

## Professional Development In Fun-Rigour Multimodal Instructional Methods: Teacher Preparation For Functional Primary Education

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### ABSTRACT

In the century when global education paradigms shift towards more learner-centred and engaging approaches, the effectiveness of primary education greatly depends on the instructional competencies of teachers, particularly in the adoption of engaging and cognitively rich pedagogical strategies. In order to achieve functional primary education, this study examined how teacher professional development in a strategy developed based on Nigerian context, may provide teachers with engaging, rigorous, multimodal teaching strategies. Fun-rigour multimodal instructional strategy combines playfulness with developmentally appropriate academic challenges to engage pupils in learning activities to improve learners' engagement, comprehension, and cater for holistic development. The study employed a QUAN + qual triangulation design of mixed methods research. Participants were six lower primary classes teachers of Orphans and Vulnerable Children (OVC) selected across three states in southwestern Nigeria with their pupils in Primary II. A total of 95 Primary II pupils (53% orphans and 47% with special needs) were purposively selected from six schools in Ogun, Osun, and Oyo States. The teachers were trained using F-RMEP Instructional Guide and data were collected in 2023 - 2024 utilizing observation schedules, task rubrics, interview guides, and digital recorders. Data were analysed using thematic approach and analysis of covariance. Results indicated that teachers perceived the programme as child-centred, making learning easier, promoting active learner engagement, and supporting vulnerable learners in integrating effectively. OVC pupils taught using the Fun-rigour multimodal instructional method recorded mean gains in economic skills ranging from 6.55 to 9.98, whereas those taught with the conventional method showed only a minimal mean gain of 0.25 in economic skills related to product development. OVC pupils exposed to Fun-rigour multi-modal instructional method had mean gain in soft skills ranging from 6.45 to 8.59 while pupils exposed to conventional method had soft skills mean gains ranging from 0.66 and 6.48. It was recommended that more teachers of primary school should be empowered to utilise Fun-rigour multimodal instructional strategy.

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**Keywords:** Fun-Rigour Multimodal Instructional Strategy, Professional Development, Vulnerable Children

### INTRODUCTION

As at today, the amount of actual learning that takes place in the education system define its effectiveness and depends heavily on the quality of human teachers implementing such education. Quality of teachers, in this sense, is measured in three major areas namely; what the teachers know about what to teach (Subject matter knowledge), how to teach (pedagogical knowledge) and to measure amount of development/learning that has taken place (evaluation knowledge). These areas of teacher quality keep improving and developing from time-to-time and new effective and better ideas emerge always. Because of this, the professional development of the teachers becomes inevitable in order to keep the teachers effective all the time. The effectiveness of any education system fundamentally depends on the preparedness and competence of its teachers [1, 2, 3]. This reality makes investing in teacher professional and personal development a critical priority for creating high-quality education systems [4]. Teacher

professional development has become increasingly necessary due to the constantly evolving educational ideas, theories, practices as well as social, political, economic, and technological landscapes across different countries and regions. These dynamic changes require educators to continuously update their skills and knowledge to remain effective in the classroom.

Professional development programmes serve multiple interconnected purposes. According to [5] these initiatives aim to transform teachers' classroom practices, shift their attitudes and beliefs about education, and ultimately improve student learning outcomes. The investment in teacher development therefore represents a strategic approach to educational improvement, recognizing that teacher quality directly influences student success and that ongoing professional growth is essential in our rapidly changing world.

However, many teacher professional development programmes often fail to provide in-service teachers with the opportunity to apply the knowledge and skills acquired during their training in a practical classroom environment [6, 7]. Typically, these programmes focus on theoretical aspects and best practices, but lack a structured framework for participants to implement what have been learned in a real classroom setting under supervision of the programme/training organiser [5]. This oversight can result in a disconnect between the training received and the realities of daily classroom life. Without the opportunity to engage in hands-on practice and receive guidance from experienced trainers in real-time teaching scenarios, teachers may struggle to effectively apply new strategies in their classroom management and instructional techniques [8]. Consequently, the potential impact of professional development on student learning outcomes is diminished, as teachers may not fully integrate these valuable insights into their teaching practices [9].

This study focused on improving teaching methods in primary education by providing teachers with specialised training centred on the implementation of engaging and rigorous instructional strategies newly developed and termed, Fun-rigour Multimodal Instructional Method (F-RMIM). This method of instruction combines several strategies aim to foster an engaging and dynamic learning environment while maintaining academic rigour in subjects such as mathematics, basic science, and social studies. The training included practical workshops and interactive sessions that equipped teachers with the knowledge, skills, tools and techniques necessary to embed these strategies into their lesson plans effectively. Additionally, the study observed the real-world application of these strategies within actual classroom settings, assessing how teachers adapted and employed the strategies to promote pupils' engagement, understanding and acquisition of soft and economic skills in real-time learning scenarios. This comprehensive approach enabled the researchers to evaluate the influence of the training on both teaching practices and pupils' learning outcomes in terms of soft and economic skills acquisition.

The teacher professional development was in sections and covered F-RMIM lesson planning, lesson delivery, identification and use of low-cost/no-cost instructional resources and assessment of pupils' knowledge and skills acquisition. F-RMIM lesson planning is a child-centred one that has the following main features: (i) behavioural objectives that cut across the three learning domains (Cognitive, affective and Psychomotor) with much emphasis on psychomotor domain. (ii) classroom activities that specifically identify teacher's, pupils' and differential activities with much emphasis of pupils-engage activities that must feature fun activities and rigour

activities (iii) based on classroom activities, the identification of instructional resources that will be explored by the pupils with emphasis on real-life relevance and (iv) assessment of knowledge and skills acquisition of the pupils with emphasis on soft and economic skills. This lesson plan deviates significantly from the conventional teacher-centred lesson plan among the primary school teachers.

The training on F-RMIM delivery focused on the following: (i) teacher's ability to present both fun and rigour activities within the lesson duration. (ii) presentation of resources and encourage pupils' participation (iii) management of the unstructured classroom environment and (iv) formative assessment of skills acquisition. Again, the lesson delivery relies different distinctively from teacher-centred lesson delivery where teacher only tell, explain and write notes for the pupils.

Because of the emphasis on practical learning activities and the acquisition of skills by F-RMIM, this study involved teachers teaching pupils with special educational needs, specifically the orphans and vulnerable children (OVC). Teachers of two major categories of OVC (and their pupils) were involved – the orphans and mild intellectually challenged pupils. The rationale behind this was that if the teacher can acquire the F-RMIM skills, adopt it to teach the OVC and it is found effective, then, it will be more effective among regular pupils.

This study explored the development of the teachers by assessing their understanding the instructional method, F-RMIM lesson planning and delivery skills. To this end, the teachers' perceptions were measured qualitatively, and the effectiveness of their teaching was measured quantitatively. These enable the researchers to ascertain not only how much knowledge and skills the teachers had acquired but how effectively these can be put into use within the primary classroom.

## **THEORETICAL BACKGROUND**

The educational theory underpinning this study is the Fun-Rigour Theory of Child Development (F-R Theory), which was propounded by Salami (10). This theory recognises the active participation of learners in constructing knowledge through interaction with their environment and meaningful social engagement, but in addition suggests that injection of developmentally appropriate rigour to the pupils leaning activities will promote holistic development better. F-R Theory leverage the submission of Jean Piaget that children learn best when they are actively involved in tasks that challenge their existing schemas and allow them to build new knowledge. It also in agreement with Lev Vygotsky's Sociocultural Theory which focuses on the critical role of social interaction, language, and scaffolding in learning. His concept of the Zone of Proximal Development (ZPD)

supports the idea that children can achieve higher levels of understanding with appropriate guidance and support. However, F-R Theory believe that these two theories emphasis cognitive development of other learning domain, specifically, the acquisition of the 21<sup>st</sup> century skills acquisition. Therefore, Fun-Rigour (F-R) Theory builds upon these foundations by proposing a learning theory that balances play (fun) with academic challenge (rigour). It argues that injection of some developmentally appropriate real-life rigors to the day-to-day fun activities of children will bring about the development of economic skills (determination-for-success, invention, endurance, persistence, self-dependent) and soft skills (responsibility, flexibility, team-spirit, integrity and courtesy) in the children, hence, assure of success. F-R Theory believes that effective instruction, especially at the primary level, must stimulate curiosity, creativity, and problem-solving through active, multimodal learning experiences. This includes the use of play, storytelling, music, digital technology, role-play, inquiry-based learning, and physical movement in addition to developmentally appropriate real-life challenges (based on the subject matter), all delivered in ways that are developmentally appropriate and culturally relevant. A central tenet of the F-R theory is that learning should target the whole child cognitively, socially, emotionally, and physically. By combining fun and rigour, children are more likely to develop not just academic competencies but also soft and economic skills. This theoretical perspective draws from indigenous African philosophies such as the Yoruba worldview, which values the cultivation of practical wisdom and independence in children (as Ondo people refer to it, "*omo mea pe yem wa*"—"I will call my mother child"). This emphasizes the role of education in preparing learners to navigate real-life challenges.

In the context of teacher professional development, the F-R theory implies that educators must be trained to deliver content in ways that are both engaging and intellectually stimulating. This necessitates continuous professional learning in multimodal instructional strategies, curriculum adaptation, learner-centred methods, classroom management, and the integration of culturally responsive practices. Teachers must also develop reflective and adaptive capacities that enable them to respond effectively to the diverse learning needs of primary school pupils. Consequently, a teacher who is well-grounded in Fun-Rigour pedagogy is not just a dispenser of knowledge but a facilitator of holistic learning experiences. Such a teacher is prepared to foster functional education, where learners are equipped with skills, knowledge, and values that are relevant for life, work, and societal contribution.

## OBJECTIVES OF THE STUDY

The aim of this study is to equip primary school teachers with knowledge and skills for adopting fun-rigour multimodal instructional method and examine the effectiveness among the pupils. Specifically, the study was design to:

1. examine teachers' experiences in fun-rigour multimodal instructional method.
2. explore the teachers' views on F-RMIM lesson delivery and the extent of pupils' engagement during lesson.
3. determine the mean gain in economic skills of pupils exposed to both F-RMIM and conventional methods.
4. determine the mean gain in soft skills of pupils exposed to both F-RMIM and conventional methods.

## RESEARCH QUESTIONS

- 1) What are the teachers' experiences in fun-rigour multimodal instructional method?
- 2) How do teachers view F-RMIM lesson delivery and extent of pupils' engagement during lesson?
- 3) What is the mean gain in economic skills of OVC exposed to F-RMIM by the trained teachers compared to those whose teachers were not trained?
- 4) What is the mean gain in soft skills of OVC exposed to F-RMIM by the trained teachers?

## MATERIAL AND METHODS

**Research design:** This research study adopted a triangulation design of the QUA1 + quan type of mixed methods research. Phenomenological approach was adopted for the qualitative aspect while pretest-posttest control group quasi-experimental design was adopted for the quantitative aspect. However, the descriptive analysis of the collected quantitative data is reported in this study.

**Sample Selection:** The participants of the study were selected across the primary school teachers and Orphan and Vulnerable Children (OVC) in southwestern Nigeria. Three out of six states which have registered orphan and special children (Mental retarded) were purposively selected for the study. In each state, two schools, with at least 15 OVC who were in primary II or age seven years old were selected. The teachers handling these classes were involved in the professional development training. The selection was done such that from a state, teachers of both orphan and special children were selected. The two schools in each state were assigned to experimental and control groups. This gave a total of six special schools that were involved in the study. In all, six Primary II class teachers were involved in the study but three of them were involved in the professional training. A total of 95 pupils taught by the six teachers in Primary II classes were also

involved in the study; 53% of the pupils were orphans while 47% were special education needs children; 54% of the pupils were taught by the F-RMIM trained teachers while 46% were taught by teachers not trained .

**Research instruments:** Two sets of instruments were used to collect data for the study, namely stimulus and response instruments. The stimulus instruments are the set of F-RMIM instructional guides used to train the teachers. These are (i) Science Fun-Rigor Multi-Modal Educational Package Instructional Guide (Science F-RMEP\_IG); (ii) Social Sciences Fun-Rigor Multi-Modal Educational Package Instructional Guide (Social Sciences F-RMEP\_IG); (iii) Language Fun-Rigor Multi-Modal Educational Package Instructional Guide (Language F-RMEP\_IG) and (vii) Teacher training manual. The response instruments are: (i) Teacher’s Interview Guide (TIG); (ii) Electronic audio visual recorder; (iii) Primary Pupils Soft Skills Observation Schedule (PpSSOS); (iv) Primary Pupils Economic Skills Task Schedule (PpESTS) and (v) Primary Pupils Economic Skills Rubric (PpESR).

**Research procedure:** The research instruments were designed, developed and validated. The stimulus instruments were validated by experts in special education, childhood education and experienced primary school teachers. The validation of the response instruments will include thorough content, construct and face validity processes for the qualitative instruments. In addition, the quantitative ones will be field-tested so as to ascertain the validity status. Afterwards, request for approval letter was written to the three states’ SUBEB and Ministry of Women Affairs. Base line data was collected, which included pre-test measures of soft and economic skills of the OVC. The following activities were then carried out: (i) Training of the selected teachers; (ii) Teaching delivery by the trained teachers; (iii) Post intervention data collection and analysis.

**RESULTS**

The qualitative aspect of the study involves an in-depth interview to elicit the qualitative data. Table 1 presents the demographic information about three F-RMIM trained teachers who were interviewed.

**Table 1: Demographic Information about the Interviewees**

S/N	Pseudonyms	Schl type	Gender	Educ Qual	Specitn.	Expenche.	Category of pupils
1	OS	Public	F	Degree in Educ	SPE/PES	11+	Mild Intellectual disability
2	OY	Private	F	NCE	PES	11+	Orphan
3	OG	Public	F	Degree in Educ	SPE/ECE	11+	Mild Intellectual disability

Table 1 shows the demographic information about the three teachers involved in this study. Two of the teachers were working in public schools and the last one was working in private school. The three of them are female. The two teachers working in the public schools had Degree in education and their area of specialization was special education, and they were teaching pupils with mild retardation. The teacher working in private school had Nigerian Certificate in Education (NCE) and her area of specialization was Primary Education Studies (PES) and the teacher were working with orphan pupils. The three teachers had over 11 years of working experience

To support this also, Mrs. OG said:

*They (pupils) participate with lots of interest and very eager to learn.*

Aside from the fun activities, the teachers were asked to share their experiences about Rigour activities. The responses of the teachers shows that all the children were engaged in some challenging activities which made them fully involved. But some pupils with special educational needs found it difficult to cope, most especially those who cannot hold objects. For instance, Mrs. OS who was teaching in a special school submit that:

*This has really helped them to be actively involved. They make things with their hands. The only challenge is with those who are having challenges with their hands.*

Mrs. OG who was also teaching in a special school supported the claim by saying:

*They have challenges with their psychomotor. Some of them can’t really hold objects for long.*

However, Mrs. OY who was teaching orphan pupils said:

*It is okay. The pupils draw pictures about objects. It is also interesting.*

**Answers To The Research Questions**

**Research Question 1:** What are the teachers’ experiences in fun-rigour multimodal instructional method?

The teachers share their experiences about fun activities. The responses of the teachers shows that the teachers as well as the pupils found fun activities interesting, exciting and facilitate learning. Mrs. OY while sharing her experience submitted that:

*I find it interesting as well as the pupils. Sometimes, we role play, sometimes we share experiences.*

Mrs. OS said:

*These give the children joy, they always feel so excited and see it as fun.*

These findings indicate that the teachers as well as the pupils found fun activities interesting, exciting and facilitate learning. All the children were engaged in some challenging activities which made them fully involved. But some pupils with special educational needs found it difficult to cope, most especially those who cannot hold objects.

**Research Question 2:** How do teachers view F-RMIM lesson delivery and extent of pupils' engagement during lesson?

In order to answer this question, the teachers who F-RMIM were exposed to were interviewed separately. The first question of the interview was a general one and it sought the opinion of the teachers about the F-RMIM instructional Package. The responses of the teachers shows that the instructional package is effective as it encourages the use of instructional materials, facilitates learning and made pupils to be actively involve in the teaching/learning activities.

For instance, Mrs. OY who had NCE and had been teaching for over 11 years submitted that:

*The teaching guide is very okay. I have learnt how to use instructional materials that are not available in the school. FRMIM has given us the opportunity to add to knowledge.*

Mrs. OS who had First Degree in Special Education/Primary Education Studies and had been teaching for over 11 years supported this claim by saying:

*I really enjoy using it. It facilitates learning. It has really helped to achieve our objectives in the class. It really helped my teaching too.*

Mrs. OG also supported the claim by submitted that

*The programme is great. It has really helped the learners to be actively involved.*

As a follow up to the first question, the teachers were asked what they found interesting in the usage of the instructional guide. From the responses, it was discovered that what the teachers found interesting most are the instructional resources, the rigour activities and the teaching that is child centred. It was Mrs OS who gave more detailed response to this, and she said:

*What I found interesting is that the pupils learn by what they see and touch and play with. All materials needed are provided, which makes the*

*teaching and learning process a great one.*

In her own view, Mrs. OY listed two things, that is, instructional materials and rigour activities as what interest her most. Mrs. OG submitted that:

*It makes the learning easier and child-centred. Those that are challenged with their speech were able to get along.*

Again, in order to check both sides of the coin, the teachers were asked what they found challenging in the usage of the package. The only challenge mention was the video clips that one of the teachers could not open for the pupils. Mrs OS submitted that:

*There is no challenge in using the guides, apart from some of the video clips for the children to watch that I couldn't open at first.*

Mrs. OG and Mrs. OY claimed that there was no challenge whatsoever in the use of FRMIM instructional guides.

Furthermore, teachers shared their views about lesson delivery generally. The responses of the teachers reveals that the lesson delivery was made easy by the guide. In the words of Mrs. OY:

*It is seamless. From the motivation to rigour activities, everything is easy.*

Mrs. OS supported this by saying that lesson delivery is very great with the help of the instructional guide. However, Mrs. OG who was teaching in a special school, reported extra efforts that had to be made to ensure the lesson delivery is made effective. In her words:

*For our pupils here, we need to use our mother tongue, i.e., the language of our immediate environment (Yoruba) so as to get a positive response. Also, we repeat the lesson sometimes.*

Again, the teachers were asked to comment on extent of pupils' engagement during lesson. The responses of the teachers show that the pupils were fully engaged and their participation involve the use of their hands. In the words of Mrs. OS:

*They are fully engaged. They do things with their hands. They participate actively in the class.*

Mrs. OG supported this by saying:

*They are actively involved, though when they are*

*ready to learn. They have really improved through the use of this package (programme).*

Mrs. OY also reported that the pupils' engagement is highly participatory.

The teachers therefore agreed that the *lesson delivery* was made easy by the guide. The pupils were fully engaged, and their participation involve the use of their hands. The teachers also suggested that the programme should continue because it could improve our primary education.

**Research Question 3:** What is the mean gain in economic skills of OVC exposed to F-RMIM by the trained teachers compared to those whose teachers were not trained?

**Table 2: Mean Gains in Economic Skills of Pupils Exposed to both F-RMIM and Conventional Methods**

**Pupils Exposed to F-RMIM**

Economic Skills	N	Pre-Mean Score	Post Mean Score	Mean Gain	Remark
Determination for Success	51	7.529	17.471	9.942	2 <sup>nd</sup>
Endurance	51	7.549	17.529	9.980	1 <sup>st</sup>
Persistence	51	7.441	15.843	8.402	3 <sup>rd</sup>
Self-dependence	51	7.314	13.863	6.549	5 <sup>th</sup>
Product	51	7.177	14.726	7.549	4 <sup>th</sup>
<b>Pupils Exposed to Conventional</b>					
Determination for Success	44	7.705	7.136	-0.569	2 <sup>nd</sup>
Endurance	44	8.159	7.227	-0.932	3 <sup>rd</sup>
Persistence	44	7.932	6.818	-1.114	4 <sup>th</sup>
Self-dependence	44	7.818	6.455	-1.363	5 <sup>th</sup>
Product	44	7.432	7.682	0.250	1 <sup>st</sup>

Table 2 shows that the pupils exposed to Fun-rigour multimodal instructional method had mean gain in economic skills ranging from 6.55 to 9.98. The pupils had the highest mean gain in Endurance (9.98); followed by in determination for success (9.94); followed by in persistence (8.40); followed by in product (7.55) and had the least in self-dependence (6.55).

However, pupils exposed to conventional method only had slight economic skills mean gain (0.25) in product, but experienced mean loss in others – determination (-0.57); endurance (-0.93); persistence (-1.11) and self-dependence (-1.36).

This indicate that the teachers trained in F-RMIM demonstrated effective use of the strategy as expected. The professional development had actually equipped the teachers with additional pedagogical practices that is child-centred, child-engaged and effective in equipping the pupils with 21<sup>st</sup> century needed skills.

**Table 3: Mean Gains in Economic Skills of Special and Orphan Pupils**

Economic Skills	N	Pre-Mean Score	Post Mean Score	Mean Gain	Remark
<b>Special Pupils</b>					
Determination for Success	45	7.311	14.000	6.689	2 <sup>nd</sup>
Endurance	45	7.489	14.578	7.089	1 <sup>st</sup>
Persistence	45	7.067	12.600	5.533	3 <sup>rd</sup>
Self-dependence	45	6.889	11.400	4.511	5 <sup>th</sup>
Product	45	6.622	12.133	5.511	4 <sup>th</sup>
<b>Orphan Pupils</b>					
Determination for Success	50	7.880	11.880	4.000	1 <sup>st</sup>
Endurance	50	8.140	11.840	3.700	2 <sup>nd</sup>
Persistence	50	8.180	10.820	2.640	4 <sup>th</sup>
Self-dependence	50	8.140	9.560	1.420	5 <sup>th</sup>
Product	50	7.900	11.180	3.280	3 <sup>rd</sup>

Table 3 shows that the special pupils involved in this study had mean gain in economic skills ranging from 4.51 to 7.09. The special pupils had the highest mean gain in Endurance (7.09); followed by in determination for success (6.69); followed by in persistence (5.53); followed by in product (5.51) and had the least in self-dependence (4.51).

However, orphan pupils involved in this study had economic mean gains ranging from 1.42 to 4.00. The orphans had the highest mean gain in determination for success (4.00); followed by endurance (3.70); followed by product (3.28); followed by persistence (2.64) and had the lowest mean gain in self-dependence (1.42).

This implies that FRMIM was effective in improving the economic skills of pupils with mild mental retardation. The fun-rigour activities in the package incorporated activities such as inquiry-based learning, and physical movement, all delivered in ways that are developmentally appropriate and culturally relevant. Pupils exposed to the conventional lesson delivery however only improved minimally in economic skills. This corroborates the assertion World Bank (11) regarding Nigerian pupils. They opined that these pupils attend school without adequately learning skills needed for survival and prosper in life. Artykbaeva (12) further posited that economic skills are not exposed to pupils in elementary school. Salami et al, (13) also revealed that economic skills of the OVC pupils was fairly developed across many indices of economic skills, indicating that more emphasis is placed on cognitive development at the expense of other learning domains, which may have accounted for the low development of the pupils in economic skills

Salami et al, (13) further revealed that there is a significant difference between orphans and pupils with mild intellectual disability in the economic skills development after exposure to the conventional

curriculum ( $t = 1.98$ ;  $df = 93$ ;  $p=0.05$ ), with orphans recording higher economic skills (mean = 40.24) than those with mild intellectual disability (mean = 35.38). Interestingly, after exposure to FRMIM, pupils with mild intellectual disability recorded higher mean gain in economic skills (ranging from 4.51 to 7.09), while orphan pupils involved in this study had economic mean gains ranging from 1.42 to 4.00. This is an indication of how effective the teacher professional development in F-RMIM and the effectiveness of the method was in meeting the teaching-learning needs of disadvantaged pupils. The inquiry-based learning and action-based learning, delivered in developmentally appropriate and culturally relevant ways was very beneficial to the pupils, especially those with mild intellectual disability.

**Research question 4:** What is the mean gain in soft skills of OVC exposed to F-RMIM by the trained teachers?

**Table 4: Mean Gains in Soft Skills of Pupils Exposed to both F-RMEP and Conventional Methods Pupils Exposed to F-RMEP**

Soft Skills	N	Pre-Mean Score	Post Mean Score	Mean Gain	Remark
Responsibility	51	8.765	17.353	8.588	1 <sup>st</sup>
Flexibility	51	9.628	16.078	6.450	5 <sup>th</sup>
Team spirit	51	8.804	15.686	6.882	3 <sup>rd</sup>
Integrity	51	9.000	15.490	6.490	4 <sup>th</sup>
Courtesy	51	8.471	16.333	7.862	2 <sup>nd</sup>
<b>Pupils Exposed to Conventional</b>					
Responsibility	44	8.477	11.318	2.841	2 <sup>nd</sup>
Flexibility	44	8.318	9.523	1.205	3 <sup>rd</sup>
Team spirit	44	8.591	9.250	0.659	5 <sup>th</sup>
Integrity	44	7.591	8.546	0.955	4 <sup>th</sup>
Courtesy	44	9.205	15.682	6.477	1 <sup>st</sup>

Table 4 shows that the pupils exposed to Fun-rigour multi-modal educational package had mean gain in soft skills ranging from 6.45 to 8.59. The pupils had the highest mean gain in Responsibility (8.59); followed by in courtesy (7.86); followed by in team spirit (6.88); followed by in integrity (6.49) and had the least in flexibility (6.45).

However, pupils exposed to conventional method had soft skills mean gains ranging from 0.66 and 6.48. The highest soft skills mean gain was in courtesy (6.48), followed by responsibility (2.84); followed by flexibility (1.21); followed by integrity (0.96) and the least was in team spirit (0.66).

Table 5 shows that the special pupils involved in this study had mean gain in soft skills ranging from 3.02 to 6.67. The pupils had the highest mean gain in courtesy (6.66); followed by team spirit (5.22); followed by integrity (4.60); followed by flexibility (3.96) and had the lowest soft skills mean gain in Responsibility (3.02).

The orphan pupils involved in this study had soft skills mean gains ranging from 2.90 and 6.88. The highest soft skills mean gain was in courtesy (6.88), followed by integrity (3.32); followed by flexibility (3.28); followed by responsibility (3.04) while the lowest soft skills mean gain was in team spirit (2.90).

**Table 5: Mean Gains in Soft Skills of Special and Orphan Pupils**

<b>Special Pupils</b>					
Economic Skills	N	Pre-Mean Score	Post Mean Score	Mean Gain	Remark
Responsibility	45	8.644	11.667	3.023	5 <sup>th</sup>
Flexibility	45	9.578	13.533	3.955	4 <sup>th</sup>
Team spirit	45	8.800	14.022	5.222	2 <sup>nd</sup>
Integrity	45	8.978	13.578	4.600	3 <sup>rd</sup>
Courtesy	45	9.756	16.422	6.666	1 <sup>st</sup>
<b>Orphan Pupils</b>					
Responsibility	50	8.620	11.660	3.040	4 <sup>th</sup>
Flexibility	50	8.600	11.880	3.280	3 <sup>rd</sup>
Team spirit	50	8.620	11.520	2.900	5 <sup>th</sup>
Integrity	50	7.780	11.100	3.320	2 <sup>nd</sup>
Courtesy	50	8.800	15.680	6.880	1 <sup>st</sup>

Boven (14) (2022) emphasised the potential of enhancing soft skills when project-based learning is utilised. The activities in FRMIM such as play, storytelling, music and role-play provided ample opportunity to develop soft skills in pupils exposed to the intervention. On the other hand, the conventional delivery of the curriculum in many primary schools just fairly improved the soft skills of orphans and children with mild intellectual disability, corroborating the finding of Salami et. al (15). Salami et. al. (16) further revealed that orphan and pupils with special educational needs in the lower primary classes had low team spirit and integrity.

Salami (13) further revealed that among pupils exposed to the conventional curriculum, those with mild intellectual disability demonstrate better soft skills (courtesy, responsibilities and integrity) than the orphans. However, after exposure to FRMIM, the gains in soft skills among both category of pupils was within the same range. This indicates the efficacy of the intervention package on both teachers’ teaching practices and in improving soft skills of diverse categories of learners, possibly due to group-based activities therein.

**SUMMARY OF FINDINGS**

Based on the analysis, qualitative and quantitative done so far, the following are the summary of findings of this study:

1. The features of F-RMIM instruction guide, according to the teachers are:
  - a. The teachers were able to engage the pupils in fun activities and they found it interesting, exciting and facilitate learning.

- b. Teachers were able to engage the pupils in some challenging activities which made them fully involved. But some pupils with special educational needs found it difficult to cope, most especially those who cannot hold objects.
  - c. The lesson delivery was made easy by the guide.
  - d. The teachers suggested that the programme should continue because it could improve our primary education.
2. Pupils exposed to Fun-rigour multimodal instructional method had mean gain in economic skills ranging from 6.55 to 9.98; while pupils exposed to conventional method only had slight economic skills mean gain (0.25) in product, but experienced mean loss as low as (-1.36).
  3. The special pupils involved in this study had mean gain in economic skills ranging from 4.51 to 7.09; while orphan pupils involved in this study had economic mean gains ranging from 1.42 to 4.00.
  4. The pupils exposed to Fun-rigour multimodal instructional method had mean gain in soft skills ranging from 6.45 to 8.59.; while pupils exposed to conventional method had soft skills mean gains ranging from 0.66 and 6.48.
  5. The special pupils involved in this study had mean gain in soft skills ranging from 3.02 to 6.67; while orphan pupils involved in this study had soft skills mean gains ranging from 2.90 and 6.88.

## CONCLUSION

In the quest to improve the quality of education generally and primary education in particular, there is the need to bring about change in the teachers' pedagogical practices in order to lead to the effectiveness of the teaching and learning activities. Most times, the change in the pedagogical practices could involve introducing new practices which the teachers were not trained on or aware of irrespective of the years of teaching experience. The only way to make the teachers adopt the new practices and use it effectively is professional development, which involve introducing the new practices to the teachers in form of in-service training. Fun-rigour Multimodal Instructional Methods (F-RMIM) was thought of and developed at the university level, primary school teachers, particularly those teaching orphan and vulnerable children were trained on the use of F-RMIM. This study reveals the effectiveness of this teacher professional development on the teachers' perceptions about the new pedagogical practices as well as the utilisation of the instructional method with OVC in primary school. The study therefore

concludes that for better learning outcomes (including 21<sup>st</sup> century life skills) among primary school pupils, the teachers should be given training on the use of F-RMIM in form of professional development.

## RECOMMENDATIONS

Based on the findings of this study, the following recommendations are proffered:

- More research studies should be carried out about the effectiveness on fun-rigour multimodal instructional method not only in other states of Nigeria but in other countries. This is to ascertain the effectiveness of the method in different social, economic, cultural and geographical context.
- More teachers, most especially those teaching in regular primary school should be trained on the use of F-RMIM in order to improve, not only the learning outcomes but also to ensure primary school pupils acquire 21<sup>st</sup> century life skills such as economic and soft skills.
- There is the need for regular professional development programmes to keep the teachers, most especially, primary school teachers abreast of child-centred instructions that will bring about the effectiveness of the education.

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