Freedom (CMIN/DF)	0 < value < 2
P Value	>.05
Normative Fit Index (NFI)	>.95
Comparative Fit Index (CFI)	>.95
Goodness of Fit Index (GFI)	>.95
Tucker-Lewis Index	>.95
Root Mean Square Error of Approximation (RMSEA)	<.05
P-close	>.50

2.5 Statistical Tools

In interpreting the data, the researcher used the following statistical tools:
Mean. It was used to describe digital readiness, academic motivation, learning strategies, and motivation in writing performance.
Standard Deviation. It was used to measure the dispersion of a frequency distribution.
Pearson Product Moment Correlation. It was used to determine the significance of the relationship between digital readiness knowledge, academic motivation, learning strategies, and motivation in writing performance.
Multiple Regression. It was used to identify significant predictors of motivation in writing performance.
Structural Equation Model. It required the use of SEM to research the best and most appropriate model. In factor analysis, it is necessary to perform factor analysis on the latent variables to suggest a cut-off value of 0.50 while Ullman and Bentler (2003) use 0.45 in modeling construction safety culture. The essence of the test according to Savalei and Bentler (2006) is to ensure the elimination of characteristics with low correlations with the characteristics of other latent factors in the final SEM. The cut-off value is affected by the sample size but a range of 0.45 to 0.50 would be considered appropriate. In addition, this tool was used to determine the model that best fits the knowledge of motivation in writing performance.

3. RESULTS AND DISCUSSION

3.1 Level of Digital Readiness

Table 1 shows the level of the digital readiness of first-year college students from different colleges and universities in Region 12. It has a mean range of 3.79- 4.26 with an overall mean of 4.00 with a high descriptive level and a corresponding standard deviation of 0.61 and it simply means that the respondents often demonstrate digital readiness. This means that students often demonstrate digital readiness such as digital tool application, digital media awareness, and information-seeking skills. The use of digital application tools is one of the most important tools available to students today through cell phones, laptops, computers, and projectors. By searching for information, you will find what you are looking for information unlike before when books were still needed to find the necessary information. In other words, technology helps everyone speed up various activities in daily life.

Table 1. Level of Knowledge of Digital Readiness of College Freshmen Students

Indicator	SD	Mean	Descriptive Level
Digital tool application	0.72	3.79	High
Digital application usage	0.74	4.26	Very High

Digital media awareness	0.73	3.83	High
Information seeking skills	0.77	3.92	High
Information sharing behavior	0.72	4.22	Very High
Overall	0.61	4.00	High

The use of digital technology, digital media awareness, and information-seeking skills improve students' writing performance. It also facilitates teaching as management and developing relevant skills in disadvantaged societies. Depending on the current needs of society. Knowledge about the digital use of technologies in the university is important for academic success (Kange, 2020).

3.2 Level of Academic Motivation of Freshmen College Students

Table 2 shows the level of academic motivation with a mean range from 2.88-4.38 with an overall mean of 3.79 with a standard deviation of 0.58. It has a descriptive level that is high meaning that the respondents often demonstrate academic motivation with indicators of the task, effort, competition, social power, contact, social concern, praise, and token.

In this regard, respondents often demonstrate academic motivation such as affiliation, praise, and tokens. This indicates that students are more active and engaged when teachers use more motivating teaching tactics such as praise and giving simple tokens. Students will perform better in writing if they are encouraged more by teachers according to a study by Xing (2018).

Table 2. Level of Academic Motivation

Indicator	SD	Mean	Descriptive Level
Task	0.75	4.38	Very high
Effort	0.68	4.22	Very high
Competition	0.98	3.09	Moderate
Social Power	1.08	2.88	Moderate
Affiliation	0.77	4.03	High
Social concern	0.72	4.26	Very high
Praise	0.84	3.85	High
Token	0.95	3.65	High
Overall	0.58	3.79	High

In a study, it was discovered that the affiliation between the teacher and the student is important to the student's motivation. Academic motivation is important in all courses, and it should be implemented through communication and writing, the meaning of the learning process, enjoyable thinking activities, and valuing the learning process (Griffin, 2016; Tang, 2016; 193-202; Widodo et al. 2018).

3.3. Level of learning strategies

Table 3 describes the level of learning strategies of college students with a mean range from 3.93- 3.99 with a total mean score of 3.97 and a standard deviation of 0.63 which is high which means that the respondents often exhibit the learning strategy with the indicator cognitive learning strategies, behavioral learning strategies, and self-regulatory strategies. This means that students often demonstrate learning strategies such as cognitive learning strategies, behavioral learning strategies, and self-regulatory strategies. A student learns in many ways–by seeing or hearing, by reasoning with the mind, and by memorizing and outlining. How much each student learns in each class depends on their natural learning capacity, on how a student adapts and adapts to his environment, and on the way the teacher uses different strategies.

Table 3 Level of learning strategies of Freshmen College Students

Indicator	SD	Mean	Descriptive Level
Cognitive learning strategies	0.67	3.99	High
Behavioral learning strategies	0.67	3.98	High
Self-regulatory strategies	0.66	3.93	High
Overall	0.63	3.97	High

High-level learning strategies can be linked to an articulation of learning. A study on learning strategies focused on self-regulation as an indicator to assess the effects of a five-month writing instruction program and found some positive results in terms of second language writing performance, and fluency. self academically. In addition, it helped students develop a deeper understanding of the effectiveness of self-regulation strategies from a multi-dimensional perspective, understood the breadth of the methods of this strategy, improved their motivational skills in writing performance, and created positive self-esteem in writing (Teng & Zhang, 2018).

3.4 Knowledge Level Motivation in Writing Performance

Table 4 shows the level of knowledge of writing performance of first-year college students with a mean range from 3.90-4.18 with an overall mean of 4.04 and a standard deviation of 0.72. which means high often demonstrates motivation in writing performance such as challenge, real life-significance, curiosity, autonomy, recognition, and evaluation. It means that students often show motivation in writing performance such as challenge, real-life significance, curiosity, autonomy, recognition, and evaluation. For example, giving a test serves as a teacher's measure of whether the strategies he used in teaching have been effective, a basis for giving a grade, and also a basis for achieving the harmony intended for the lessons.

Table 4. Level of motivation in writing performance of college students

Item	SD	Mean	Descriptive Level
Challenge	0.82	4.09	High
Real-life significance	0.78	4.18	High
Curiosity	0.80	3.90	High
Autonomy	0.86	3.98	High
Recognition	0.83	4.15	High
Evaluation	0.86	3.97	High
Overall	0.72	4.04	High

The motivation in writing performance is that students have a great opportunity to be good at writing in various fields and should be given opportunities to develop their motivation in writing performance (Renau, 2016, Duran & Dokme, 2016; Elsayed, 2017 cited in Rezeq, 2020). When a student has difficulty writing, his self-confidence, self-efficacy, and motivation may also decrease, further hindering their learning process and affecting writing performance according to Kırmızı and Kırmız (2015). In a study conducted by Mingo 4, the writing performance of students is very important in achieving their goals in life as professionals, so it is only appropriate to study what are the factors that help to cultivate it.

3.5 Significance of the Relationship between Digital Readiness and Motivation in Writing performance

Table 5.1 shows the significant relationship between digital knowledge and motivational knowledge in students' writing performance with a total r-value of .662 with a corresponding probability value of .000 which is more than the .05 significance level set in this study. Then

the hypothesis is rejected and conforms to the alternative hypothesis that there is a significant relationship between digital knowledge and motivation in students' writing performance. This simply means that when digital literacy is high, students' writing performance and motivational knowledge are also high.

Table 5.1. Significance of the Relationship between Digital Readiness and Motivation in Writing performance

Knowledge on Digital	Knowledge of Motivation in Writing Performance						
	PGS	KTB	KUR	PAI	REL	PYA	Total
DTA	.350**	.405**	.405**	.382**	.390**	.431**	.451**
	.000	.000	.000	.000	.000	.000	.000
PDA	.445**	.489**	.485**	.421**	.474**	.433**	.523**
	.000	.000	.000	.000	.000	.000	.000
KOM	.434**	.459**	.443**	.462**	.485**	.494**	.531**
	.000	.000	.000	.000	.000	.000	.000
KPI	.497**	.499**	.499**	.491**	.537**	.533**	.583**
	.000	.000	.000	.000	.000	.000	.000
PPI	.557**	.575**	.559**	.537**	.574**	.516**	.632**
	.000	.000	.000	.000	.000	.000	.000
Total	.556**	.590**	.582**	.558**	.599**	.586**	.662**
	.000	.000	.000	.000	.000	.000	.000

Legends:
DTA- digital tool application
PDA- digital application usage
KOM- digital media awareness
KPI- information-seeking skills
PPI- information sharing behavior
PGS- challenge
KTB- real-life significance
PAI- autonomy
KUR- curiosity
REC- recognition
PYA- evaluation

In further analysis, digital readiness in digital tool application behavior has a significant relationship with knowledge motivation in writing performance with a total R-value of .451 and with a p-value of .000 (significant).

The use of digital tool applications has a significant relationship with the knowledge of motivation in writing performance with a total R-value of .523 and with a p-value of .000 (significant); Awareness of digital media has a significant relationship with the knowledge of writing performance overall with an r-value of .531 and a p-value of .000 (significant); Information seeking skills have a significant relationship with the knowledge of writing performance with a total R-value of .583 and a p-value of .000 (significant); Information sharing behavior has a significant relationship with the knowledge of writing performance with a total R-value of .632 and a p-value of .000 (significant.)

The total that obtained the highest correlation with knowledge of motivation in writing performance was the recognition of digital knowledge of college students with an r-value of .599 and with a p-value of .000 (significant). The one that scored the lowest was the test with an r-value of .556 and a p-value of .000 (significant).

In this regard, according to Purcell et al. (2013), almost all Advanced Placement (AP) and National Writing Project (NWP) teachers asked and said they encourage their students to complete at least some writing by hand even if it is easy to write with the digital tool application. Many teachers say this is an important skill for children to have because they have to write by hand on standardized tests. Other teachers assert that writing by hand encourages students to improve writing performance and engage in more active thinking, synthesis, and editing, and prevents any work that copies the work of other people.

3.6 Significant Relationship between Academic Motivation and Knowledge of Freshmen College Students

Table 5.2 presents the relationship between academic motivation and knowledge motivation in the writing performance of first-year college students in the universities of region 12 with an overall r-value of .635 and a p-value of .000 (significant) which is well below the .05 significance level set in this study.

Table 5.2. Significant Relationship between Academic Motivation and Knowledge of College Freshmen Students

Academic Motivation	Knowledge of Motivation in Writing Performance						
	PGS	KTB	KUR	PAI	REL	PYA	Total
GAW	.530** .000	.504** .000	.447** .000	.477** .000	.516** .000	.513** .000	.570** .000
PAG	.515** .000	.593** .000	.527** .000	.478** .000	.543** .000	.512** .000	.603** .000
KOP	.142** .004	.162** .001	.210** .000	.248** .000	.153** .002	.204** .000	.214** .000
KAP	.195** .000	.180** .000	.213** .000	.228** .000	.210** .000	.256** .000	.245** .000
PAU	.454** .000	.517** .000	.460** .000	.466** .000	.470** .000	.422** .000	.531** .000
PSL	.533** .000	.588** .000	.537** .000	.486** .000	.541** .000	.489** .000	.604** .000
PAP	.405** .000	.476** .000	.439** .000	.462** .000	.447** .000	.470** .000	.515** .000
TOK	.312** .000	.319** .000	.337** .000	.356** .000	.335** .000	.344** .000	.383** .000
Total	.531** .000	.571** .000	.550** .000	.560** .000	.554** .000	.561** .000	.635** .000

Legends **:**
GAW- task
PAG- effort
KOP- competition
KAP- social power
PAU- affiliation
PSL- social concern
PAP- praise
TOK-token
PGS- challenge
KUR- curiosity
PAI- autonomy
REC- recognition
PYA- evaluation
KTB- real-life significance

Therefore, the hypothesis is rejected and conforms to the alternative hypothesis that there is a significant relationship between academic motivation and motivation in writing performance. This simply means that when academic motivation is high, students' writing performance motivation is also high. In detailing the data, there is a significant relationship between task and motivation in writing performance with an r-value of .570 and a p-value of .000 (significant). Still related, the effort has a significant relationship with motivational knowledge in writing performance with an r-value of .603 and a p-value of .000 (significant). Competition has a significant relationship with the knowledge of motivation in writing

performance with an r-value of .214 and a p-value of .000 (significant); Social power has a significant relationship with knowledge motivation in writing performance with an r-value of .245 and a p-value of .000.

In addition, affiliation has a significant relationship with knowledge motivation in writing performance. which has an r-value that has an r-value of .531 and a p-value of .000 (significant). Meanwhile, social concern has a significant relationship with motivational knowledge in writing performance with an r-value of .6.4 and a p-value of .000 (significant). Praise, on the other hand, has a significant relationship with motivational knowledge in writing performance with an r-value of .515 and a p-value of .000. In addition, there is also a significant relationship between token and motivation in writing performance with an r-value of .383 and a p-value of .000 (significant).

The one with the highest significant correlation with knowledge of motivation in writing performance is the real-life significance in academic motivation with an r-value of .571 and a p-value of .000 (significant). The one that scored the lowest was the test with an r-value of .531 and a p-value of .000.

Student motivation and engagement in second language writing is generally unmotivated to write especially in English and those who are motivated to write in a second language have a positive effect on student achievement, Yu (2019). Tran (2007), showed that Vietnamese students with strong motivation have good potential to write in a free, creative, and enthusiastic way in the context of EFL writing. Lee et al. (2018) on the other hand, found that while less skilled students lost motivation and showed lower self-confidence but better students were motivated and showed self-efficacy in writing performance than other students**.**

3.7 Significant Relationship between Learning Strategies and Knowledge of College Students' Writing Performance

Table 5.3 shows the significant relationship between learning strategies and knowledge of motivation in the writing performance of first-year college students in the universities of region XII with a total R-value of .803 and with a p-value of .000 (significant) which is well below the .05 significance level set in this study. If so, the hypothesis is rejected and conforms to the alternative hypothesis that there is a significant relationship between learning strategies between students' writing performance motivation. It just means that when the learning strategy is high, the motivation in writing performance is also high.

Table 5.3. Significant Relationship between Learning Strategies and Knowledge of College Students' Writing Performance

Learning Strategies	Knowledge of Motivation in Writing Performance						
	PGS	KTB	KUR	PAI	REL	PYA	Total
EPK	.633**	.674**	.635**	.652**	.632**	.649**	.739**
	.000	.000	.000	.000	.000	.000	.000
EPP	.674**	.716**	.664**	.652**	.675**	.664**	.771**
	.000	.000	.000	.000	.000	.000	.000
EPS	.635**	.702**	.671**	.648**	.655**	.647**	.755**
	.000	.000	.000	.000	.000	.000	.000

Total	.689**	.741**	.698**	.692**	.695**	.695**	.803**
	.000	.000	.000	.000	.000	.000	.000

Legend:
EPK-- Cognitive learning strategies
EPP- Behavioral learning strategies
EPS- Self-regulatory strategies
PGS- challenge
KTB- real-life significance
KUR- curiosity
PAI- autonomy
EC- recognition
PYA- evaluation

In presenting the details of the data, there is a significant relationship between the cognitive learning strategies between challenge, real-life significance, curiosity, autonomy, recognition, and evaluation with an r-value of .739 and with a p-value of .000 (significant); which means that there is a significant relationship between cognitive learning strategies and motivational knowledge in students' writing performance. In addition, there is a significant relationship between behavioral learning strategies and knowledge of motivation in writing performance with an r-value of .771 and a p-value of .000 (significant) which means that the strategy has a significant relationship in behavioral learning in knowledge motivation in students' writing performance.

In the same perspective, self-regulatory strategy is also significant between knowledge of writing performance with an r-value of .775 and a p-value of .000. which means that self-regulatory strategy has a significant relationship with motivational knowledge in students' writing performance. The highest obtained knowledge of motivation in writing performance is the real-life significance in the learning strategy with an r-value of .741 and a p-value of .000. The one that scored the lowest was the test with an r-value of .689 and a p-value of .000.

Previous studies have proven that learning strategies, especially self-regulation strategies, are a tool that provides significant support for students' writing performance. During the writing process, the self-regulatory strategy will work and maintain students' cognition, meta-cognition, and socio-behavioral aspects. Self-regulatory strategies also stand as a strong predictor of students' writing performance success (Mastan, 2017).

Table 6. Significant Influence of Digital Literacy, Academic Motivation, Knowledge Learning Strategies on Motivation in Writing Performance of College Students

Knowledge of Motivation in Writing Performance					
Exogenous Variables		*B*	β	*t*	*Sig.*
Constant		-.015		-.097	.923
Knowledge on digital		.194	.163	3.821	.000
Academic motivation		.120	.097	2.285	.023
Learning strategies		.712	.620	13.428	.000
R	.817				
R^2	.667				
∆R	.664				
F	264.273				
ρ	.000				

Table 6 shows the significant influence of digital readiness, academic motivation, and

motivational learning strategies on the writing performance of first-year college students in the universities of region XII with an F-value of 264.273, R-value of .817 and R2 of .667 and p-value of .000 which is well below the .05 level of significance set in this study. The details in the result pointed to digital readiness in standardized and unstandardized coefficients of .194 and .163, t-value of 3.821 and p-value of .000 (significant); academic motivation with standardized and unstandardized coefficients of .120 and .097, t-value of 2.285 and p-value of .023 (significant); learning strategies with standardized and unstandardized coefficients of .712 and .620, t-value of 13.428 and p-value of .000 (significant). It only indicates that the three exogenous variables are predictors and have a significant contribution to the knowledge of motivation in students' writing performance.

According to Alhusban (2016), technology allows students to improve their motivation in writing performance by including precise descriptions and by encouraging self-revision. In addition, using technology in the classroom is very important for students to improve their writing.

On the other hand, previous research has described the fact that cognitive and motivational challenges are at the root of unfavorable results in the level of writing performance of elementary school students. The results emphasize the importance of studying writing models for different groups of students to gain a clearer view of the complex situation between academic motivation and cognition related to students' writing performance (Desmedt, 2018).

Meanwhile, it has also been proven that students' writing skills are a critical factor and writing performance has a significant relationship with their learning knowledge, especially in metacognitive strategies, particularly in the personal evaluation of the writing process. The study also found that through pedagogical initiatives by teachers, weak students can be helped to cultivate in them the use of metacognitive strategies to further increase their knowledge in writing (Qin & Zhang, 2019).

Table 7. Summary of Goodness of Fit Measures of Five Structural Model

The final question of this research focuses on determining the most appropriate model that represents variables as predictors of motivation in writing performance. The proposed model framework in Table 1 needs to be modified to meet the requirements of the goodness of fit measures. The five models developed in this study are summarized in Table 7.

Table 7: Summary of Goodness of Fit Measures of Five 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	7.836	.727	.791	.769	.766	.131	.000
2	.000	5.738	.786	.857	.832	.838	.109	.000
3	.000	4.678	.802	.888	.863	.874	.096	.000
4	.000	4.365	.814	.899	.873	.885	.092	.000
5	.093	1,237	.972	.996	.981	.995	.024	.998

In determining the most appropriate model, all criteria must be contained within the acceptable range. In interpreting the results, Namuth-Covert et al. 64, gave the following explanation: The Chi-square/degrees of freedom value must be between 0 and 2, with a corresponding p-value greater than or equal to 0.05. The Root Mean square of Error

Approximately value must be less than 0.05 and have a corresponding p-close value greater than or equal to 0.05. Other criteria such as the Normed Fit Index, Tucker-Lewis Index, Comparative Fit Index, and Goodness of Fit Index should all be higher than 0.90.

In determining the most appropriate model, all indices included must be within acceptable ranges. The chi-square value/degrees of freedom must be less than 5 with a corresponding p-value greater than 0.05. The root mean square error approximation value must be less than 0.05 and its corresponding P-close value must be greater than 0.05. Other indices such as the normed fit index, Tucker-Lewis index, comparative fit index, and the goodness of fit index should be higher than 0.95.

3.8 Direct and Indirect Effects of Independent Variables on Knowledge Motivation on Writing Performance of College Students Model 1

Table 8 shows the Direct and Indirect Effects of Independent and Non-Independent Variables. According to Mayer et al. (2014), the following should be considered: (a) direct effects, (b) indirect effects, by averaging the path coefficients that link the causal variable to the results, and (c) total effect of direct and indirect effects.

Table 8. Direct and Indirect Effects of Independent Variables on Knowledge Motivation on Writing Performance of College Students Model 1

Variables	Direct Effect	Indirect Effect	Total effect
Knowledge on Digital	.211	-	.211
Academic motivation	.190	-	.190
Learning strategies	.692	-	.692

Thus, it emerged from the study that digital readiness, academic motivation, and learning strategies have regression coefficients of .211, .190, and .692. The result means that the independent variables have a positive contribution to the independent variable. Regarding the role of technology, Tendhar et al. (2013) reported, that digital readiness improves students' understanding and is positively related to academic and writing performance, Hong and Kim (2018). Several academics have reported that a lack of confidence and academic motivation has been identified as negatively influencing writing performance in English as a foreign language according to Schunk and DiBenedetto (2021). But most such studies prove that academic motivation can significantly boost students' writing performance (Sabti, 2019.)

On the other hand, a study by Zuhairi and Umamah (2016), focused on investigating learning strategies based on students' skills. The result of the statistical analysis shows that the overall use of learning strategies by students is at a moderate level, In addition, this study does not find sufficient evidence that the successful and less successful students differ significantly in the use of learning strategies in the study of writing performance. The findings of this research indicate the need to encourage students with strategies to learn writing skills to reinforce or expand students' use of learning strategies. This can be done by incorporating strategy-based instruction into the classroom.

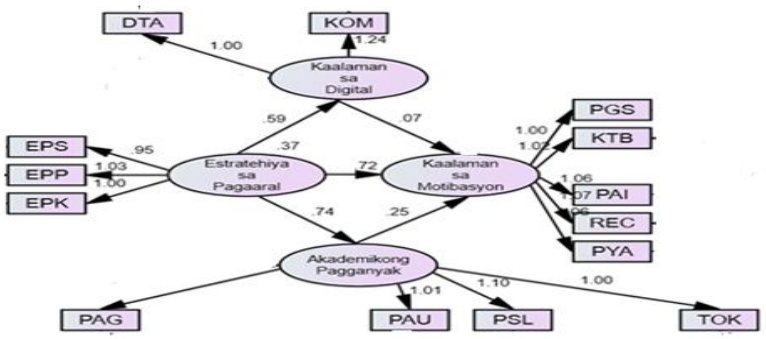

Figure 2. Best Fit Model in Motivation in Writing Performance

Figure 2 shows the best-fit structural model for motivation in writing performance based on the goodness of fit measures shown in Table 7. The findings suggest that motivation in writing performance of first-year students in college is best anchored in: digital readiness that includes digital tool application and digital media awareness; academic motivation covering effort, interaction, social and token consideration; learning strategies evaluated using cognitive development strategies, behavioral learning strategies, and self-regulatory strategies; and motivation in writing performance measured in terms of testability, real-life relevance, recall, recognition, and prediction.

Similar studies found that digital readiness helped students facilitate writing learning activities (Hong & Kim, 2018). In addition, academic motivation helps students to participate more actively when teachers use more motivational teaching tactics (Lam & Law, 2007). Finally, learning strategies especially self-regulation strategies help students contribute to the creation of a quality text because these activities can help students develop and improve awareness of linguistic levels and awareness for writing performance. Current research speaks to the effectiveness of this condition (Liberty & Conderman, 2018).

Conclusion and Recommendation

The use of the structural assessment model strengthened this study because the analysis conformed to the sequential process of the specific model. The result showed that the level of digital readiness, academic motivation, learning strategies, and motivation in writing performance of the students is high and there is an indication that these variables are often exhibited by the respondents in the first year in college or universities of region XII.

The overall results showed a high level of digital readiness as well as indicators of digital tool application, digital media awareness, and information-seeking skills. Although high, it still hasn't reached the highest level. To achieve the highest level in this variable0, the teacher may conduct the foundation regarding the use of digital equipment, and his student's best output may also be shown to the class.

The overall results also showed that the students had a high level of academic motivation. Although the academic achievement was only high and did not reach the highest. It is suggested that the teacher should ensure that there are feedbacks that the students receive regarding the submitted work so that they can be guided in what they are doing, the teacher may recognize the best output in front of the class and may have group activities in conjunction with shift selection team manager/leader because there are more satisfied students/motivated to work with their classmates, for parents, don't forget to appreciate what their children have done in school.

The overall results also showed that the students in the study had a high level of learning strategies. The level of learning strategies can be increased by providing classroom exercises such as the teacher having consultation time so that students can ask questions

about things they do not understand well, peer feedbacking/brainstorming will also help in a way that their classmates can correct the mistakes they are not sure about.

Also, motivation in writing performance is high. This means that students often show motivation in writing performance. But it still does not reach the heightened motivation. Intervention is needed to reach the highest level. So, it is suggested to have writing exercises in all the subjects so that they become more proficient in writing. The teachers will give classroom activities such as writing essays, poems, or songs and extend the research work using the Filipino Language. In school, make sure to have Language Month celebrations and activities that involve writing to always remind the importance of Filipino as the National Language. Finally, similar studies should be conducted to identify other possible strong predictors of motivation in writing performance to serve as a reference and guide for future researchers.

ETHICAL APPROVAL

The researcher followed and complied with all the criteria in conducting the study following the assessment protocol and standardized criteria. Voluntary Participation, Privacy and confidentiality, Informed consent process, Recruitment, Risks, Benefits, Plagiarism, Falsification, Conflict of Interest (COI), Deceit, Permission from Organization/Location, and Technology Issues were fully followed as stipulated by the University of Mindanao Ethics Review Committee. Certification was issued to the UMERC researcher with the number UMERC-2022-046 for the implementation of the study.

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