



A MIXED-METHODS INVESTIGATION INTO THE FUNCTIONAL LITERACY ACHIEVEMENT OF GRADE 3 LEARNERS IN MULTI-GRADE AND MONO-GRADE CLASSROOMS IN PUBLIC SCHOOLS

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<https://doi.org/10.69502/xozz5274>

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Abstract: *The study initially aimed to determine the functional literacy characteristics of third-grade pupils from multi-grade and mono-grade classes in public elementary schools in the 1st Congressional District of Pangasinan, Philippines. It was a mixed-methods study. It used a descriptive-correlational design in terms of its quantitative approach and qualitative approach where only teacher remarks were taken into account. Functional Literacy Assessment Tool (FLAT) was administered to students from both groups. A total of 200 students were tested, 100 students belonging to a multi-grade and the remaining 100 students belonged to a mono-grade classroom. Frequency counts, percentages, T-tests, and ANOVA were used. The findings of the analysis of data revealed that single-grade children exhibited greater functional literacy abilities than multi-grade children, thereby they become more effective in reading fluency and comprehension by approximately 15% on average. Besides, the teacher's perspective revealed that numerous problems which are scarce teaching resources and the challenges of delivering various levels of development in a single class to the learners are present in multi-grade classes and must be addressed. The findings imply that policies and practices in education should be investigated, which not only resourced and supported disciplines in education but also provided for focused interventions that would positively impact learning outcomes for functional literacy and thereby reduce the inequality of multi-grade classrooms. Additional recommendations might include additional teacher training, additional reading materials, and specifically designed literacy programs. Those interventions can narrow the gap of functional literacy for rural regions and elevate the level of achievement there.*

Keywords: *Functional Literacy Achievement Tool (FLAT), Mono-grade, Multi-grade, Mixed Method, SDO1 Pangasinan, Philippines*

INTRODUCTION

Education is a major contributor to the development of individuals and the improvement of their quality of life through increases to their physical and mental standards. Education has the power to change lives and destinies: it is a key process of developing the self and society. One major feature of education delivery is the manner in which classroom environments are organised, which, in effect, can influence student performance significantly.

Research comparing the effectiveness of different classroom instructional methods has attracted the attention of educators and educational policymakers a lot. The most talked comparison was between multi-grade and mono-grade classrooms. Johnson and Wei in 2019 called for the resolution of this question impact of 3rd graders' functional literacy. They emphasized research worldwide. Their combined qualitative and quantitative study shed light on the different ways the literacy accomplishment is affected by varied set-ups of multi-grade vs. mono-grade classrooms while school systems all over the globe getting informed practice.

On top of that, Brown and Lee (2021) were keen to explore the influence of the configuration of multi-grade versus mono-grade classrooms on 3rd graders' functional literacy through their research, they believed that providing a comprehensive examination and deeper understanding would be instrumental in globally elevating student literacy levels. Davis and Chen (2021) also considered this point while investigating the effects of multi- and mono-grade classroom structures on literacy outcomes with students' culture and socioeconomic background across the continents taken into account. Moreover,



(Kula & Mwansa, 2022) research shows that there is a growing number of reasons for introducing multilingual practices in the classroom as a necessary pedagogical practice. According to their study student literacy is a matter of; if students can be given the reading materials in the languages that they are most familiar with then it naturally helps them with reading the foreign language. The studies of Parkins (2020) and Brinegar (2019) reveal that numerous countries have multi-grade classrooms, inter alia, parts of Europe and North America, however, the resultant positive effects on learning are not always evident. There are more multi-grade classrooms where students can be found in European countries and it is also good to mention that this practice may bring different benefits. While studies have been shown to produce either negative or mixed results surrounding academic performance in North America, few critiques surfaced regarding multi-grade classrooms effects in reading comprehension.

Reading comprehension is a key to academic and general development. As Nowak (2021) points out, poor comprehension occurs when a student is not engaged with the reading material, causing the student not to progress in their academic journey. Although reading comprehension is vital for one's academic journey and overall development, the world's literacy rates are alarming - 781 million globally lack basic literacy skills, which, according to Giovetti (2020), is particularly concerning in world regions such as Niger.

In response, the Department of Education (DepEd) in the Philippines has attempted to prioritize the improvement of literacy and integrated 'peace competencies' into the K-12 curriculum (Volva, 2022). They are working on lessening the kindergarten lessons to include more lessons focused on the essential skills, and they will examine the Mother Tongue education based on multilingual education policies in the DepEd observation address.

Although steps have been taken, organizations still face challenges such as limited available resources and a lack of teacher training, especially in multi-grade education (Du Plessis and Mestry, 2020; Doğan et al., 2020). Teachers regularly face challenges due to lower levels of language proficiency and limited resources in the classroom, ultimately preventing them from successfully educating and managing assorted age groups.

As there are mixed results on the effectiveness of multi-grade classrooms, this study attempts to address a significant gap given the issues surrounding this context. While previous research has examined the specific challenges in multi-grade classrooms across the world and other areas, there is a limited focused research about how multi-grade classrooms impact the reading development of third graders in the 1st Congressional District of Pangasinan. Insights into the effect of this hierarchy on the growth of literacy will come from the Functional Literacy Achievement Test (FLAT). By identifying and addressing these gaps in the current studies, it is prepared to lead to insights that will ultimately positively change educational practice and policies in the region for better student learning environments.

FRAMEWORK

This study examined the functional literacy achievement of students from multi- and monograde classrooms in several public elementary schools situated within the 1st Congressional District of Pangasinan. As Pierre (2022) noted, each child's developmental and progress outcomes depend upon their unique combination of genetics, family, community, and culture. Using the FLAT, this study would compare the reading comprehension scores of third graders in mono-grade and multi-grade classes. The study investigated two cohorts of students. Elementary school children in multi-age courses will make up one participant group. The second set of participants consists of third graders



from single-grade primary schools. The research employed an integrated research design, using both a descriptive correlational design for quantitative analysis and a qualitative method for gathering data and feedback to evaluate the functional literacy achievement of the Grade 3 students from both Multi-grade and Monograde classes in public schools and to gain feedback from the teachers about their challenges in teaching reading to multi-grade classes. The study occurred in the 1st Congressional District of Pangasinan, Philippines, encompassing 100 pupils from different multi-grade elementary schools and 100 pupils from different monograde public elementary schools. Research methods included using statistical analysis to explore quantitative data collected through various measures including frequency counts and percentages, t-test, and ANOVA. In order to know how each student was as a reader of their grade level, the researcher used the data collection tool, which was the Functional Literacy Assessment Tool (FLAT), to measure how advanced of a reader each student was based on their grade level.

OBJECTIVES OF THE STUDY

The core goals of this investigation are to study and compare the functional literacy performance of public Grade 3 students from multi-grade and monograde classrooms. This research utilizes a mixed-methods approach to collecting a wide range of data on students' literacy levels, which encompass reading, writing, and comprehension skills. The study is primarily interested in finding out if there are differences in reading performance of students in multi-grade and monograde settings. It further intends to investigate potential factors or variables that could influence literacy outcomes, such as the learning environment, types of instructional strategies, and student-teacher interactions. Ultimately, these factors may help to explain not only practical ways of improving literacy teaching in the two types of classrooms but also the education practice and policy.

METHODOLOGY

Research Design

The mixed method employs a sequential explanatory design, which is basically a two-phase research process. The first phase is about gathering and analyzing quantitative data to locate patterns and relationships. This is done through the use of already existing surveys that include demographic information and functional literacy assessments conducted with the Functional Literacy Assessment Tool (FLAT). The second phase is about collecting qualitative data to give more context and provide a deeper explanation of the quantitative data results, which usually involves interviews or observations. Multi-grade teachers in this research are pivotal as these teachers are not only qualitative interview data providers about their experience and challenges, but also they give an explanation to the quantitative data findings on student literacy levels. The research is situated in the First Congressional District of Pangasinan with 100 multi-grade learners, 100 mono-grade learners, and multi-grade teachers from public schools. This design helps to understand literacy achievement in a more complete way by combining quantitative data with qualitative findings.

Instrumentation

The study's construction and development used items from survey questionnaires and interview guide questions developed by the researcher, as well as assessment instruments from the Functional Literacy Assessment Tool (FLAT). The survey questionnaire includes the following profiles of the respondents: gender, monthly income for the family, parental status, and mother's and father's educational achievements. The researcher will also do the interview to find out the issues of multi-grade teachers read with reading texts.

Validity and construction will include ensuring measurements are in place to validate the questionnaire. The School's Filipino and English Coordinators will ensure that both survey and interview questions are directly measuring the strategies, challenges, and implications of the reading program in Filipino and English. The researcher will administer assessment tools using the Functional Literacy Assessment Tool (FLAT) to measure each child as they begin to read. The Functional Literacy Assessment Tool (FLAT) qualitatively determines a child's level of comfortable reading. The Functional Literacy Assessment Tool (FLAT) will use the following rating scales to measure the learner's level of functional literacy:

Flat Reading Test Competencies per Grade Level

GRADE	AGES	READING TEST COMPETENCIES
1	6-8	Able to read at least 4 letters.
1	6-8	Able to read at least 5 common words.
2	7-9	Able to read one of the paragraphs – Grade 2 text.
3	8-10	Able to read a short – story – Grade 3 text. Able to respond to at least four fact retrieval questions.
4-6	11-13	Able to read a passage of local authentic text. Able to respond to at least four fact retrieval questions.

Flat Rating Scale for English

FLAT RATING SCALE	
Can read nothing	Fewer than 4 out of 10 letters
Can read letters	4 out of 10 letters
Can read common words	5 out of 10 common words
Can read a paragraph of 4 simple sentences	No more than 3 mistakes
Can read a story	No more than 3 mistakes
Can read and understand a story	4 out of 5 questions must be answered correctly
Can read and understand local material	4 out of 5 questions must be answered correctly

Literacy Level Scale for English

READING LEVEL	
0	Nothing
1	Letter Level
2	Word Level
3	Paragraph Level
4	Story Level
5	Story Level + Comprehension
6	Local material Level + Comprehension

Flat Rating Scale for Filipino

FLAT RATING SCALE	
Di nakababasa	Matatula sa lima mula sa ibangay na sampung letra
Nakababasa ng ilang letra	Lima (5) mula sa ibangay na sampung letra
Nakababasa ng ilang pantig	Apat muna sa ibangay na walong pantig
Nakababasa ng mga karantawang salita	Lima (5) mula sa ibangay na sampung salita
Nakababasa ng mga parata	Tatlo mula sa ibangay na limang parata
Nakababasa ng pangungusap	Dalawa mula sa ibangay na apat na pangungusap
Nakababasa ng talata na binubuo ng apat na pangungusap	Di bababa sa dalawang pangungusap ang talata
Nakababasa ng ilang kuwento	Di bababa sa apat na pangungusap ang kuwento (Grade 2-3)
	Di bababa sa apat na pangungusap ang kuwento
Nakababasa at nauunawain ang kuwento	Dalawa sa tatlong tanyag ang nasagot nang wasto (Grade 2-3)
	Dalawa sa tatlong tanyag ang nasagot nang wasto (Grade 2-3)
Nakababasa at nauunawain ang lokal na material	Apat (4) sa limang dalawa-sa-tatlong tanyag ang nasagot nang wasto (Grade 4-6)

Literacy Level Scale for Filipino

READING LEVEL	
0	Nothing
1	Letter Level
2	Syllable Level
3	Word Level
4	Phrase Level
5	Sentence Level
6	Paragraph Level
7	Story Level
8	Story Level + Comprehension
9	Local material Level + Comprehension

Ethical Considerations

The research followed moral standards by informing the participants that their participation was voluntary, their privacy would be maintained, and they would be respected for their decision to participate or not. The authorization was given before any data collection, and the identities of all the individuals, including children, were kept confidential by using codes that only the researcher could access. The participants were treated with justice, and they were given a chance to read through their data.

Data Collection

Information gathered were given codes, counted, and arranged into tables for the analysis and interpretation. The study explored the functional literacy of learners in Grade 3 and their demographic profiles in multi-grade and monograde classrooms. The first research problem was to describe the respondents based on four attributes, namely sex, family monthly income, and the occupation and educational level of parents. The data was analyzed by calculating the mean, frequency counts, and percentages. The second research problem concerned literacy performance which was measured by the use of the Functional Literacy Assessment Tools (FLAT). For the purpose of the analysis, the researcher presented a summary of the learner's results that underwent consolidation. The t-test was instrumental in determining comparisons of Grade 3 functional literacy performance between multi-grade and monograde groups. The research also employed ANOVA and T-test to examine the effects of profile variables on literacy performance when descriptive statistics were insufficient. This combined approach revealed further significant literacy-based learning environmental factors that influenced literacy outcomes of Grade 3 learners. The results of these studies served to point out the most efficient and easily executable evidence-based interventions for grade 3 learners with low literacy level performance.

RESULTS AND DISCUSSION

1. Profile of the learners:

1.1 Sex

The table reveals that 55 or 55.0% of the respondents in multi-grade classes are male, while 45 or 45.0% are female. This shows more male students than female students in the multi-grade classes.

The table shows that 47 47% of the respondents are male in monograde classes. There are 53, or 53%, who are female. The data shows more females than males in the monograde classes.

1.2 Family Monthly Income

The table shows that pupils enrolled in monograde classes have better social economics than those in multi-grade classes.

1.3 Employment Status of Parents

This reflects that the parents of the pupils in monograde classes have more sources of income than those of the multi-grade classes.

1.4 Highest Educational Attainment of the Fathers

Table 2 shows data on the fathers of pupils in monograde classrooms who have greater attainment of education than those in multi-grade schools.

1.5 Highest Educational Attainment of the mothers

Table 2 also reveals that out of all the mothers of children in monograde classes, the most common one had a high school certificate (46% of the total), and the least common one had just 3 (3%) who did not finish high school. Only a few of them are elementary undergraduates. Also, out of the total number of mothers, 6 (or 6%) have finished elementary school. In addition, 31 mothers (or 31%) could graduate from college, whereas 14 students (or 14%) did not.

Table 2

Profile of the Learners Enrolled in Multi-grade and Monograde Classrooms in Public Schools

Variable	Multigrade		Monograde	
	Frequency (n=100)	Percentage (%)	Frequency (n=100)	Percentage (%)
Sex				
Male	55	55.0	47	47.0
Female	45	45.0	53	53.0
Family Monthly Income				
10,000 below	82	82.0	33	33.0
10,001 – 20,000	12	12.0	34	34.0
20,001-30,000	5	5.0	21	21.0
30,001-40,000	0	0.0	7	7.0
50,000 and above	1	1.0	5	5.0
Employment Status of Parents				
Employed	19	19.0	43	43.0
unemployed	38	38.0	29	29.0
self-employed	43	43.0	28	28.0
Highest Educational Attainment of Parent's (Father)				
Elementary Undergraduate	19	19.0	3	3.0
Elementary Graduate	13	13.0	7	7.0
High School Undergraduate	20	20.0	3	3.0
High School Graduate	39	39.0	43	43.0
College Undergraduate	4	4.0	18	18.0
College Graduate	5	5.0	26	26.0
Highest Educational Attainment of Parent's (Mother)				
Elementary Undergraduate	0	0.0	0	0.0
Elementary Graduate	17	17.0	6	6.0
High School Undergraduate	36	36.0	3	3.0
High School Graduate	35	35.0	46	46.0
College Undergraduate	5	5.0	14	14.0
College Graduate	7	7.0	31	31.0

2. Functional Literacy Achievement of the Grade 3 Learners Enrolled in Multi-grade and Monograde Classrooms in Public Schools



2.1 Functional Literacy Achievement of the Grade 3 Learners in English Enrolled in Multi-grade and Monograde Classrooms in Public Schools

Of 200 learners, 18 Grade 3 pupils enrolled in multi-grade and monograde classes are at paragraph level. Seven (7) learners in multi-grade courses and four (4) from monograde are under word level. However, two (2) monograde pupils are still at the letter level. Half or more of those who took the survey can read and write. Nevertheless, they are still unable to understand them. Based on the results of this study, the expectations placed on third graders by FLAT (2023) to read a short tale and answer four fact retrieval questions fall well short of the actual level of functional literacy among the participants.

Table 3

Functional Literacy Achievement of the Grade 3 Learners in English Enrolled in Multi-grade and Monograde Classrooms in Public Schools

Key Stage	Type of Classroom	
	Multigrade (n=100)	Monograde (n=100)
Nothing Level	0	2
Word Level	7	4
Paragraph Level	7	11
Story Level	39	53
Story Level+ Comprehension	31	15
Local Material Level + Comprehension	16	15

2.2 Functional Literacy Achievement of the Grade 3 Learners in Filipino Enrolled in Multi-grade and Monograde Classrooms in Public Schools

Results show that students' ability varies across language levels in the third grade reading and writing assessments administered in both Filipino and English. In multi-grade schools, word, phrase, sentence, and paragraph understanding is limited. However, every pupil is within a specific syllable and letter recognition threshold. In particular, the results of the comprehension questions about local resources show that many pupils had difficulty reading comprehension. The findings reveal disparities in language proficiency across different levels of reading and writing assessments in both Filipino and English, with multi-grade schools exhibiting limited understanding, particularly in higher-order comprehension skills, as evidenced by difficulties in answering comprehension questions related to local resources.

In contrast, students in monograde classes show improvement across the board regarding language proficiency, but they still have room to grow, especially in higher-order comprehension. Despite this, Filipinos have higher functional literacy accomplishments than Englishers.

Table 4

Functional Literacy Achievement of the Grade 3 Learners in Filipino Enrolled in Multi-grade and Monograde Classrooms

Key Stage	Type of Classroom	
	Multi-Grade (n=100)	Monograde (n=100)
Nothing Level	0	0
Letra Level	0	0
Pantig Level	0	0



Salita Level	1	2
Parirala Level	0	3
Pangungusap Level	2	2
Talata Level	2	0
Istorya Level	0	3
Istorya Level+Comprehension	39	45
Local material Level+ Comprehension	56	45

3. Significant Differences Between the Functional Literacy Achievement in English Language of The Grade 3 Learners Enrolled in Multigrade and Monograde Classes

3.1 Significant Difference Between the Functional Literacy Achievement in English Language of The Grade 3 Learners Enrolled in Multi-grade and Monograde Classes

Table 5 reveals a significant difference between literacy achievement in the English Language among Grade 3 learners enrolled in multi-grade and monograde classes with a t-value of 5.387 and a p-value of 0.000. The null hypothesis is rejected. It shows that the mean score of the multi-grade group is relatively higher than the mean score of the monograde group. This implies that multi-grade learners perform better than those in Mono-grade classes. In addition, multi-grade education is a viable and preferred option since it promotes high student achievement through differentiated instruction and the advantages of successful peer collaboration (Tomlinson, 2005).

Table 5

A significant difference between the functional literacy achievement in the English Language among Grade 3 learners enrolled in multi-grade and monograde classes

	Multi-grade	Monograde
Functional Literacy Mean	62.25	41.65
Standard deviation	39.47	19.22
t - Test	5.387	
p-Value	0.000	
Decision at 5% alpha Interpretation	Reject Ho	Significant

3.2 Significant Difference Between the Functional Literacy Achievement in Filipino Language of The Grade 3 Learners Enrolled in Multi-grade and Monograde Classes

Table 6 reveals no significant difference in literacy achievement in the Filipino Language among Grade 3 learners enrolled in multi-grade and monograde classes, with a computed t-value of -0.088 and a p-value of 0.930. It shows that the mean score of the multi-grade group is relatively equal to that of the monograde group.

Table 6

A significant difference between the literacy achievement in the Filipino Language among Grade 3 learners enrolled in multi-grade and monograde classes

	Multi-grade	Monograde
Functional Literacy Mean	55.05	55.19
Standard deviation	10.31	12.27
t – Test	-0.088	
p-Value	0.930	
Decision at 5% alpha Interpretation	Accept Ho	
	Not Significant	

4.1 Significant variations in the functional literacy achievement in English of Grade 3 enrolled in the multi-grade and monograde classes when grouped according to their profile variables

Table 7 shows that there are significant variations in the functional literacy achievement in English of Grade 3 enrolled in the multi-grade class when grouped to sex ($t = -3.011$), family monthly income ($F = 9.067$), employment status of parents ($F = 19.216$), educational attainment of the father ($F = 16.050$), and educational attainment of the mother ($F = 9.892$). The computed values are all significant at 5% alpha; thus, the null hypothesis is rejected.

Similarly, there are significant variations in the functional literacy achievement in English of Grade 3 enrolled in the monograde class when grouped to the father's educational attainment ($F = 7.848$) and the mother's educational attainment ($F = 3.522$). The computed values are all significant at 5% alpha; thus, the null hypothesis is rejected.

According to the research results, demographic factors (e.g. gender, family income, parents' employment status, and parents' level of education) are strong determinants of English literacy achievement in Grade 3 learners. By considering the social contexts and how they influence learners, educators may be able to respond directly to social disparities in students' learning, thereby improving learning outcomes in both multi-grade and monograde classrooms.

Table 7

Significant variations in the functional literacy achievement in English of Grade 3 enrolled in the multi-grade and monograde classes when grouped according to their profile variables

Grouping Variable	Multigrade		Monograde	
	F/t -Value	p-Value	F/t -Value	p-Value
Sex	t = -3.011	0.004 <i>Reject Ho</i> <i>(Significant)</i>	t = 0.076	0.940 <i>Reject Ho</i> <i>(Significant)</i>
Family Monthly Income	F = 9.067	0.004 <i>Reject Ho</i> <i>(Significant)</i>	F = 1.228	0.284 <i>Accept Ho</i> <i>(Not Significant)</i>
Employment Status of Parents	F = 19.216	0.000 <i>Reject Ho</i> <i>(Significant)</i>	F = 2.495	0.064 <i>Accept Ho</i> <i>(Not Significant)</i>
Educational Attainment of Father	F = 16.050	0.000 <i>Reject Ho</i> <i>(Significant)</i>	F = 7.848	0.000 <i>Reject Ho</i> <i>(Significant)</i>
Educational Attainment of Mother	F = 9.892	0.000 <i>Reject Ho</i> <i>(Significant)</i>	F = 3.522	0.010 <i>Reject Ho</i> <i>(Significant)</i>

4.2 Significant variations in the functional literacy achievement in Filipino of Grade 3 enrolled in the multi-grade and monograde classes when grouped according to their profile variables

It is revealed in Table 8 that there are significant variations in the functional literacy achievement in Filipino of Grade 3 enrolled in the multi-grade class when grouped to the employment status of parents ($F = 6.213$), educational attainment of the father ($F = 8.433$), and educational attainment of the mother ($F = 8.663$). The null hypothesis is rejected since all the computed F-values are significant at 5% alpha. Furthermore, there are substantial variations in the functional literacy achievement of Filipinos in Grade 3 who are enrolled in the monograde class when grouped according to the mother's educational attainment ($F = 4.370$). The null hypothesis is rejected at 5% alpha since the p-value is 0.003. To improve reading outcomes in Filipino classrooms, whether multi-grade or mono-grade, it is crucial to include parents' socioeconomic status and educational background, as these findings demonstrate. Third graders in the Philippines can benefit from focused interventions to improve their functional literacy abilities if we can identify and comprehend these components.

Table 8

Significant variations in the functional literacy achievement in Filipino of Grade 3 enrolled in the multi-grade and monograde classes when grouped according to their profile variables

Grouping Variable	Multigrade		Monograde	
	F/t -Value	p-Value	F/t -Value	p-Value
Sex	t = -1.914	0.059 <i>Accept Ho</i> (Not Significant)	t = 0.242	0.809 <i>Accept Ho</i> (Not Significant)
Family Monthly Income	F = 3.662	0.059 <i>Accept Ho</i> (Not Significant)	F = 1.081	0.386 <i>Accept Ho</i> (Not Significant)
Employment Status of Parents	F = 6.213	0.003 <i>Reject Ho</i> (Significant)	F = 2.542	0.068 <i>Accept Ho</i> (Not Significant)
Educational Attainment of Father	F = 8.433	0.000 <i>Reject Ho</i> (Significant)	F = 1.802	0.107 <i>Accept Ho</i> (Not Significant)
Educational Attainment of Mother	F = 8.663	0.000 <i>Reject Ho</i> (Significant)	F = 4.370	0.003 <i>Reject Ho</i> (Significant)

Qualitative Phase

5. Feedback from the Teachers on the Difficulties they face in Teaching Reading in Multi-grade Classes in public schools.

Educators educated in multi-grades classrooms experience challenges resulting from limited resources and time for individualized instruction to provide effective support for struggling readers. Nonetheless, these challenges do not offset the quantitative results of this study, which demonstrated that students in multi-grade settings, as a group, demonstrated significantly higher levels in English literacy than students in mono-grade settings. This suggests that multi-grades classrooms can still capitalize on improved opportunities for peer learning with older students supporting younger students in their own learning, even when options for resources and time feel limited. These aspects may contribute to the higher literacy levels observed, which indicates that if educators within multi-grades were to address the challenges they face, they may still improve the outcomes for students within these settings.

CONCLUSION

The research utilizing mixed-methods focused specifically on Grade 3 learners' functional literacy achievement in a multi-grade compared to a mono-grade classroom, identified that learners attending multi-grade classrooms were more successful with their English language literacy as compared to learners in mono-grade classrooms. The authors indicated that this success in the multi-grade classrooms was due to the inherent benefits to reading skill acquisition when students interact with others regardless of age and the level of support offered in a multi-grade classroom. From the perspective of the educator this research might lead one to consider flexible forms of pedagogy to account for students' varied skill levels such as differentiated instruction or opportunities for peer learning while also ensuring students have access to culturally and contextually relevant texts. Furthermore educators should think about purposeful professional learning that directly addresses the management of student learning within a multi-grade model. From a policy level, there is a need for



investment in multi-grade classrooms, alongside the establishment of policies that support educators who work in a multi-grade classroom and at the same time support future research to better understand what are the specific factors that support learners as they work with peers of different ages. In this way educational practices can be adapted and policies enhanced to better support literacy learning while also addressing different learning contexts to improve educational outcomes in schools operating under different classroom configurations.

TRANSLATIONAL RESEARCH

Translational research is important for translating complicated research findings into practical use, especially for third-grade literacy attainment in multi-grade versus in mono-grade classrooms. Translational research helps to communicate research findings to policymakers, educators, families, and the public, through various vehicles such as policy briefs, illustrated children's books, teaching videos, and radio shows. Policy briefs and pamphlets can translate research into actionable recommendations that support resource allocation and teacher training. Illustrated children's books or narratives are practical documents for pre-service teachers and represent ways to disseminate research to families. Teaching videos and plays are practical ways to translate research into an explicit demonstration of effective teaching practices and radio shows can provide engaging, talking about the implications of studies on the research community in a wider, engaging way. Moving forward, translational research can continue to support literacy education by investigating new and emerging technology, such as interactive digital platforms, augmented reality (AR) and virtual reality (VR), that allow opportunities for learners to be immersed into their learning and into virtual teacher training experiences. Social media campaigns can also provide a means to expand awareness and participation, while gamification and data analytics can provide game-like learning experiences which also provide immediate evidence of success using other strategies. These research-engaged ways of facilitating communication of research will build on previous approaches of the needs of translational research to ensure researchers finding can be applied to improve literacy education in public schools, bridging the research to practice gap.

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