

DISTANCE EDUCATION LEARNING ENVIRONMENT AND STRATEGIES FOR
REGULATION OF ACADEMIC COGNITION OF STUDENTS

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Abstract: This study aimed to determine the significance of the relationship between distance education learning environment and strategies for regulation of academic cognition of students. This study utilized the non-experimental quantitative research design using descriptive technique involving teachers in Sarangani District, Davao Occidental Division, Philippines. The study was conducted on the second semester of school year 2020-2021. Research instruments on distance education learning environment and strategies for regulation of academic cognition of students were used as source of data. Using mean and pearson-r as statistical tool to treat the data, the study showed the following results: level of distance education learning environment is high, the level of strategies for regulation of academic cognition of students is moderate, there is a significant relationship between distance education learning environment and strategies for regulation of academic cognition of students.

Keywords: Distance Education Learning Environment, Strategies for Regulation of Academic Cognition of Students, Educational Management

1. Introduction

The absence of face-to-face teaching and learning prompted the education sector to look for alternatives to continue offering education and make it accessible to all. Among the options provided is distance learning education. This modality is a form of education in which the main elements include physical separation of teachers and students. In this format of teaching and learning, the use of various technologies to facilitate student-teacher and student-student communication play a significant role in the instruction (Bijeesh, 2017).

In a distance learning environment, students need strategies for regulation of academic cognition to succeed in this modality. This allows the students to cope with the challenges and the demands of instruction. However, not every student is confident to navigate in the distance learning environment as some of them admitted that they are deprived of actual learning. They believed that learning is meaningful when they have physical interaction with their teacher and classmates and the academic cognition activity, they do to reinforce learning is insufficient to develop mastery of the competency (Karaali, 2015; Oviatt & Cohen, 2010).

Meanwhile, there are also students in distance learning who claimed that when studying for their class, they read their class notes and the course readings repeatedly but they experience difficulty in understanding what they read. For these students, self-directed learning bears little to non-absorption of lesson considering the limitation of their cognitive ability to process information from the print and online sources (Chen, 2010).

Also, many from these students admit that they have difficulty in trying to relate ideas in their subject to those in other course whenever possible. In the local context, there are students who feel that when they study for their class, and pull together information from different sources, such as lectures, readings, and discussions, they still feel that there is still lacking materials to read despite the available resources they have at hand.

The problem-situations narrated are the common experiences among students who are in the distance education. The researcher finds it relevant to address the concern of the students in order to minimize if not stop the problem they experience in distance learning. Hence, the researcher is prompted to conduct this study to address

the knowledge gap as the researcher has rarely come across with the same study on the same topic in the local setting.

Research Objectives

This study aims to find out the significance of the relationship between distance education learning environment and strategies for regulation of academic cognition of students. Specifically, this study sought to answer the following objectives:

1. To describe the level of distance education learning environment in terms of:
 - 1.1. instructor support;
 - 1.2. student interaction and collaboration;
 - 1.3. personal relevance;
 - 1.4. authentic learning, and
 - 1.5. student autonomy.
2. To ascertain the level of strategies for regulation of academic cognition of students in terms of:
 - 2.1 rehearsal strategies;
 - 2.2 elaboration strategies;
 - 2.3 organization strategies, and
 - 2.4 metacognitive self-regulation.
3. To determine the significant relationship between distance education learning environment best influences strategies for regulation of academic cognition of students.

Hypothesis

The following hypothesis will be treated at 0.05 level of significance.

1. There no significant relationship between distance education learning environment best influences strategies for regulation of academic cognition of students.

2. Methods

This study employed the non-experimental quantitative research design utilizing correlational technique. A substantial proportion of quantitative educational research is non-experimental because many important variables of interest are not manipulable. Because non-experimental research is an important methodology employed by many researchers, it is important to use a classification system of non-experimental methods highly descriptive of what we do and which also allows us to communicate effectively in an interdisciplinary research environment. Correlational research designs evaluate the nature and degree of association between two naturally occurring variables.

3. Results

Level of Distance Education Learning Environment

Presented in Table 1 is the level of distance education learning environment with an overall mean of 3.52 with a descriptive equivalent of high, indicating that all enumerated indicators were often observed. The overall mean was the results obtained from the mean of the indicators for the specific items from the questionnaire intended for this particular indicator as appended in this study. Among the enumerated indicators, *Instructor Support* obtained the highest mean of 4.21 with a descriptive rating of *very high*.

As presented in the appended Table 1.2, the mean ratings of this indicator were as follows: If I have an inquiry, the teacher finds time to respond, The teacher helps me identify problem areas in my study, The teacher responds promptly to my questions, The teacher gives me valuable feedback on my assignments, The teacher adequately addresses my questions.

Personal Relevance obtained a mean score of 3.86 or high. As depicted in the appended Table 1. 3, the high level of this indicator suggested that: I am able to pursue topics that interest me, I can connect my studies to my activities outside of class, I apply my everyday experiences in class, I apply my out-of-class experience, I link class work to my life outside of school.

Student Interaction and Collaboration had a mean rating of 3.25 or high. As depicted in the appended, the high level of this indicator suggested that: I work with others, I share information with other students, I discuss my ideas with other students, I relate my work to others' work, I collaborate with other students in the class.

Student Autonomy obtained a mean rating of 3.16 or moderate. As depicted in the appended, the high level of this indicator suggested that: I make decisions about my learning, I work during times that I find convenient, I am in control of my learning, I play an important role in my learning, I approach learning in my own way.

Authentic Learning obtained a mean rating of 3.15 or moderate. As depicted in the appended, the moderate level of this indicator suggested that: I study real example related to the class, I use real facts in class activities, I work on

Table 1. Level of Distance Education Learning Environment

Indicators	SD	Mean	Descriptive Level
Instructor Support	0.562	4.21	Very High
Student Interaction and Collaboration	0.597	3.25	High
Personal Relevance	0.603	3.86	High
Authentic Learning	0.572	3.15	Moderate
Student Autonomy	0.535	3.16	Moderate
Overall	0.529	3.52	High

assignments that deal with real-world information, I work with real examples, I enter the real world of the topic of study.

The high level of distance education learning environment is due to the high level of rating given by the respondents to the indicators Student Interaction and Collaboration and Personal Relevance.

The above practice of teachers is expected to increase the practice on distance education learning environment congruent with the views of various authors such as Aydemir, Özkeskin & Akkurt (2015) who stated that distance education learning environment has a direct correlation on strategies for regulation of academic cognition of students. This means that when distance education learning environment creates meaningful learning opportunities to students, the regulation of academic cognition of students will also increase.

Level of Strategies for Regulation of Academic Cognition of Students

Shown in Table 2 is the level of *Strategies for Regulation of Academic Cognition of Students* with an overall mean of 3.40 with a descriptive equivalent of *moderate* indicating that all enumerated indicators were oftentimes observed. The overall mean was the result obtained from the mean of the indicators for the specific items from the questionnaire intended for this indicator which was appended in this study.

Table 2. Level of Strategies for Regulation of Academic Cognition of Students

	SD	Mean	Descriptive Level
Rehearsal Strategies	0.584	3.88	High
Elaboration Strategies	0.596	3.28	Moderate
Organization Strategies	0.589	3.24	Moderate
Metacognitive Self-Regulation	0.592	3.20	Moderate
Overall	0.533	3.40	Moderate

Among the enumerated indicators, *Rehearsal Strategies* ranked the highest with a mean score of 3.88 or *high*. As depicted in the appended, the *high* level of this indicator suggested that: When I study for this class, I practice saying the material to myself over and over, when studying for this class, I read my class notes and the course readings over and over again, I memorize key words to remind me of important concepts in this class, I make lists of important terms for this course and memorize the lists.

Elaboration Strategies obtained a mean score of 3.28 or *moderate*. As depicted in the appended, the *moderate* level of this indicator suggested that: When I study for this class, I pull together information from different sources, such as lectures, readings, and discussions, I try to relate ideas in this subject to those in other course whenever possible, When I study, I write brief summaries of the main ideas from the readings and the concepts from the lectures, I try to understand the material in this class by making connections between the readings and the concepts from the lectures.

Organization Strategies obtained a mean rating of 3.24 or *moderate*. As depicted in the appended, the *moderate* level of this indicator suggested that: When I study, I outline the material to help me organize my thoughts, When I study, I go through the readings and my class notes and try to find the most important ideas, I make simple charts, diagrams, or tables to help me organize course material, When I study, I go over my class notes and make an outline of important concepts.

Metacognitive Self-Regulation obtained a mean score of 3.20 or moderate. This result is taken from the strands of the indicator as appended in this study which are the following: When reading, I make up questions to help focus my reading, When I become confused about something I'm reading for this class, I go back and try to figure it out, If materials are difficult to understand, I change the way I read the material, When I study, I set goals for myself in order to direct my activities in each study period.

The moderate level of strategies for regulation of academic cognition of students is due to the moderate level of rating given by the respondents to the indicator’s elaboration strategies, organization strategies, and metacognitive self-regulation

These practices are expected to increase the level strategies for regulation of academic cognition of students as it aligns to the views of authors pointed out that teachers will ensure that the distance education learning environment of the students is suitable for development of their interest, learning profile, and readiness to perform numerous activities for the students to successfully regulate their academic cognition which is an important aspect to their learning experiences. Teachers are encouraged to support distance education learning environment of the students by providing essential instructional materials and designing learning activities that will develop students’ maximum potential.

There is a significant relationship between distance education learning environment and strategies for regulation of academic cognition of students. The results of the study are also supported by the pronouncement of Aydemir, Özkeskin & Akkurt (2015) who stated that distance education learning environment has a direct correlation on strategies for regulation of academic cognition of students. This means that when distance education learning environment creates meaningful learning opportunities to students, the regulation of academic cognition of students will also increase.

Correlations between Measures

Illustrated in Table 3 were the results of the test of relationship between the variables involved in the study. The overall correlation had a computed r-value of 0.909 with a probability value of $p < 0.01$ which is significant at 0.05 level. Doing an in-depth analysis, it could be gleaned that the indicators of distance education learning environment and strategies for regulation of academic cognition of students revealed computed r-values ranging from .699 to .844 with probability values of $p < 0.01$ which is lesser than .05 level of significance. This means that there is a significant relationship between the variables.

Table 3. Correlations Between Measures

Distance Education Learning Environment	Strategies for Regulation of Academic Cognition				Overall
	Rehearsal Strategies	Elaboration Strategies	Organization Strategies	Metacognitive Self-Regulation	
Instructor Support	.730* (.000)	.575* (.000)	.749* (.000)	.677* (.000)	.779* (.000)
Student Interaction and Collaboration	.799* (.000)	.606* (.000)	.723* (.000)	.730* (.000)	.797* (.000)
Personal Relevance	.749* (.000)	.660* (.000)	.785* (.000)	.765* (.000)	.834* (.000)
Authentic Learning	.715* (.000)	.725* (.000)	.756* (.000)	.786* (.000)	.827* (.000)
Student Autonomy	.761* (.000)	.677* (.000)	.769* (.000)	.747* (.000)	.827* (.000)
Overall	.840* (.000)	.725* (.000)	.860* (.000)	.829* (.000)	.909* (.000)

*Significant at 0.05 level of significance.

CONCLUSION

With considerations on the findings of the study, conclusions are drawn in this section. The level of distance education learning environment is high, the level of strategies for regulation of academic cognition of students is moderate, there is a significant relationship between distance education learning environment and strategies for regulation of academic cognition of students.

RECOMMENDATIONS

The results of this study revealed that the level of level of distance education learning environment is high. The researcher recommends that the Schools Division Office of Davao Occidental may conduct training that will help improve on the aspects of authentic learning and student autonomy among the teachers to improve on this field.

Meanwhile, the study revealed that the level of strategies for regulation of academic cognition of students is moderate. The researcher recommends that the district office may provide Learning Action Cell among the teachers on the topic elaboration strategies, organization strategies, metacognitive self-regulation to help students improve in this indicator.

The study found a significant relationship between distance education learning environment and strategies for regulation of academic cognition of students. The researcher therefore recommends that the Department of Education may consider the provision of trainings or activities relative to the variables under study to help the school heads and teachers enhance on the indicators which are among the lowest in the indicators of the variables under study. The researcher recommends that school heads may provide sessions in Learning Action Cell on this topic among teachers for improvement.

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