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EXAMINING STUDENTS' LEARNING COMPLEXITIES IN THE NEW NORMAL: AN EXPLORATORY DESIGN

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ABSTRACT

This study aimed to explore and examine the students' learning complexities in the new normal among Grade 6 learners in President Roxas, Cotabato. The study utilized an exploratory research approach. A total of 190 Grade 6 learners were participated in the study. Based on the result, the study revealed that learners during new normal have the learning complexity mostly on the aspect of needing support to learning, in-capabilities of parental support, learners that needs assistance to comply the learning activities, and the capabilities of learners to read that affects their learning. The study developed a 36 items test questions to measure the learning complexity of learners with five dimensional aspects that includes the topic or lesson adjustment, complexity on willingness to learn, complexity on support learning, complexity on time management, and complexity on organizing and communication. Further, most of the items to measure the learning complexity of learners are under to the aspect of topics or lessons adjustment, followed by support and time management. Moreover, the study suggests that the developed tool that should be used as instrument for other researcher in conducting related study. There should be study to be conducted on Elementary and Secondary learners in separate manner using the instrument being develop to compare the result. The teachers, on the other hand, to improve student learning should focus on finding ways to promote lesson adjustment, time management and supports among learners.

Keywords: *Learning Complexity, New Normal, Grade 6 Learners, Exploratory Approach, President Roxas, Cotabato, Philippines.*

INTRODUCTION

In order to give the best education as possible to all learners, competent teachers must continuously develop and improve themselves as professionals. This will enable effective teaching and learning to take place. Teachers should become more enthusiastically involved on how they teach the curriculum. Teachers should know also how to develop the learning potential of their learners in order to teach learners actively and to promote willingness to pursue new information (Peters & Mahimker, 2023).

However, in the middle of 2020, the pandemic has caused a significant change in how teachers work with students and how they connect with one another. The sudden

changes brought on by the pandemic is occasionally be upsetting for teachers, pupils, and the educational system as a whole (Baird, 2021).

In addition, the pandemic caused the educational system to shift to a different educational platform, which may have an impact on teaching and learning process. The post-pandemic effect also affects the effectiveness of instructional methodologies when measured by student engagement and which serves as a quality teaching and learning indicator (Vaghjee & Vaghjee, 2022).

On the other hand, teachers should know how to introduce a lesson or particular topic to students in a way that they can readily understand, comprehend, and apply the learning principles. Introducing new trend of learning is the most urgent problem in the new normal of education. The new information included into the new normal has an impact on the circumstances of the teachers. The issues with integrating knowledge in learning in the new normal and perspective is the adjustments that need to consider. Moreover, inadequate internet connection, facilities, and students' adjustments are the common problem in new normal. According to Saro et al. (2022), students have difficulties while switching from traditional classroom education to new mode of learning delivery.

For the side of students, due to the opening of face-to-face classes may tend too encountered different experiences in the classroom. The transition from modular class to face-to-face class may give differnt results and impacts to learners. One of those impacts may be the compexities of learners in their subjects.

With this, the researcher wanted to pursue an exploratory study about the students' learning complexities in the new normal education. This study could serve as a tool to evaluate and measure experiences of students' learning complexities under new normal education. Through this study, the researcher will be able to develop a tool to measure the teachers' viewpoints on student learning complexities in new normal education.

Previous study on student learning complexities are merely done before the pandemic serge in which the teachers are evaluating the participation of students without the influence of COVID-19. However, this study will be conducted in the new normal situation wherein the researcher aimed to measure the participation of students in learning under the post-effect of pandemic. With this study, the researcher may unveil the post-pandemic effect to student learning and may able to develop a tool to measure the student learning complexities.

The result of this study would be significant and valuable to the students, teachers, school administrators, DepEd officials, parents and other school stakeholders. The study would reveal a data on the students' learning complexities in which the researcher may develop a tool to measure the student learning complexities under new normal education. Furthermore, the future result of the study could serve as a guide or tool to evaluate the student learning complexities in new normal situation or after the pandemic. This study could serve as guide also in creating programs and interventions for teachers, and students with possible participation of parents, schools and other stakeholders to really measure the complexities of learners under new normal situation after the pandemic experiences.

METHODS

Research Design

The study used an exploratory research approach through employing the mixed methods of qualitative and quantitative design.

The researcher conducted the two methods at the different phase or time with different number of the participants and ways of collecting the data. For the first phase of the study, the researcher used the qualitative design, in which the researcher used the in-depth interview. For the second phase, the researcher used the quantitative design by conducting a reliability survey and exploratory survey.

Research Participants and Sampling

The participants of the study were the public elementary Grade 6 pupils of President Roxas, Cotabato. For the first phase, qualitative approach, the researcher conducted an in-depth interview with 10 participants to be selected. For the second phase, the researcher selected the 30 participants for reliability test and 150 participants for the exploratory test or survey. In terms of sampling method, the researcher used a mixed sampling method of quota sampling and purposive sampling in both qualitative and quantitative approach.

Quota sampling was used to limit the target participants of 10 in the in-depth interview, 30 for reliability and 150 in the exploratory factor analysis (EFA). On the other hand, purposive sampling was used also because the researcher purposely selects the public elementary Grade 6 learners as sample participants of the study.

Research Instruments

For the instrument used, the researcher used in the first phase the semi-structured interview guide guide questions with a combination open-ended questions and follow-up questions. This semi-structured instrument was used in the conducted in-depth interview sessions to the 10 participants during the qualitative phase.

For the quantitative phase, the instrument used by the researcher was the structured questionnaire with closed-ended questions wherein the reliability and confirmatory participants answered the survey questionnaire by checking the given choices from 5 to 1. The closed-ended questions was taken from the extracted significant themes from the responses of the participants after the thematic analysis.

Data Analysis

For the qualitative phase of the study, the data from the in-depth interview were analyzed thematically by following the steps: first, familiarization of data; second, coding; third, extracting significant responses; and fourth, extracting and naming of themes.

For the quantitative phase, the data were analyzed through exploratory factor analysis (EFA) by using the factorability test for confirmatory responses and reliability test for the reliability responses. For the factorability test, the researcher used the Keiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of Spherecity. After these process, the researcher made a pattern matrix to identify the qualified items needed for reliability test. On the other hand, the reliability test analysis was done through Cronbach's alpha test to evaluate the reliability of test questions to measure the views of teachers on student learning complexities in the new normal education.

RESULTS AND DISCUSSIONS

This chapter presents the results and discussions of the study from the survey and in-depth interview conducted on examining students' learning complexities in the new normal. The study was conducted at President Roxas, Cotabato province. The data gathred from in-depth interview (IDI) were analyzed and serve as basis in formulation of survey questionnaire which was conducted to exploratory participants. The responses were analyzed again and serve as basis in formation of another questionaire which used to conduct a reliability test. Finally, the data are presented and discussed in qualitative and quantitative form in the proceeding pages.

QUALITATIVE DATA

Emerging Themes on Students' Learning Complexities under New Normal

Based on the in-depth interview conducted on the learning complexities, the emerging themes or essential themes were classified into lived experiences of learners in learning under new normal; complexities encountered during new normal; and strategies to cope learning complexities.

Lived Experiences of Learners in Learning Under New Normal

Based on the responses of the learners, the core ideas or thematic points under lived experiences were classified into positive experiences, negative experiences, and difficulties encountered.

Lived Experiences. Based on the responses of the participants, some of them experienced shame and uncomfortable.

And lastly, some of them experienced having difficulty in going to school, learning with classmates and wearing facemask.

Positive Experiences. Based on the responses of the participants, majority of them have positive experiences of seeing and meeting their old friends and classmates to learn in school.

Moreover, some of them experienced of easily understand the lessons through face-to-face and through the explanation of teachers.

Negative Experiences. Based on the responses of the participants, majority of them have negative positive experiences in controlling their time schedule, waking up early in the morning, and adjusting their time.

In addition, some of them have experiences on difficulties to understand and analyze the lessons or the new lessons.

On the other hand, some of the participants have negative experienced of being shy and difficulties to participate in more activities in school.

Difficulties Encountered. Based on the responses of the participants, majority of them have difficulties encountered in understanding lessons and topics in their subjects at school. However, one of the participants had encountered difficulty in learning due to poor internet connection.

Complexities Encountered during New Normal

In terms of complexities encountered of learners during new normal, the core ideas or thematic points were classified into complexities encountered, difficult subjects encountered, scenario or situation that contribute difficulties in learning, and learning complexity that mostly encountered by the learners.

Complexity. Based on the responses of the participants, majority of them have encountered complexity in terms of understanding the topics, examples given by the teachers, difficult subjects, complex subjects and lessons especially in learning alone.

In addition, some of them have complexity of having parents which not capable to teach them and sustain their educational needs.

Moreover, some of the participants have complexity of having more activities in school and having limited learning resources.

Difficult Subjects Encountered. Based on the responses of the participants, majority of them have encountered difficulties in learning Mathematics subject especially in solving the problems, the mathematical rules and the process itself.

In addition, some of them have difficulties in learning AP subject, English, Science and major subjects.

Scenario or Situation that Contribute Difficulties in Learning. Based on the responses of the participants, majority of them responded that they encounter difficulties in learning when the teachers tackled new lessons and activities which the learners haven't encountered or new to them.

In addition, some of them have encountered difficulties in learning when they need to read the lessons or need more reading during learning process.

Moreover, some of the participants have encountered difficulties in learning if they need to solve problems.

And lastly, some of the participants have encountered difficulties in learning if they need to research in the internet and if no one will guide them in learning.

Most Encountered Learning Complexity. Based on the responses of the participants, majority of them responded that they mostly encountered the learning complexity of understanding and comprehending problems and difficult subjects.

Moreover, some of them have encountered mostly on difficulties to connect with lessons, easily get frustrated, easily get bored, and cannot do task which not under their control.

Strategies to Cope Learning Complexities

In terms of coping the learning complexities of learners during new normal, the core ideas or thematic points were classified into strategies, adjustment from modular to face-to-face learning, strategies to adjust from learning complexity, and coping the most learning complexity encountered.

Strategies. Based on the responses of the participants, majority of them have the strategy of asking their teachers to explain and help them about the lessons.

Furthermore, the other participants have the strategy of borrowing materials, communicating someone, and asking others to help them about the lessons.

Adjustment from Modular to Face-to-face Learning. Based on the responses of the participants, majority of them get involve into learning with learning how deal with their classmates, joining school and classroom activities, and connect with friends.

On the other hand, some of them adjusted their sleeping schedules, and their daily schedules.

And lastly, the other participants have adjusted their activities and accepted the fact that learning is now face-to-face.

Strategies to Adjust from Learning Complexity. Based on the responses of the participants, majority of them ask help to their parents, teacher and other classmates to do collaboration and for easy understanding

Coping the Most Learning Complexity Encountered. Based on the responses of the participants, majority of them cope their most learning complexity by asking help with their friends, classmates, parents and teachers if they need guidance to their difficult lessons.

On the other hand, some of them have different styles in coping their most learning complexity of focusing to learning, avoiding games, giving more time to learning, practicing, doing their best and building self-discipline.

Students' Learning Complexities Scale Items

The students' learning complexities scales items. Based from the qualitative analysis, the study formulated the 80 item questions on examining the students' learning complexities. These questions were used as survey questionnaire to 150 confirmatory participants. These questions were undegone the exploratory factor analysis (EFA) after the survey was conducted.

Exploratory Factor Analysis (EFA)
Adequacy of Dimensions on the Students' Learning Complexities

The adequacy of 80 item questions was tested with the used of Kaiser Meyer-Olkin Measure (KMO) of Sampling Adequacy and Bartlett's test of sphericity.

It shown in the Table 1 that KMO value is .743 which is above recommended value of .5, which indicates that the sample questions in overall analysis was adequate after the conduct of factor Analysis. According to Kaiser and Rice (1974), the recommended above .5 value is acceptable. On the other hand Kaiser & Rice (1974) also categorized the score based on the values: .5 to .7 as mediocre, values between .7 to .8 as good, and the values between .8 to .9 as superb (Kaiser & Rice,1974).

Hence, based on the recommended value, the result of the study .743 is categorized as good which means that the formulated test questions on examining the learning complexities of learners under new normal is good questionnaire in general. This implies also that majority of the items being test were categorized as learning complexities of learners.

On the other hand, the result on Bartlett's test of sphericity to check if there is a certain redundancy between the variables summarized with a few numbers of factors.

The results revealed that the p-value = 0.000 less than the 0.05 level indicates very high level of significant which indicates that the data has patterned relationships, and factorability is assumed.

Table 1
KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.743
	Approx. Chi-square	6138.916
Bartlett's Sest of Sphericity	Df	3160
	Sig.	.000

Derivation of the Number of Factor Structure of Test Questions on Examining the Students' Learning Complexities

As shown in the qualitative phase, the preliminary analysis, it can be generalized that the items on examining the students' learning complexities is suitable and adequate for extraction of factors, and thus ready for factor analysis.

On the other hand, the items with factor loading .4 are reduce from the model and from 80 items, only 36 items passed the criteria then subjected for rotation and analysis. This is supported by the advice of Field (2013) that the suppression of loading less than .4 and ordering variables by loading size will make interpretation easier because there's no need to scan the matrix to identify substantive loadings.

Furthermore, the 36 items constructed is then subjected for rotation. The Promax rotation was used since the factors seem to be correlated with a coefficient above .50 which reflects that the data is not assumed as orthogonal.

The pattern matrix using Principal Axis Factoring with a Promax rotation method of Promax with Kaiser Normalization. It can be observed in the results the loadings of items in the three factors are above .4. It can be supported by Field (2013) that .4 is recommended and necessary to obtain the desired factors. Furthermore, it can be observed that there is no item cross-loading or not loading at all which means that the items best represent their factors. It is emphasized by Hair et al. (2021) that loadings indicate the degree of correspondence between the variable and the factor, with higher loadings making the variable representative of the factor. Moreover, item should maintain satisfactory during the item loading.

However, based on the five factor model, the top four score factor loadings includes item number 21 (.700); 20 (.676); 68 (.647); and item # 64 (.627) which indicates that the most learning complexities of learners whcih includes complexity of having parent who are not capable to supprt the learning; having no enough support to receive; can't do task without help or assistance; and having poor reading abilities.

Factor Correlation Matrix

For the factor correlation matrix on the complexities of students' learning, the regression r= .139 to r= .586 interpreted that some questions are correlated to each other and good indicator for factor analysis.

Table 2
Factor Correlation Matrix

Factor	1	2	3	4	5
1	1.000	.504	.586	.492	.139
2	.504	1.000	.551	.346	.159
3	.586	.551	1.000	.446	.229
4	.492	.346	.446	1.000	.204
5	.139	.159	.229	.204	1.000

Extraction Method: Principal Axis Factoring
Rotation Method: Promax with Kaiser Normalization

Developed Tool on Examining the Learning Complexities of Learners

After the reducing process, the developed tool or instrument on examining the learning complexities of learning under new normal is presented in Table 3.

From the initial formulated of 80 items test questions, 36 items were included in the above .4 factor loadings. It means that the 44 items below the coefficient .4 were removed.

This is supported by Hair et al. (2010) that those items having no sense and not reflective with the factor can be removed in the model. Also, Hair et al. (2010) loading coefficient can be set by the researcher to select only those items that best represents the factor, and those low coefficients may not be included in the factor structure.

On the other hand, by using the exploratory factor analysis (EFA), the tool or instrument on the attributes of women as school leader was developed. This tool is consists of five major themes with 36 items test questions.

The three themes developed includes complexitiy on topic or lesson adjustment, complexity on willingness to learn, complexity on support to learning, complexity on time management and organization, and comlexity on organizing and communication . The instrument is leveled in 5 point Likert-scale from 5 as always, often, sometimes, seldom and never.

Table 3
Students' Learning Complexities Tool

Items	Learning complexities of Learners in the New Normal
	Complexity on Topic or Lesson Adjustment
1.	Most topic are new for me.
2.	I find myself having difficulty to understand some words.
3.	I felt that subjects becoming more difficult to learn.
4.	I can't understand my lessons especially the assignment when doing it alone.
5.	I find myself having difficulty to learn about mathematics lessons.
6.	I have difficulty in reading.

7.	It is difficult for me to process the lessons or topics.
8.	I easily forgot the previous lessons or topics.
9.	I felt difficult to understand English language.
10.	I have poor reading abilities.
11.	I have slow ability to learn more lessons in a day.
12.	I have difficulty to understand AP subject.
13.	I have difficulty to understand Science subject
	Complexity on Willingness to Learn
14.	I feel uncomfortable in learning in face-to-face approach.
15.	I felt boring in staying in school for whole day in five days.
16.	I felt difficult to conduct self-study.
17.	My learning is disturbed by social media such as facebook, tiktok and Youtube.
18.	I am not interested in reading books and my notebooks.
19.	I can't understand the lessons alone with my homework.
20.	I have difficulty to perform internet searching like google and Youtube.
21.	I can't easily able to answer the questions of teachers.
22.	I can't do task under pressure.
	Complexity on Support to Learning
23.	I don't have enough support receive to learn.
24.	My parents are not capable to support my learning.
25.	I don't have enough money to support my schooling.
26.	My parents encounter difficulty to sustain my school and educational needs.
27.	I can't do task without help or assistance from others.
28.	I need guidance from my teachers about my lessons.
29.	I need more explanation to understand the lessons or topics in school.
30.	I can't understand the sample given by the teachers.
	Complexity on Time Management
31.	I can't control my time schedule.
32.	I am not able to organize my educational materials.
33.	I am not able to adjust my sleeping time.
	Complexity on Organizing and Communication
34.	I am not able to organize my subjects or lessons.
35.	I hardly cope-up my subjects because of more activities.
36.	I have difficulty to communicate well.

Reliability Test Analysis

Table 4 showed the test result on reliability analysis of items related to learning complexities of learners under new normal. Based on the result, the above 0.700 results from factors 1 to 5 indicates that the items were passed to the reliability requirement. Moreover, the 36 items test were passed to the Cronbach's Alpha reliability test. This means that all 36 items seen in table 8 were reliable items or tool to test the learning complexities of learners under new normal.

Table 4
Reliability Test Analysis

Factor	Cronbach's Alpha	No. of Items	Deleted Items
1	.787	13	0
2	.821	9	0
3	.893	8	0
4	.856	3	0

5	.873	3	0
Overall	**.813**	**36**	**0**

IMPLICATIONS

Based on the interview, the study revealed that learners during new normal have the learning complexity mostly on the aspect of needing support to learning, in-capabilities of parental support, learners that need assistance to comply the learning activities, and the capabilities of learners to read that affects their learning.

1. The study developed a 36 items test questions to measure the learning complexity of learners with five dimensional aspects that include the topic or lesson adjustment, complexity on willingness to learn, complexity on support learning, complexity on time management, and complexity on organizing and communication.
2. The study further concluded that, most of the items to measure the learning complexity of learners are under the aspect of topics on adjustment, followed by support and time management.
3. Hence, the researcher concluded that to measure the learning complexity of learners during new normal, the topic or lessons adjustment should first be considered.

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