CHALLENGES OF THE TRANSITION PHASE TO THE STUDENTS' LEARNING DEVELOPMENT

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Abstract

This study, anchored on the Theory of Implementation (May, 2013) and the Theory of Dis-capability (Bellanca et al., 2011), sought to determine the association between the level of challenges of the transition phase and the extent of student's learning development in Mathematics in order to craft a proposed plan on curriculum implementation. Using a researcher-made, expert-validated survey questionnaire data were gathered from 47 teachers in Cluster 4. It was found that schools have high levels of challenges in the transition phases, particularly in time allotment and student readiness. The study also found that the extent of student development was moderately observed across four variables but highest in interest and attitude. However, no significant correlation between the level of challenges of the transition phase and the extent of students' learning development was established. The researcher recommended technical assistance to schools in budgeting time for classes and in providing support to learners during the adjustment period; more meaningful and enjoyable learning activities that would help learners appreciate learning better; internal and external support to overcome the challenges of the transition; and qualitative study to investigate lived experiences of teachers or learners during the transition phase.

Keywords:
Transition Phase, Student's Learning Development

INTRODUCTION

As the government relaxed restriction levels in the country, schools transitioned from distance learning modalities to the usual face-to-face scheme. However, the transition schemes adopted in various schools posed a challenge in various learning areas including mathematics. When the subject was taught using a modular approach, students reported difficulties since no teacher was present to model procedures and to immediately correct mistakes or provide feedback. Even during online classes, struggles were observable to limited screen time and fluctuating internet signal.

When this study was being conceptualized, most high schools were implementing blended learning i.e., partially face-to-face, and modular modalities. Many schools adopted the 2-3 schemes. They divided each class into two and each one attended physically twice a week and spent the remaining three days for modular learning at home. Online learning was not possible because teachers had to attend to the other group on other days.

Limitations were not only evident during the pandemic period but also in post-pandemic education. Since classrooms were not used for quite some time and the funds of schools were mostly used for distance learning, many facilities required major repairs. Moreover, the two years of home-based learning might require some time also to transition to face-to-face classes, especially in classroom activities.

During the time it was written, no formal study has been conducted yet as to the limitations which schools faced as they transition from distance learning to gradual face-to-face classes. Thus, the need was bad to provide proper recommendations as to how curriculum may be implemented contingently amid limitations. It was what this is all about.

This study sought to determine the association between the limitations of post-pandemic education and the status of students in Mathematics. Specifically, this study answered the following subproblems.

1. What is the level of challenges of the transition phase with regards to:
   1.1time allotment;
   1.2learning resources;
   1.3teacher preparedness;
   1.4student readiness; and
   1.5learning environment?
2. What is the extent of students' learning development relative to:
   2.1 commitment,
   2.2 engagement,
   2.3 interest, and
   2.4 attitude?
3. Is there a significant correlation between the challenges of the transition phase and the extent of students' learning development?

REVIEW OF RELATED LITERATURE

Teacher preparedness refers to the extent to which instructors possess the necessary knowledge, skills, and dispositions to teach students effectively. Recent research has highlighted a number of essential components of teacher preparation. Teachers must have a comprehensive understanding of the subject they are instructing. This includes subject-specific and general pedagogical knowledge (Darling-Hammond, 2017).

The learning environment is an additional factor that influences student motivation. (Skinner et al., 2018) Students who are in a positive and supportive learning environment are more committed to learning than those who are not. A positive and supportive learning environment includes factors such as positive teacher-student relationships, peer support, and student engagement opportunities.

Student readiness, according to Massey and Daniels (2021), is the extent to which a student is primed to engage in learning activities and effectively complete academic duties. This includes their preparedness academically, socially, emotionally, and physically to partake in the educational process. Academic readiness is the possession of the necessary skills and knowledge to engage in learning, whereas social, emotional, and physical readiness is the possession of the necessary behaviors, dispositions, and physical health to completely engage in educational activities. Various factors, such as prior educational experiences, home environment, personal motivation, and socioeconomic status, can influence readiness.

Fredricks et al. (2016) elaborated that Student preparedness is significant because it can influence a student's academic success and ability to realize their maximum potential. When students are prepared academically, socially, emotionally, and physically for learning activities, they are more likely to achieve academic success. Academically prepared students have the knowledge and skills necessary to actively engage in learning and are more likely to achieve academic success. Students who are socially and emotionally prepared are better equipped to navigate the social and emotional challenges of the educational environment, which can have an impact on their motivation, self-esteem, and mental health. Physically prepared pupils are physically healthy enough to participate in school activities and avoid absences.

According to Hulleman et al. (2018), a classroom environment that prioritizes effort and fosters a development mindset can increase students' motivation to learn arithmetic. Visual aids, manipulatives, and technology are just a few of the instructional strategies teachers can use to accommodate various learning styles. The math learning outcomes of students can be improved by teachers who offer individualized support and feedback. Access to high-quality math resources and materials, such as textbooks, workbooks, and technology, can aid in the math education of students.

Jennings and Swiger (2022) examined the impact of student engagement on learning and success in higher education. The authors emphasized the significance of several factors that contribute to student engagement, including the quality of instruction, the relevance of the curriculum, and the utilization of active learning strategies. In addition, they identify a number of obstacles to promoting student engagement, including the increasing use of technology in education and the prevalence of inert learning approaches.

Dweck (2016) explained the concept of a fixed mindset versus a growth mindset in relation to attitude. She argued that those with a fixed mindset believe their intelligence and abilities are permanent, whereas those with a growth mindset believe their abilities can be developed through hard work and perseverance. Dweck provided numerous examples and case studies to illustrate her points, including the impact of these attitudes on a student's attitude toward mathematics.

Maamin et al. (2022) conducted a study on pupil engagement because they believed that little research had been conducted on this topic. They conducted a survey to assess the relationship between student engagement and mathematical achievement. A stratified random sample (n = 1000) was used to select secondary school students. As data on student engagement and respective mathematics achievement, questionnaires and end-of-year examination grades were gathered. There was a significant correlation between cognitive engagement, affective engagement, behavioral engagement, and mathematical achievement, according to their findings. Moreover, Maamin et al. (2022) identified effective engagement as the most significant predictor of mathematical achievement.

Fielding and Makar (2018) investigated the issue of disinterest in mathematics among students. They collected data from 209 elementary pupils (ages 8 to 12) and compared those with and without inquiry-based learning experience. Engagement scores of students engaged in inquiry indicated significantly higher interest, increased attentiveness, and decreased frustration, indicating that inquiry has the potential to suspend or reverse the trend of declining student interest.

Mazana et al. (2019) studied students' attitudes towards learning mathematics in Tanzania. They also sought to ascertain reasons for liking or disliking mathematics and the relationship between attitude and performance. Researchers employed the ABC Model and the Walberg's Theory of Productivity to investigate students' attitudes towards mathematics and associated factors.

METHODOLOGY

This chapter discusses the methods that shall be used in the collection and analysis of data to answer the primary and secondary research questions of the study. It explains the research design, sampling techniques and data collection methods used; and describes how data to be collected from the research shall be analyzed. Quantitative research methods shall be used in carrying out this research. The evaluation shall be carried out using a system of data collection in the form of questionnaires. The literature review shall be used to construct the questionnaires to be used in collecting quantitative data.

Research design describes how a researcher integrates the different components of the study coherently and logically to ensure that the problem is properly addressed (SHU, 2018). In this study, a quantitative research design which is correlational shall be employed.

Correlational research design shall be used since the researcher sought to investigate the relationship among the variables mentioned earlier through a correlational analysis. The intent is to determine if and to what degree the limitations of post-pandemic education were related to the status of students in mathematics. It did not imply one caused the other.

Also, the researcher used this design because it allowed us to determine the strength and direction of a relationship so that later studies can narrow the findings down and, if possible, determine causation experimentally (Filipowich, 2018).

RESULT AND DISCUSSION

Level of Challenges of the transition phase with regards to Time Allotment

Table 2 signifies the level of challenges of the transition phase as to time allotment. The most evident challenge found was the time allotted for students to complete the tasks assigned to them. This means that either the time needs adjustment, or the length of activity given.

Table 2. Level of Challenges of the transition phase with regards to Time Allotment

Statements	Mean	Standard Deviation	Remarks
Time allotted for face-to-face classes are not enough to cover competencies.	3.98	0.92	Observed
Students require longer time to accomplish performance tasks.	4.17	0.79	Observed
Time is grabbed from instructional activities for addressing disciplinary issues.	3.85	0.88	Observed
Classes are held to early or too late which affect student's feeling of comfort.	3.70	1.12	Observed
Shortened class hours are regularly implemented to comply with social distancing.	3.30	1.52	Moderately Observed

Overall Mean = 3.80
Standard Deviation = 0.87
Verbal Interpretation= High

The overall mean of 3.80 signified a high level of challenges concerning time allotment is observed in public schools. This implied the need to revisit the programming of classes and lessons that might be facing difficulties in time.

Level of Challenges of the transition phase with regards to Learning Resources

Table 3 depicts the level of challenges brought about by the transition phase concerning learning resources. The teachers indicated that the most challenging problem was the inadequacy of learning resources. This suggests the need to augment the available materials in school.

Table 3. Level of Challenges of the transition phase with regards to Learning Resources

Statements	Mean	Standard Deviation	Remarks
Learning resources are inadequate	3.66	1.05	Observed
A ratio of 1 SLM to 1 student is impossible to implement	3.36	1.33	Moderately Observed
Multimedia devices are inadequate	3.53	1.04	Observed
Laboratories and workshops are insufficient	3.53	1.08	Observed
Tools, equipment, and other materials are absent.	3.34	1.13	Moderately Observed

Overall Mean = 3.49
*Standard Deviation = 0.*94
Verbal Interpretation= Moderately High

The overall mean of 3.49 was indicative of a moderately high level of challenges in the transition phase concerning learning resources. This means that schools require assistance in addressing the lack of learning resources, multimedia devices, tools, equipment, and laboratory-workshops in public schools.

Table 4. Level of Challenges of the transition phase with regards to Teachers' Preparedness

Statements	Mean	Standard Deviation	Remarks
Consultative planning with teachers was not held prior to the crafting of the learning recovery plan	3.23	1.15	Moderately Observed
Teachers' psycho- and socio-emotional preparedness was not secured before the opening of classes	3.34	1.18	Moderately Observed
Number of teachers is inadequate	3.15	1.06	Moderately Observed
Teachers have more than 6 or 7 workloads when actual teaching and non-teaching related assignments are combined.	3.23	1.20	Moderately Observed
Teachers were provided with the necessary tools to teach the subjects assigned to them.	3.00	1.04	Moderately Observed

Overall Mean = 3.19
Standard Deviation = 0.77
Verbal Interpretation= Moderately High

Table 4 shows the level of challenges encountered by teachers during the transition phases as to teacher performance. Results implied the need for ensuring psychosocial support to all students before shifting from one modality to another.

The overall mean of 3.19 indicated that there was a high level of challenges encountered by teachers during the transition phases as to teacher performance. These implies the need to enhance consultation practices, mental health support, and provision of tools in the public schools.

Level of Challenges of the transition phase with regards to Student's Readiness

Table 5 focuses on the level of challenges encountered by teachers during the transition phases as to students' readiness. Results implied the learning gaps between the distance learning and face-to-face modality. This further implies the need for immediate support or intervention for students.

Overall, it was found that there was a high level of challenges encountered by teachers during the transition phases as to students' readiness. These implied the students' difficulties in adjusting from the distance learning experience to their return to the physical schools. Moreover, results implied that need for mental health support for students.

Table 5. Level of Challenges of the transition phase with regards to Student's Readiness

Statements	Mean	Standard Deviation	Remarks
Student psychosocial preparedness was not secured prior to the opening of classes	3.53	1.04	Observed
Students do not have the mastery of basic competencies for the current grade level.	4.15	0.86	Observed
Students experience socio-emotional maladjustments.	3.60	0.85	Observed
Disciplinary problems are present during the first month of classes.	3.79	0.95	Observed
Problems related to absenteeism, tardiness, and non-submissions are still present.	4.00	0.83	Observed

Overall Mean = 3.81
Standard Deviation = 0.72
Verbal Interpretation= High

Level of Challenges of the transition phase with regards to Learning Environment

Table 6 describes the level of challenges encountered by teachers during the transition phases as to learning environment. Results implied either the lack of spaces in the schools or the sudden increase in enrolment. The figures further imply the need for additional support for facilities in public schools.

Overall, there was a high level of challenges encountered by teachers during the transition phases as to the learning environment. These implied the schools' need for support in enhancing their learning environments particularly in making school spaces more conducive to learning experiences of children.

Table 6. Level of Challenges of the transition phase with regards to Learning Environment

Statements	Mean	Standard Deviation	Remarks
Classrooms are inadequate to cater the number of students	3.53	1.21	Observed
Open spaces are too small to accommodate students during emergency situations.	3.49	1.12	Moderately Observed
Laboratory tools and equipment are inadequate to accommodate students.	3.51	1.16	Observed
Canteen is too small to cater student population.	4.00	0.98	Observed
Lighting and ventilation are not enough to make learning comfortable.	3.36	1.15	Moderately Observed

Overall Mean = 3.58
Standard Deviation =0 .97
Verbal Interpretation= High

Extent of Students' Learning Development

This study also looked into the extent of student's learning development in terms of commitment, engagement, interest, and attitude. These variables were described in terms of mean and standard deviation.

Table 7 presents the extent of student's learning development in terms of commitment. Students showed their desire for studying however, other responses implied their misunderstanding or misconception about attending school and studying.

Table 7. Extent of students' learning development relative to Commitment

Statements	Mean	Standard Deviation	Remarks
Students exhibit desire to continue with their studies	3.72	0.68	Observed
Students showcase their belief in life-long learning.	3.40	0.80	Moderately Observed
Students show determination to complete their studies successfully.	3.42	0.77	Moderately Observed
Students persist in their studies until they complete all given tasks.	3.34	0.73	Moderately Observed
Student do not give up on the tasks assigned to them.	3.21	0.86	Moderately Observed

Overall Mean = 3.42
*Standard Deviation = 0.*64
Verbal Interpretation= Moderately High

Overall, there was a moderately high extent of student's learning development in terms of commitment. These implied the students' need of support in realizing learning as a lifelong process and in building their drive to complete their studies.

Table 8. Extent of students' learning development relative to Engagement

Statements	Mean	Standard Deviation	Remarks
When in class, students participate in class activities	3.47	0.78	Moderately Observed
Students try to understand the material better by relating it to things they already know	3.30	0.83	Moderately Observed
Students work hard on tasks given to them	3.09	0.72	Moderately Observed
Students pay attention in class.	3.40	0.77	Moderately Observed
Students look happy when in school.	3.70	0.72	Observed

Overall Mean = 3.39
*Standard Deviation = 0.*59
Verbal Interpretation= Moderately High

Table 8 presents the extent of student's learning development in terms of engagement. Results implied that while students were happy when attending school, they

lack the basic study skills required to survive such as associating prior knowledge and hard work.

Overall, there was a moderately high extent of student's learning development in terms of engagement. Results implied that students were happy in school, but they lack the learning skills they need to survive.

Table 9. Extent of students' learning development relative to Interest

Statements	Mean	Standard Deviation	Remarks
Studying makes students feel happy	3.40	0.92	Moderately Observed
Students find learning in school fun	3.64	0.87	Observed
Students show appreciation of the lessons and activities given to them in school.	3.51	0.72	Observed
Students ask questions related to the lessons taught.	3.49	0.80	Moderately Observed
Students attend remediation/enrichment activities.	3.17	0.94	Moderately Observed

Overall Mean = 3.44
*Standard Deviation = 0.*67
Verbal Interpretation= Moderately High

Table 9 presents the extent of student's learning development in terms of interest. The results here showed that students were having fun in school, and they appreciate the lessons. However, they need require immediate intervention for studying.

Overall, there was a moderately high extent of student learning development in terms of interest. Results implied that students were happy in school, but they lack the happiness in studying. This strengthens the results in the previous table which highlight the need of students for learning skills.

Extent of students' learning development relative to Attitude

Table 10 presents the extent of student's learning development in terms of attitude. Results showed a moderately positive attitude towards learning. It was made evident by their enjoyment in class.

Overall, there was a moderately high extent of student learning development in terms of attitude. Results implied that students have moderately positive attitude towards their learning development. However, there is a need to provide them with more meaningful and enjoyable learning experiences for them to appreciate learning better.

Table 10. Extent of students' learning development relative to Attitude

Statements	Mean	Standard Deviation	Remarks
Students actively engage in discussions	3.40	0.92	Moderately Observed
Students show enjoyment in coming to class.	3.64	0.87	Observed
Students give positive comments on their experiences in school.	3.51	0.72	Observed
Students respectfully deal with their classmates and teachers.	3.49	0.80	Moderately Observed
Students exhibit excitement in coming to school.	3.17	0.94	Moderately Observed

Overall Mean = 3.44
*Standard Deviation = 0.*67
Verbal Interpretation= Moderately High

Significant Correlation between the Challenges of the Transition Phase and the Extent of Students' Learning Development

Table 11 shows the results of correlation test between the challenges of the transition phase and the extent of students' learning development.

It is interesting to note the insignificant correlation that exists between the level of challenges of the transition phase as to time allotment and the extent of students' learning development in terms of commitment, engagement, interest, and attitude). The correlations are all positive but were all very weak. This means that the learning development of student was independent from the challenges of the transition phase as to time allotment. Despite time constraints, students showed their moderately high extent of commitment to their education and learning.

Also, an insignificant correlation that exists between the level of challenges of the transition phase as to learning resources and the extent of students' learning development in terms of commitment, engagement, interest, and attitude, was observed. The correlations are mostly negative but were all very weak. This means that the learning development of student was independent from the challenges of the transition phase as to learning resources. Despite inadequacy of learning resources, students showed their moderately high extent of development.

Table 11. Significant Correlation between the Challenges of the Transition Phase and the Extent of Students' Learning Development

Challenges of the Transition Phase	***Learning Development***	***r- value***	***Degree of Correlation***	***p-value***	***Analysis***
time allotment	*commitment*	0.20	Very Weak	0.17	*Not Significant*
	engagement	0.14	Very Weak	0.34	*Not Significant*
	Interest	0.21	Very Weak	0.15	*Not Significant*
	Attitude	0.06	Very Weak	0.70	*Not Significant*
learning resources	*commitment*	0.14	Very Weak	0.36	*Not Significant*
	engagement	-0.07	Very Weak	0.64	*Not Significant*
	Interest	-0.02	Very Weak	0.87	*Not Significant*
	Attitude	-0.03	Very Weak	0.82	*Not Significant*
teacher preparedness	*commitment*	0.29*	Very Weak	0.05	*Not Significant*
	engagement	0.19	Very Weak	0.20	*Not Significant*
	Interest	0.14	Very Weak	0.34	*Not Significant*
	Attitude	0.06	Very Weak	0.70	*Not Significant*
student readiness	*commitment*	**0.37***	***Weak***	**.011**	***Significant***
	engagement	0.16	Very Weak	0.28	*Not Significant*
	Interest	0.17	Very Weak	0.25	*Not Significant*
	Attitude	0.05	Very Weak	0.75	*Not Significant*
learning environment	*commitment*	0.10	Very Weak	0.49	*Not Significant*
	engagement	-0.03	Very Weak	0.87	*Not Significant*
	Interest	-0.03	Very Weak	0.83	*Not Significant*
	Attitude	-0.12	Very Weak	0.41	*Not Significant*

Similarly, there was an insignificant correlation that exists between the level of challenges of the transition phase as to teacher preparedness and the extent of students' learning development in terms of commitment, engagement, , interest, and attitude. The correlations are all positive but were all very weak. This means that the learning development of student was independent from the challenges of the transition phase as to teacher preparedness. These implied that though there were challenges faced by teachers, those do not hamper the kind of learning development their students need to achieve.

In terms of student readiness, most of the correlations were insignificant i.e., engagement, interest, and attitude. However, it was observed that student readiness was significantly correlated with the student's commitment. This means that when students are more ready for the transition, they become more committed to their own learning development. However, since most of the indicators were insignificantly correlated, the null hypothesis cannot be rejected.

Finally, there was an insignificant correlation that exists between the level of challenges of the transition phase as to the learning environment and the extent of

students' learning development in terms of commitment, engagement, interest, and attitude. The correlations are mostly negative but were all very weak. This means that the learning development of students was independent of the challenges of the transition phase to the learning environment. These implied that though there were challenges in the learning environments, students still achieve learning development.

CONCLUSION

Based on the results of data gathering and treatment undertaken, the study arrived at the following conclusion.

There was no significant correlation between the level of challenges of the transition phase and the extent of students' learning development. Regardless of the challenges faced by the public schools in transitioning to the post-pandemic era of education, the extent of learning development was still moderately observed. Thus, the null hypothesis could not be rejected. This means that the learning development of students was independent of the challenges of the transition phase to the learning environment. These implied that though there were challenges in the learning environments, students still achieve learning development.

RECOMMENDATIONS

Considering the findings and conclusions of this study, the researcher hereby recommends the following.

1. The Education Program Supervisor may conduct training for mathematics teachers focusing on making mathematics more interesting and developing the study habits of the students. Moreover, they may provide technical assistance to teachers in the field focusing on promoting interest and commitment of students in studying mathematics.
2. School heads may adjust annual implementation plans, procurement plans, and improvement plans to include capacity building for mathematics teachers, psychosocial support for learners, and improvement of school canteens and other facilities.
3. Master Teachers may craft intervention plans to help teachers improve students' status in mathematics given the limitations of post-pandemic education. They may model approaches they use to make sure that learning happens amid the difficulties caused by limited resources and student struggles.
4. Teacher may adjust their pedagogy to address the needs of their learners particularly in developing commitment and interest in studying mathematics.
5. Future Researchers may further investigate lived experiences of teachers or learners during the transition phase. There might be more variables that may be discovered if triangulation is used.

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