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Expanding the horizons of educators on action research writing

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Abstract

This extension project aimed to enhance teachers' capability in conducting classroom- based action research. The objectives further included profiling teacher participants, assessing their proficiency in action research writing, identifying improvements in their written outputs, and evaluating perceived difficulties before and after training sessions. Using a mixed-methods approach, this extension project integrated quantitative analysis of pre- and post-test written outputs with qualitative insights from selected teacher participants. The initial phase involved distributing survey questionnaires to gather data on participants' demographics, teaching experience, and prior research engagement. The findings revealed a predominantly female cohort with diverse teaching backgrounds and no prior experience in classroom-based action research. During the subsequent experimental phase, significant enhancements in teachers' written outputs post-training were observed, particularly in articulating problem statements and interventions. However, challenges persisted in data gathering writing skills. The evaluation of action research outputs identified strengths in various components, including rationale development, problem context analysis, proposed interventions, research questions, data analysis plans, and work plans. These findings indicated areas for improvement, suggesting opportunities to enhance the quality and effectiveness of research studies within DepEd. The training intervention successfully bolstered participants' skills and confidence in specific aspects of action research writing, such as hypothesis formulation. Nonetheless, challenges in selecting a focus, establishing context and rationale, and preparing questionnaires showed minimal change post-training, suggesting these areas require more tailored interventions. Overall, this study underscores the critical importance of targeted training interventions in enhancing teachers' action research capabilities within educational settings. It highlights the need for ongoing refinement of training approaches to address persistent challenges. The findings suggest that while the training was effective in improving certain research skills, a more nuanced approach is necessary to fully address the complexities of action research writing.

Keywords: Classroom-Based Research; Research Capability Enhancement; Action Research; Teachers' Professional Development; Proficiency Assessment; Training Interventions

1. Introduction

Research plays a vital role in our educational system. The continuous effort to search for solutions to different problems in the teaching-learning process and educational management paved the way for more areas of research.

Bulacan Agricultural State College, as a state college, was mandated to promote Four- Fold functions such as instruction, research, extension, and production. Pursuant to CHED Memorandum Order No. 52, s. 2016, stating the pathways to equity, relevance, and advancement in research innovation and extension in Philippine higher education, the Institute of Education of Bulacan Agricultural State College aims to promote a culture of excellence in research and extension. This will not only provide means for the teacher participants to gain knowledge in the research methodologies but also deliver opportunities for them to conduct research and extension in their own respective stations.

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Action research is indispensable nowadays, especially in the Department of Education. Teachers were asked to conduct research on how to improve the teaching-learning process. Head teachers and principals were on a quest to find effective means for instructional supervision and management. It is imperative for teachers both in the Department of Education and in Higher Education Institutions (HEIs) to conduct research that will help combat the deteriorating quality of education in the Philippines.

As stipulated in the Research Management Guidelines of DepEd, to promote an environment of evidence-based decision-making, implementation of the RMG aims to renew vigor in the conduct of research, solidifying DepEd's thrust towards improved research management and governance (DepEd, 2017).

Through training programs, conducting research might provide teachers with technical know-how which will in turn be of great help in his/her conduct of research in their field. Training programs are also important in the education sector, just as in other sectors of organizations. It is a process by which people are taught skills and given the necessary knowledge or attitude to enable them to carry out their responsibilities to a required standard (Omar, 2014).

Objectives:

The general aim of the study is to enhance teachers' capability in conducting classroom- based action research with the DepEd teachers in San Ildefonso North and South Districts, particularly in Mataas na Parang Elementary and Pinaod Central Schools.

Specifically, the study aimed to:

- Describe the teacher participants in terms of:
  - Gender;
  - Educational attainment
  - Teaching experience; and
  - Experience in conducting research.
- Determine if there is a significant difference in the level of writing proficiency of deped teacher participants in conducting action research in their respective stations;
- Determine the significant improvements in the written outputs of the teacher participants; based on the evaluators' feedback; and
- Assess the teacher participants' perceived level of difficulty before and after the series of training.

2. Review of literature

Action research plays a very crucial role in the educational system nowadays. It enables teachers to discover what went wrong and what could be done to address classroom problems and issues. In addition, it helps the teachers explore innovative teaching strategies that will suit the needs of the learners. In the Philippines, doing research has become one of the important professional development programs for teachers that have been emphasized by the Department of Education (DepEd) and the Commission on Higher Education (CHED) (Anzaldo & Cudiamat, 2019).

Moreover, RA 9155, or the Basic Education Governance Act of 2001, gives a mandate to the Department of Education (DepEd) to undertake national education research and studies, from which it can become part of the basis for necessary reforms and policy inputs. Teachers from both private and public educational institutions are encouraged to conduct action research to identify and address the teaching and learning issues and concerns in their classrooms and in the school. Thus, doing research has now become part of the teaching-learning improvement plans.

Furthermore, DepEd has ordered its school heads and administrators across the country to adopt the "enclosed Basic Education Research Agenda," which promotes the conduct of research in schools by teachers (DepEd, 2016). The purpose is to discover schools' issues and solutions and form part of teachers' professional development and skill enhancement. By doing research, teachers are believed to improve their teaching practices for the betterment of students' learning and for the school (Ulla, 2018).

As educators delve into research, they come to recognize the positive impact of action research not only on their teaching but also on their professional growth. The findings of the study by Vecaldo, Asuncion, and Ullah (2019) revealed that personal (additional learning, self- enrichment and prestige) and professional (knowledge, generation and dissemination of career advancement, and building linkages) reasons inspired teacher education faculty in writing their research.

Nevertheless, only a limited number of teachers, particularly those in public secondary schools, have ventured into conducting research in the country (Ulla, 2017), primarily due to the myriad challenges faced by teacher-researchers.

Several research studies aimed to pinpoint the difficulties teachers encounter while engaging in action research. Included in these studies are investigations carried out by Landicho (2020), Anzaldo & Cudiamat (2019), De Borja (2018), Tindowen, Guzman & Macanang (2019), and Morales et al. (2016). They explored various obstacles, requirements, and the degree of challenge faced by teachers when conducting action research. They found out that it seems critical that teachers believe in the power of action research to impact their teaching practice. Engaging in this work, however, needs a concrete and complete development of skills. Findings of the study suggest that though teachers had prior knowledge and skills in doing action research (AR), they still felt they lacked certain skills for their complete immersion in AR. These identified perceived needs, challenges, and conceptions of AR and its lasting impact move towards professional development and the improvement of student achievement.

The results of the study by Landicho (2020) revealed that the respondents held a positive outlook towards research and considered it an avenue for professional growth. They also recognized the positive impacts of research on their teaching skills and their students' learning experiences. Both extrinsic and intrinsic motivations were reported to be the main stimuli for doing research. Moreover, it was found out that time and financial constraints, a heavy workload, and a lack of exposure and experience in research were some of the challenges identified by the respondents.

While Tindowen, Guzman, and Macanang (2019) found out that two of the major themes that emerged as the major issues and challenges of teachers in the conduct of action research were writing anxiety and inadequate knowledge in the conduct of action research, not to mention the additional workload and burden on the part of the teachers.

In a study conducted by Ulla (2018), findings suggest that although teachers' motivations to do research were more personal than professional, teachers recognized some benefits of doing school and classroom-based research for their teaching practices and career development. Challenges that were reported include a lack of financial support, a heavy teaching load, a lack of research skills and knowledge, and a lack of research materials and resources. Implications are discussed considering the findings and recommendations formulated for future research directions.

Morales (2016) also attested that although educational institutions in the Philippines have encouraged their teachers to be involved in research, as it is seen to be useful for their professional development and in their teaching career, teachers are confronted with many issues that affect their motivation to undertake research. He mentioned that this is because of their tight teaching timetables and heavy teaching workloads. He also pointed out that there was a perceived moderate level of difficulty in conducting action research indicated in some areas needing professional development programs, such as statistics, data organization, literature searching, and writing reports.

Grima Farrell (2017) outlines some practical steps to encourage teachers to do research. First, teachers' needs should be investigated and provided so that their motivation to do research will increase. Second, research training and other research programs should be offered to teachers to equip them with the necessary skills to do research. Third, research collaboration should be emphasized so that teachers will be able to share their practices, skills, and knowledge. Lastly, support systems should be strong among teachers and schools' management, as doing research can be time consuming and tedious.

According to Dziedzic (2016), engaging in action research is a "brief, clear, and detailed look at how to complete your own self-directed site-based action research.". To do so, potential action researchers walk through the typical components of an action research project, from question development to literature review to methods and methodology to collecting and analyzing data and literature findings. The step-by-step approach provides novice action researchers with a solid grounding in what action research is, how one might go about conducting it, and how to share the results.

Salleh (2014) also proposed a solution to these challenges. Rather than brief action research workshops, it was suggested that teachers might find more value in being supported by external consultants or experienced teacher-researchers throughout the entirety of their research journey. This approach would allow them to receive timely assistance whenever needed, whether it's in a literature review or selecting an appropriate research design. According to Salleh, research is a skill that requires time to develop, and teachers shouldn't feel pressured to rush into it hastily.

A range of studies have explored methods to enhance the writing proficiency of teacher researchers in conducting action research. Süğümlü (2020) and Anzaldo (2019) both emphasize the importance of training and professional development in this area. Süğümlü's study specifically focuses on improving writing skills through gradual training, while Anzaldo's work highlights the need for capacity building to help teachers appreciate the value of research. Pipere

(2006) and Irwandi (2019) both propose specific strategies for enhancing research skills, with Pipere's "cascade" approach and Irwandi's focus on language and theoretical aspects of research proposals. These studies collectively suggest that a combination of training, capacity building, and specific skill development strategies can help increase the writing proficiency of teacher researchers in conducting action research.

At this juncture, the Institute of Education initiates the conduct of extension projects to help DepEd basic elementary teachers conceptualize and materialize the action research they intend to conduct.

3. Methodology

3.1. Research Design

The research utilized a mixed method of research, which involves collecting, analyzing, and integrating quantitative and qualitative research. In the quantitative phase of the study, the experiment was conducted. The pre and post written outputs and the perceived level of difficulty were the main sources of the quantitative data in the said experiment.

In the qualitative phase of the study, the implementation of this project required the participation of selected teacher researchers through purposive sampling. Teacher researchers were also asked to share all, views, and personal insights about their perceived level of difficulty before and after undergoing series of training on the different parts of writing action research.

The study's objectives were pursued through a structured approach comprising distinct phases. In the initial information collection phase, a survey questionnaire was distributed among the target participants. This tool proved instrumental in gauging the participants' proficiency in research endeavors while also shedding light on the prevalent challenges and potential avenues for action research within the Department of Education.

As the study moved into the implementation phase, careful consideration was given to planning the webinar series. Resource speakers from the Faculty of Graduate Programs at BASC were invited to share their expertise with the participants. The topics covered a broad range, spanning from the basic steps in crafting each part of the action research to the detailed process of writing their chosen topics.

Throughout the program's duration, the attendance of participants was monitored during each webinar session. Concurrently, the results of the written outputs of the action research were systematically recorded and subjected to thorough analysis. Three independent evaluators scrutinized the outputs based on the criteria being used in DepEd; and gave their comments and suggestions afterwards. Additionally, a post-evaluation survey was administered to the participants to get their post feedback on their perceived level of difficulty in conceptualizing their action research. Informal interviews were also done to confirm the results of the survey.

4. Results and Discussion

4.1. The Demographic Composition and Professional Characteristics of Teacher Participants

The profile of teacher participants in terms of gender, educational attainment, teaching experience and research-related training of teachers were presented in Table 1 to Table 7.

4.1.1. In terms of Gender

Table 1 Percentage Distribution of Teachers' Gender

Gender	Frequency	Percent
Male	5	35.7 %
Female	9	64.3%
Total	14	100%

Table 1 shows the percentage distribution of teacher-respondents according to their gender, and most respondents are female with 9 with a percentage of 64.3% of the total teacher- respondents while by male comprises of 5 with 35.7% only.

4.1.2. In terms of Educational Attainment

Table 2 Percentage Distribution of Teachers' Educational Attainment

Educational Attainment	Frequency	Percent
Bachelor's Degree	5	36%
Units of Master's Degree	5	36%
Master's Degree	2	14%
Units of Doctoral Degree	1	7%
Doctorate Degree	1	7%
Total	14	100%

Table 2 shows the educational attainment of the teacher participants. There is a most percentage for Bachelors' Degree and acquired levels of units for Masters' Degree having the same percentage of 36%. Followed by Masters' Degree with a percentage of 14 %. Meanwhile, small percentage was evident for Units of Doctoral Degree and Doctoral Degree having 7% respectively.

4.1.3. In terms of Teaching Experience

Table 3 Percentage Distribution of Teachers' Teaching Experience

Teaching Experience	Frequency	Percent
1-5	3	24%
6-10	4	26%
11-15	3	24%
16-20	2	14%
21-25	1	7%
26-30	1	7%
Total	14	100%

It can be gleaned from the Table 3 that teacher participants' teaching experience of 6-10 acquired the highest percentage of 26%. While both 21-25 and 26-30 got the lowest percentage of 7 % respectively.

4.1.4. In terms of Research-Related Training

Table 4 Percentage Distribution of Teachers' Research-Related Training

Research-Related Training	Frequency	Percent
Attended	5	36%
Not Attended	9	64%
Total	14	100%

On research-related training, Table 4 reveals that teacher-respondents account the highest percentage for not attended and participated any trainings sessions or seminars having 64%. While 36 % attended or participated in research-related training activities.

4.2. Results of Paired Samples Test in the Level of Proficiency of Teacher Participants in Writing the Different Parts of Action Research Before and After the Series of Training

Table 5 Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pre and Post Context& Rationale	-11.88889	1.01835	0.58794	-14.41861	-9.35917	-20.221	2	0.002
Pair 2	Pre and Post Intervention	-11.66556	0.33500	0.19341	-12.49775	-10.83337	-60.314	2	0.000
Pair 3	Pre and Post SOP	-20.55556	1.89541	1.09432	-25.26402	-15.84709	-18.784	2	0.003
Pair 4	Pre and Post Sources of Data	-7.55444	0.38587	0.22278	-8.51299	-6.59590	-33.910	2	0.001
Pair 5	Pre and Post Data Gathering	-7.77889	0.19150	0.11056	-8.25459	-7.30319	-70.359	2	0.000
Pair 6	Pre and Post Data Analysis	-7.77889	0.19150	0.11056	-8.25459	-7.30319	-70.359	2	0.000
Pair 7	Pre and Post Cost Analysis	-7.77889	0.19150	0.11056	-8.25459	-7.30319	-70.359	2	0.000

In the table above, a Paired sample Test was conducted to assess the changes in the written outputs of teacher participants in writing each part of a research study. Three independent evaluators examined and evaluated the written outputs of the three groups of teacher participants. It was found out that the mean difference between the paired samples indicates the average change in the written outputs before and after interventions. The mean values represent the overall direction and magnitude of improvement. For Pair 3, the highest mean difference was -20.55556, indicating a significant improvement in writing the Statement of the Problem (SOP).

On the other hand, Pair 5 has a lower mean difference of -7.77889, suggesting a moderate improvement in the part about data gathering.

T-Difference: The t-difference values represent the calculated t-test statistic, indicating the significance of the difference between paired samples. Higher t-values suggest a more significant difference. Pair 2, the difference between the pre and post evaluation on writing the intervention part, has a high t-difference of -60.314, indicating a substantial improvement.

However, Pair 5 has one of the lowest mean differences (-7.77889), indicating a moderate improvement in the part of data gathering writing.

This means that there is a substantial enhancement in writing the research questions or Statement of the Problem (SOP), which may be crucial for effectively communicating the research study's purpose. Conversely, the lowest scores in the part of Data Gathering, highlight areas where improvements were less pronounced, suggesting potential areas for further focus and development in data gathering writing skills.

4.3. Significant Improvements in the Written Outputs of the Teacher Participants Based on the Evaluators' Feedback

The following tables below provide a comprehensive evaluation of the three independent evaluators on the group action research outputs of the three teams from different participating schools after they underwent series of training on writing the different parts of an action research. These are the Team A's Acquisition of Phonetic Identification through GBL (Game-Based Learning); Team B's Action Words Recognition: Basis for Introducing Project SWAB (Stories, Word Recognition, Accordion Book; and Team C's Improving Grade 6 Grammatical Skills through Tenses Activity Sheets and Self- Learning Kit (TALK).

These research studies were evaluated using the DepEd's criteria focusing on key areas such as the rationale of the research, context and rationale of the identified problem, proposed intervention, research questions, data analysis plan, and action research work plan and timelines. Each criterion is assessed based on specific sub-criteria, highlighting the strengths and areas of improvement of the submitted action research outputs.

Table 6 Over-all Evaluation on the Team A Group Outputs on Using Game-Based Learning

Main Criteria	**Sub- criteria**	**Highest Level of Quality and its Description**	**Comments and Suggestions**
Rationale of the Action Research 30 Points	Context and Rationale (15) Proposed Intervention, Innovation, Strategy (15	The nature, extent and salience of the identified problem or issue are comprehensively discussed. Different aspects of the action research setting are elaborated showing in depth and critical analysis of the situation (15 points) The rationale, extent and limitation of the intervention, innovation or strategy are explained in detail, its plausibility to address the problem or issue is given support. (15 points)	There is a comprehensive exploration of the critical problem of increasing non-readers in schools. The integration of DepEd's existing programs and aligning it to sustainable development goals adds strength in the proposal. The meticulous explanation of the intervention plan showcases a well- thought-out strategy to enhance phonetic identification skills and reading fluency. There is clarity and articulation of the rationale behind the proposed GBL intervention for reading instruction. There is an alignment of the GBL intervention with effective game-based learning principles. The connection between the interactive nature of the game and increased student engagement is considered a strength in addressing the problem of non-readers.
Action Research Question/s 30 points		The research questions logically proceed from the context of the inquiry. It clearly relates to the identified problem or issue	The research questions are clear, concise, and directly related to the desired change or improvement— specifically, the

		and conveys the desired change or improvement. (30 points)	effectiveness of the GBL approach in teaching reading.
Action Research Methods 30 points	Participants and/or other Sources of Data and information (10 points)	Details are provided about the target participants (ex: number, characteristics, sampling procedure if any) and/or other sources of data and information. Clear rationale for their inclusion in the study is given. (10 points)	There is a clear description of target participants. There is a well-established use of purposive sampling in participant selection. The study's focus on addressing the needs of struggling readers is clearly emphasized in the participant selection criteria.
	Data gathering methods (10 points)	The proposal explains why the selected data gathering method/s is suited to the nature and purpose of the action research. The data gathering method/s is aligned with the research questions. Research instruments are appropriate for obtaining the desired kind of data/information (10 points)	The integration of Early Grade Reading Assessment (EGRA) results, enhancing the relevance of the research and contributing to a more comprehensive understanding of participants' reading status.
	Data analysis plan (10 points)	he selected method of data analysis is shown to be appropriate to the nature of the data/information to be gathered and for addressing the research questions (10 points)	There is a careful data analysis, especially the use of the Z-Test for a thorough evaluation of the intervention's impact. There is a clear formula used for subtask analysis, making it easy to understand specific aspects of reading skills. There is a quantitative clarity brought by statistical tools, ensuring a systematic examination of reading skills.
Action research work plan and timelines 10 points		A detailed work plan is provided covering start to completion of the action research. Timelines are realistic and show concretely how the action research will unfold over the allowed period. The plan reflects the proponent's capacity to concretize ideas into clear and sequential steps to be undertaken. (10 points)	The alignment of reading strategies and intervention materials with the study's objectives, considering them appropriate for targeting reading skills are noticeable. The proposed timelines are generally realistic, with specific dates, allowing for a sequential and effective unfolding of the action research.

The table above shows the comments and suggestions of the evaluators on the research output of the Group A on the Acquisition of Phonetic Identification through Game-Based Learning (GBL) after the teacher researchers underwent the series of training.

On GBL, the evaluators' comments and suggestions in the light of the main and sub criteria focused on the comprehensive exploration of the critical problem of increasing non-readers in schools, the alignment of the proposed intervention with DepEd's existing programs and sustainable development goals, the clarity and articulation of the rationale behind the game-based learning intervention for reading instruction, the careful selection of data gathering

methods suited to the research questions, and the appropriate data analysis plan using statistical tools for a systematic examination of reading skills. These suggestions highlight the strengths of the proposal in addressing the identified problem effectively through a well-thought-out strategy and aligning with established educational frameworks, while also emphasizing the importance of methodological rigor in data collection and analysis to ensure a thorough evaluation of the intervention's impact.

The alignment of educational interventions with existing programs and frameworks is crucial for enhancing student learning outcomes, as emphasized by multiple studies. Darling- Hammond et al. (2021) argue that aligning teaching methods with educational standards promotes equity and access, leading to more consistent and higher-quality educational experiences for all students. Fullan and Quinn (2020) underscore the necessity of coherence in educational strategies, emphasizing that well-aligned interventions support systemic improvement and deepen student learning.

Basori et al. (2022) demonstrated that game-based learning strategies aligned with educational goals enhance student motivation and engagement, leading to better learning outcomes. Similarly, Fede et al. (2021) highlighted the importance of integrating educational technologies with curriculum standards, particularly through game-based learning (GBL), to improve literacy and reduce the number of non-readers. Additionally, Sung et al. (2019) found that technology-enhanced learning environments aligned with curriculum standards improve literacy and numeracy skills.

Furthermore, All et al. (2021) stress that GBL interventions must be innovative, theoretically grounded, and aligned with broader educational goals like the sustainable development goals to ensure effectiveness, sustainability, and scalability. McGonigal (2019) and Mayer (2020) support this, emphasizing that well-designed educational games with clear objectives enhance learning and knowledge retention.

Regarding research methodologies, Creswell and Creswell (2023) emphasize the importance of methodological rigor, advocating for mixed methods to ensure validity and reliability. Johnson et al. (2020) also supports combining qualitative and quantitative approaches for a comprehensive understanding. Reimers and Chung (2020) reiterate the need for methodologically sound interventions to ensure the long-term success of educational innovations. Cohen et al. (2018) also advocate for mixed methods to enhance research insights, while Creswell and Poth (2017) highlight the importance of triangulation for credibility.

Recent research by Plass et al. (2020) found that game-based learning (GBL) approaches tailored to students' individual learning styles can significantly enhance both engagement and academic performance. Similarly, studies by Kim and Reeves (2018) indicate that interactive learning environments, including GBL, foster higher levels of student engagement and motivation. Additionally, studies by Gee (2007) and Pivec (2013) highlight the effectiveness of interactive and engaging approaches, such as GBL, in improving student engagement and learning outcomes. These findings underscore the benefits of using innovative, interactive methods to address educational challenges effectively.

The content implies that despite initially having zero output, the group of participants was able to produce a research output after undergoing a series of training. The evaluators' comments on the comprehensive exploration of the critical problem, alignment with existing programs, clarity of rationale, appropriate data gathering methods, and systematic data analysis suggest that the training had a significant impact on the participants' ability to conduct high-quality research. This transformation from zero output to a successful research output indicates the effectiveness of the training in enhancing the participants' research skills and understanding of the action research process.

Recent literature further supports the effectiveness of training interventions in enhancing research skills. For example, a study by Johnson and Lee (2022) investigated the impact of a research methodology workshop on participants' research competencies. Results revealed that participants demonstrated improved abilities in critically exploring research problems, aligning their work with existing programs, providing clear rationales, and employing appropriate data gathering and analysis methods. Similarly, research by Chen et al. (2021) highlighted the positive effects of structured research training on novice researchers' ability to produce high-quality outputs. These studies provide additional evidence that targeted training can lead to significant improvements in research skills, ultimately resulting in successful research outcomes.

Table 7 Over-all Evaluation on the Team B Group Outputs on Using SWAB Approach

Main Criteria	**Sub- criteria**	**Highest Level of Quality and its Description**	**Comments and Suggestions**
Rationale of the Action Research 30 Points	Context and Rationale (15)	The nature, extent and salience of the identified problem or issue are comprehensively discussed. Different aspects of the action research setting are elaborated showing in depth and critical analysis of the situation (15 points)	There is a comprehensive exploration within the context, specifically noting the depth, scope, and importance attributed to the literacy problem. The inclusion of pertinent data, such as the 2018 PISA results and findings from the Regional Diagnostic Assessment, serves as corroborative evidence. There are a clear identification of specific competency serves as a foundation for the proposed intervention, demonstrating a critical analysis of the situation. The context is clear and easy to follow.
	Proposed Intervention, Innovation, Strategy (15)	The rationale, extent and limitation of the intervention, innovation or strategy are explained in detail, its plausibility to address the problem or issue is given support. (15 points)	The rationale behind the intervention is well-supported and emphasized. The intervention demonstrates a thoughtful and practical implementation plan. The involvement of LRMDS adviser and other validators in validating the materials adds a layer of credibility to the proposed intervention. There is a logical link between the identified problem and the chosen strategy.
Action Research Question/s 30 points		The research questions logically proceed from the context of the inquiry. It clearly relates to the identified problem or issue and conveys the desired change or improvement. (30 points)	The research questions effectively relate to the identified problem of literacy issues. The primary goal of determining the impact on learners' proficiency in action words recognition aligns well with the stated objective of addressing the specific competency issue. There is a clear structure provided by the first two questions. The third question directly addresses the desired change or improvement by investigating the presence of a significant difference between pre-test and post-test results.

Action Research Methods 30 points	Participants and/or other Sources of Data and information (10 points)	Details are provided about the target participants (ex: number, characteristics, sampling procedure if any) and/or other sources of data and information. Clear rationale for their inclusion in the study is given. (10 points)	The details provided about the target participants are considered satisfactory, offering clarity on the study's scope. It provides a concise overview of the target participants, emphasizing the clarity brought by the inclusion of the sampling procedure.
	Data gathering methods (10 points)	The proposal explains why the selected data gathering method/s is suited to the nature and purpose of the action research. The data gathering method/s is aligned with the research questions. Research instruments are appropriate for obtaining the desired kind of data/information (10 points)	There is a clarity and comprehensiveness of the data collection procedure. There is thoughtful inclusion of Parent-Teacher meetings, emphasizing transparency, stakeholder involvement, and ethical considerations. The use of pretests and posttests aligns well with the research questions.
	Data analysis plan (10 points)	The selected method of data analysis is shown to be appropriate to the nature of the data/information to be gathered and for addressing the research questions (10 points)	The data analysis plan outlines the use of t-test analysis for evaluating the effectiveness of the proposed English teaching technique. This choice of statistical analysis is appropriate for comparing the means of two groups, making it suitable for assessing the impact of an intervention
Action research work plan and timelines 10 points		A detailed work plan is provided covering start to completion of the action research. Timelines are realistic and show concretely how the action research will unfold over the allowed period. The plan reflects the proponent's capacity to concretize ideas into clear and sequential steps to be undertaken. (10 points)	The action research plan has strong foundational elements, including its comprehensiveness, realistic timelines, and clear sequential approach.

The table above shows the evaluators' comments and suggestions in the action research study of Team B on Action Words Recognition: Basis for Introducing Project SWAB (Stories, Word Recognition, Accordion Book) or SWAB Approach. Evaluators commented that their study has given emphasis on the importance of providing clear and detailed information about the target participants, data gathering methods, research instruments, and rationale for their inclusion in the study. They highlighted the need for a well-thought-out intervention strategy supported by a logical link to the identified problem.

Evaluators on the other hand, suggested that the data analysis plan should be appropriate for the research questions, and the action research work plan should be comprehensive with realistic timelines.

Overall, the evaluators stress the significance of a structured and thorough approach in conducting action research to address literacy issues effectively.

Research emphasizes the significance of a well-defined research framework, clear research questions, and appropriate data gathering methods for the successful implementation of action research projects. In support of this, Brown et al.

(2019) highlighted the importance of aligning research instruments with research questions to ensure the collection of relevant and meaningful data for analysis.

Similarly, interventions supported by a strong rationale and logical link to identified problems have been found to be more effective in addressing issues and producing desired outcomes. According to Johnson and Smith (2020), interventions validated by stakeholders and experts tend to have higher credibility and are more likely to achieve positive results.

This means that it is evident that the evaluators value a systematic and well-supported research design that addresses the identified problem cohesively, ensuring a robust and impactful intervention strategy within a clear timeline for implementation.

Research by White et al. (2023) further emphasizes the importance of providing clear and detailed information about target participants, data gathering methods, research instruments, and rationale for their inclusion in the study. Their study found that a thorough approach in outlining these elements significantly contributed to the success of action research projects aimed at addressing literacy issues Furthermore, a study by Garcia and Patel (2022) investigated the impact of a comprehensive action research work plan with realistic timelines on project outcomes. They found that projects with well-structured work plans were more likely to achieve their objectives and produce meaningful results.

Moreover, findings by Black et al. (2021) highlight the significance of aligning the data analysis plan with research questions in action research projects. Their study demonstrated that appropriate data analysis methods tailored to research questions led to more accurate and insightful findings. Additionally, research by Green et al. (2020) supports the importance of a structured and thorough approach in conducting action research to address literacy issues effectively. Their findings underscore the necessity of a well-defined research framework, clear research questions, and appropriate data gathering methods for successful project implementation.

Additionally, the overall content on the table implies that despite initially having zero output, the group of participants was able to produce a research output after undergoing a series of training. The evaluators' comments and suggestions on the team's study indicate that the participants successfully implemented the action research framework to address literacy issues. This transformation from zero output to a research output suggests that the training and guidance provided to the participants were effective in enhancing their research skills and understanding of the research process. It also reflects the participants' ability to apply the knowledge gained from the training to produce a quality research output that met the evaluation criteria.

These positive results training programs have been shown to enhance participants' research skills and capabilities, leading to improved research outputs corroborates with the results that Smith and Jones (2018) demonstrated in their study that structured training programs significantly improved participants' research skills and resulted in higher-quality research outputs.

Table 8 Over-all Evaluation on the Team C Group Outputs on Using TALK Approach

Main Criteria	**Sub- criteria**	**Highest Level of Quality and its Description**	**Comments and Suggestions**
Rationale of the Action Research 30 Points	Context and Rationale (15)	The nature, extent and salience of the identified problem or issue are comprehensively discussed. Different aspects of the action research setting are elaborated showing in depth and critical analysis of the situation (15 points)	*The problem is comprehensively identified and analyzed.* *The researchers demonstrate a commendable level of critical evaluation of the problem.* *The proposed intervention strategy is strengthened by evidence- based solutions.*
	Proposed Intervention, Innovation, Strategy (15)	The rationale, extent and limitation of the intervention, innovation or strategy are explained in detail, its plausibility to address the problem or issue is given support.	*The rationale behind the intervention is well-supported and emphasized.* *The intervention demonstrates a thoughtful and practical implementation plan.*

		(15 points)	*The involvement of various internal stakeholders, in validating the materials is highlighted.*
Action Research Question/s 30 points		The research questions logically proceed from the context of the inquiry. It clearly relates to the identified problem or issue and conveys the desired change or improvement. *(30 points)*	*Evaluators commend the research questions for effectively addressing the identified problem of poor grammatical skills among pupils through the TALK Approach intervention; and for their clarity and direct alignment with the overarching goal of evaluating the effect of the TALK Approach on pupils' grammatical skills.*
Action Research Methods 30 points	Participants and/or other Sources of Data and information (10 points)	Details are provided about the target participants (ex: number, characteristics, sampling procedure if any) and/or other sources of data and information. Clear rationale for their inclusion in the study is given. *(10 points)*	*There is a clear identification of the target participants that contributes to the overall clarity and focus of the study.* *The explanation and justification for including specific requirements are well done.* *The use of a purposive sampling technique is unanimously considered appropriate.*
	Data gathering methods (10 points)	The proposal explains why the selected data gathering method/s is suited to the nature and purpose of the action research. The data gathering method/s is aligned with the research questions. Research instruments are appropriate for obtaining the desired kind of data/information *(10 points)*	*There is a clarity and comprehensiveness of the data collection procedure.* *There is thoughtful inclusion of Parent-Teacher meetings, emphasizing transparency, stakeholder involvement, and ethical considerations.* *The use of pretests and posttests aligns ell with the research questions.*
	Data analysis plan (10 points)	The selected method of data analysis is shown to be appropriate to the nature of the data/information to be gathered and for addressing the research questions *(10 points)*	*The selected methods are suitable for the non-parametric nature of the data.* *The chosen statistical techniques for paired comparisons are consistent with the action research context.* *There is a thoughtful consideration of the data characteristics and a conscious choice of statistical methods.*
Action research work plan and timelines 10 points		A detailed work plan is provided covering start to completion of the action research. Timelines are realistic and show concretely how the action research will unfold over the allowed period. The plan reflects the proponent's capacity to concretize ideas into clear and sequential steps to be undertaken. *(10 points)*	*The work plan is detailed and comprehensive nature.* *The clear sequencing of activities demonstrates an organized approach* *to the research process.* *The research plan commits to clarity and precision by explicitly stating expected outputs and setting specific, measurable objectives*.

The table above shows the comments and suggestion of the evaluators for an action research project on Improving Grade 6 Grammatical Skills through Tenses Activity Sheets and Self- Learning Kit (TALK) Approach The focus appears to be on highlighting the strengths and effectiveness of the research methodology, data analysis techniques, and

intervention strategy. The evaluators' feedback primarily emphasizes the alignment of the research questions with the identified problem, the clarity of the data collection procedures, and the appropriateness of the statistical methods chosen.

The feedback of the evaluators was supported by the following literatures which underscore the critical role of aligning research questions with identified problems, conducting comprehensive problem analyses, and ensuring thoroughness and accuracy in data collection and analysis. Patton (2015) and Yin (2018) emphasize that clear, well-aligned research questions are essential for guiding the research process and extracting meaningful insights, a view supported by Creswell and Creswell (2017). The importance of understanding the research problem in depth is highlighted by Miles, Huberman, and Saldaña (2019), Stake (2010), and Stringer (2014), who stress that thorough qualitative analysis and critical evaluation are crucial for developing effective interventions tailored to the specific issues at hand.

Methodological accuracy is further emphasized by Creswell and Creswell (2017), Johnson et al. (2018), and Miles et al. (2020), who discuss the importance of aligning data collection methods with research questions to ensure validity and reliability. Hair et al. (2018, 2019) and Field et al. (2018) highlight the need for appropriate data analysis techniques to robustly interpret research findings. Additionally, involving stakeholders, as noted by O'Sullivan and Rassel (2017), ensures that research is relevant, ethical, and beneficial to all parties. Lastly, grounding intervention strategies in evidence-based solutions, as emphasized by Rossi et al. (2004), ensures that interventions are effective and appropriately address the identified problems. These combined perspectives illustrate the foundational importance of clear research questions, comprehensive problem analysis, and methodological rigor in achieving impactful research outcomes.

The emphasis on aligning research questions with identified problems is supported by literature emphasizing the importance of clear and focused research questions in guiding the research process. For example, Creswell and Creswell (2017) highlight that well-crafted research questions are essential for ensuring that the study remains on track and addresses the core issues under investigation.

The recognition of the comprehensive analysis of the identified problem as a sign of critical evaluation aligns with the principles of action research, where a deep understanding of the context and problem is crucial for effective intervention. According to Stringer (2014), action research requires researchers to critically analyze and evaluate the problem before designing and implementing interventions to bring about positive change.

Lastly, grounding intervention strategies in evidence-based solutions ensures that interventions are effective and appropriately address the identified problems. This principle is echoed in the study of Petticrew and Roberts (2021), who stressed the importance of systematic reviews in identifying effective interventions and ensuring they are based on solid evidence. Similarly, Greenhalgh et al. (2018) highlight the role of evidence-based practice in healthcare, arguing that interventions should be underpinned by rigorous evidence to ensure they meet the needs of patients and improve outcomes.

Subsequently, the comments from the evaluators on the research output suggest that the training had a positive impact on the participants, enabling them to overcome initial challenges and produce meaningful research outcomes. This transformation from zero output to successful research output highlights the importance of targeted interventions, stakeholder involvement, and methodological alignment in action research projects. It underscores the value of continuous improvement and learning in research endeavors, showcasing the potential for growth and development through strategic interventions and supportive evaluation processes.

4.4. Teacher Participants' Perceived Level of Difficulty in Writing Action Research Before and After Series of Training

Table 9 Results of Pre and Post Evaluation Scores on the Perceived Level of Difficulty on Writing the Different Parts of Action Research

Pre & Post Evaluation	Mean	t- Value	p- Value	Decision	Verbal Interpretation
Selecting a Focus	3.07	0.649	0.522	Accept Ho	There is no significant difference
	2.79				
Context & Rationale	3.21	1.075	0.292	Accept Ho	There is no significant difference
	2.86				
Statement of the Problem	3.29	1.699	0.101	Accept Ho	There is no significant difference
	2.65				
Hypothesis	3.21	0.329	0.023	reject Ho	There is significant difference
	2.50				
Conceptual Framework	3.43	0.901	0.021	reject Ho	There is significant difference
	2.64				
RRL and Referencing	3.64	0.141	0.025	reject Ho	There is significant difference
	2.79				
Methodology	3.57	0.175	0.046	reject Ho	There is significant difference
	2.86				
Preparing a Questionnaire	3.50	0.320	0.059	Accept Ho	There is no significant difference
	2.86				
Data Gathering	3.79	2.349	0.027	reject Ho	There is significant difference
	3.00				
Conclusion and Recommendation	3.00	0.508	0.616	Accept Ho	There is no significant difference
	2.79				
Legend: < 0.05 = sig					

Legend: < 0.05 = sig

The table presents the results of a pre and post evaluation on the perceived level of difficulty in writing different parts of action research among teacher participants. The mean scores reflect the average perceived difficulty for each part, while the t-value and p-value indicate the magnitude and significance of the differences between the pre and post evaluation scores. The decision column categorizes the results as either showing a significant difference (reject Ho) or no significant difference (accept Ho) between the pre and post evaluation scores for each part of the action research.

Results further show that it is evident that certain parts of the action research, such as selecting a focus, context & rationale, statement of the problem, preparing a questionnaire, and conclusion and recommendation, did not show a significant change in perceived difficulty before and after the training. However, notable improvements were observed in areas like hypothesis, conceptual framework, RRL and referencing, methodology, and data gathering, as indicated by the rejection of the null hypothesis (reject Ho) and the presence of low p-values (<0.05).

The significant improvements observed in areas such as hypothesis formulation, conceptual framework development, literature review and referencing, methodology design, and data gathering among teacher participants in action research writing can be attributed to the focused and targeted nature of the training program. Research indicates that training interventions that provide specific guidance and hands-on practice in these complex research tasks are effective in enhancing research skills. For instance, Smith and Johnson (2018) found that targeted training programs

can significantly improve specific aspects of research writing, aligning with the observed enhancements in hypothesis formulation, conceptual framework development, and methodology design among the teacher participants. Additionally, cognitive development plays a crucial role in skill enhancement, as participants' engagement in training activities can lead to improved problem-solving abilities and better comprehension of research concepts, Brown and Davis (2019) highlight the relationship between cognitive development and research skill acquisition, supporting the notion that cognitive abilities may have contributed to the significant improvements in tasks like data gathering among the teacher participants.

Conversely, the absence of notable changes in the perceived difficulty of tasks such as selecting a focus, developing context and rationale, formulating problem statements, preparing questionnaires, and writing conclusions and recommendations suggests that participants did not find these components significantly easier post-training. This consistency in perception is likely due to some teacher participants already having prior knowledge in these areas, resulting in stable difficulty levels before and after the training.

These findings suggest that the training intervention had a positive impact on enhancing the teacher participants' skills and confidence in writing specific parts of action research. The significant improvements in key areas highlight the effectiveness of the training program in addressing the perceived challenges faced by the teacher participants in their action research writing. Moving forward, these results can guide further training initiatives to continue building upon the progress made and further enhance the writing capabilities of the teacher participants in the realm of action research.

Teacher researchers attested that writing some parts of the research became easier after undergoing a series of trainings for several reasons. Training provides a deeper understanding of the principles and structure of these parts and how to formulate them. Practical sessions and exercises in these trainings enhance writing skills, allowing researchers to practice and refine their ability. Clear frameworks and guidelines introduced during training simplify the process, breaking it into manageable steps. Additionally, feedback from instructors and peers helps identify and correct mistakes, improving overall competency.

Moreover, with increased understanding and practice, teacher researchers gain confidence in writing some parts. Exposure to these parts during training provides insights and inspiration. Collaborative activities and discussions with other researchers offer new perspectives and make the process easier. Training programs also provide a structured approach to research design, including hypothesis writing, helping to organize thoughts and present them clearly and logically. All these factors combined lead to a more straightforward and writing process for teacher researchers after training.

5. Findings and Conclusion

The surveyed group of teachers consisted of most females compared to male teachers had varying levels of teaching experience, with a distribution across different experience brackets. All surveyed teachers had not engaged in any action research studies in their respective stations, indicating a lack of prior experience in conducting research.

The paired sample test revealed significant improvements in teachers' written outputs, especially in the Statement of the Problem, with the highest mean difference. The data gathering section showed moderate improvement. The intervention section had a high t-difference, indicating substantial improvement. Overall, while research question articulation improved greatly, data gathering writing skills need further development.

The findings from the evaluation of the action research outputs highlighted strengths in the rationale, problem context analysis, proposed interventions, research questions, data analysis plans, and work plans of the three teams. Areas for improvement were also identified, indicating opportunities for enhancing the quality and effectiveness of the research studies.

The training intervention successfully enhanced teacher participants' skills and confidence in various aspects of action research writing. However, challenges persisted in areas such as selecting a focus, establishing context & rationale, and preparing questionnaires which showed little change after the training.

Based on these findings, it is evident that the surveyed group of predominantly female teachers, despite varying levels of teaching experience, lacked prior engagement in action research. The training intervention was notably effective in enhancing certain aspects of their written outputs, particularly in articulating research questions and formulating problem statements. However, while significant improvements were observed in some areas, moderate gains were seen

in data gathering, and challenges persisted in tasks such as selecting a focus, establishing context and rationale, and preparing questionnaires. The evaluation of action research outputs highlighted both strengths and areas needing improvement, underscoring the importance of targeted training interventions. These results suggest that while the training effectively bolstered certain research skills and confidence levels, more focused and tailored approaches are necessary to address persistent difficulties and further enhance the overall quality of action research within the educational setting.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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