



Utilization of Innovative Strategies in Teaching MAPEH in Online Learning Modality

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ABSTRACT

The global shift to online learning brought about by the COVID-19 pandemic has redefined the landscape of education, compelling educators to adopt innovative pedagogical strategies to ensure continuity and quality of instruction. In skill-based subjects like Music, Arts, Physical Education, and Health (MAPEH), the transition posed unique challenges due to the subject's experiential and performance-based nature (Aperribai et al., 2020). This study aimed to determine the extent of utilization of innovative strategies in teaching Music, Arts, Physical Education and Health (MAPEH): Basis for a capability building plan in one of the medium-sized divisions in Central Philippines for the School Year 2021-2022. The variables used in this study are sex, highest educational attainment, grade level and number of trainings in MAPEH. The innovative strategies included in this study are Inquiry-Based, Integrative, Collaborative, Constructivist, and Reflective. The result of the study showed that the utilization of innovative strategies in teaching MAPEH in online learning according to Inquiry-Based, Integrative, Collaborative, Constructivist, and Reflective were all on Great Extent. Furthermore, there was a significant difference in the extent of utilization of innovative strategies in teaching MAPEH in online learning when grouped and compared according to number of MAPEH trainings. Across all five pedagogical domains— inquiry-based, integrative, collaborative, constructivist, and reflective—the utilization of innovative strategies in online MAPEH instruction was consistently rated to a “great extent”. When grouped according to variables, these findings point to the resilience and adaptability of MAPEH educators, while also emphasizing the need for institutional support mechanisms particularly in strengthening training models to ensure equitable and effective pedagogical practices across the field.

Keywords: Innovative strategies; MAPEH teaching; Online learning modality

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INTRODUCTION

The global shift to online learning brought about by the COVID-19 pandemic has redefined the landscape of education, compelling educators to adopt innovative pedagogical strategies to ensure continuity and quality of instruction. In skill-based subjects like Music, Arts, Physical Education, and Health (MAPEH), the transition posed unique challenges due to the subject's experiential and performance-based nature (Aperribai et al., 2020).

Internationally, educators have responded by integrating technology-enhanced and student-centered approaches such as flipped classrooms, gamified learning, and virtual simulations to maintain learner engagement and performance (Kebritchi et al., 2017). These strategies emphasize active learning, multimodal instruction, and digital collaboration, enabling learners to construct knowledge through interaction, creativity, and reflection, even in remote settings.

In the Philippine context, the Department of Education (DepEd, 2021) has promoted Learning Continuity Plans (LCPs) and Most Essential Learning Competencies (MELCs) to guide instruction during distance learning. Within this framework, MAPEH teachers have increasingly utilized inquiry-based, integrative, collaborative, constructivist, and reflective strategies to adapt to the demands of online teaching. For instance, inquiry-based learning encourages students to explore health and fitness concepts through guided questioning and investigation. Integrative approaches connect MAPEH content with real-life contexts and other disciplines, while collaborative strategies such as peer feedback and virtual group performances foster social learning (Carag, 2020). Constructivist methods allow learners to build understanding through hands-on digital tasks, and reflective practices help both teachers and students evaluate their learning processes and outcomes (Paclibar, 2023).

However, local classroom realities reveal persistent gaps. Filipino MAPEH teachers report challenges in sustaining learner participation during online dance and physical fitness activities due to limited space and internet connectivity at home (Dela Cruz, 2022). Others highlight the difficulty of assessing performance-based outputs such as art projects and musical pieces without standardized digital tools (Santos, 2021). Teachers also note that while online collaboration is possible, it often depends on students' access to devices and parental support, which varies widely across communities (Reyes, 2022). These experiences underscore that while innovative strategies are being applied, their effectiveness is uneven across contexts.

Despite the increasing reliance on online learning, there remains a noticeable gap in understanding how innovative pedagogical strategies are effectively utilized by MAPEH teachers—particularly within the digital and blended learning contexts in the Philippines. This disconnect underscores the urgent need to investigate the extent, challenges, and effectiveness of innovative strategies employed by MAPEH teachers in online modalities, to design a capability enhancement plan that is both responsive and grounded in actual classroom realities.

OBJECTIVES OF THE STUDY

This study aimed to determine the extent of utilization of innovative strategies in teaching Music, Arts, Physical Education, and Health (MAPEH) in one of the medium-sized divisions in Central Philippines for the School Year 2021–2022 as a basis for a sustainability plan. Specifically, it sought to answer the following questions: first, the extent of utilization of innovative strategies in teaching MAPEH in online learning in terms of inquiry-based, integrative, collaborative, constructivist, and reflective approaches; and second, whether there is a significant difference in the extent of utilization of these innovative strategies in teaching MAPEH in online learning when grouped and compared according to the aforementioned variables.

LITERATURE REVIEW

Inquiry-Based Learning (IBL) is a learner-centered approach that encourages students to ask questions, investigate problems, and construct knowledge through exploration rather than passive instruction. It promotes critical thinking, curiosity, and active engagement, especially in online MAPEH instruction where students can explore music, arts, physical education, and health through research, digital tasks, and project-based outputs. Studies emphasize that IBL enhances engagement and deep learning when teachers act as facilitators rather than lecturers. In the Philippine context, Belo (2020; 2021) highlighted that IBL improves learner performance and engagement across disciplines, particularly in MAPEH, by promoting meaningful and contextualized learning experiences.



Integrative teaching strategies emphasize connecting concepts across subjects to promote holistic and meaningful learning experiences. In MAPEH online learning, this approach allows students to link music, arts, health, and physical education with real-life issues and interdisciplinary themes. Klein (2020), Beane (2020), and Jacobs (2022) explain that integrative teaching dissolves subject boundaries and encourages students to apply knowledge in real-world contexts through thematic instruction, projects, and authentic assessments. In the Philippines, DepEd (2023; 2024) supports integrative teaching as part of the K–12 curriculum to foster lifelong learning, creativity, and cultural relevance among learners.

Collaborative learning is another innovative strategy that strengthens MAPEH instruction by promoting teamwork, communication, and shared knowledge construction. Students work in groups to accomplish tasks such as performances, health campaigns, or creative productions, enhancing both academic and social skills. Smith and MacGregor (2018), Omodan, Omodan, and Nguza-Mduba (2024), and Almonia (2024) found that collaborative strategies significantly improve student achievement and engagement compared to individualized learning. In Philippine classrooms, techniques such as think-pair-share, jigsaw activities, and peer teaching are widely used to encourage participation and mutual responsibility among learners (Teach Pinas, 2023).

Constructivist teaching strategy supports innovative MAPEH instruction by allowing learners to actively construct knowledge through experience, reflection, and interaction. It shifts the teacher's role from content delivery to facilitation, enabling students to build understanding based on prior knowledge and real-life experiences. McLeod (2025), Cornell (2025), and Kurt (2021) explain that constructivism promotes critical thinking, creativity, and meaningful learning through social interaction and experiential tasks. In Philippine education, Putrayasa (2018) and Bognot (2020) found that constructivist approaches improve student performance and engagement, particularly when integrated into group activities and performance-based assessments.

Reflective teaching strengthens innovative strategies in online MAPEH by encouraging teachers and students to evaluate learning experiences and improve instructional practices. It promotes continuous improvement, self-assessment, and deeper understanding of both teaching and learning processes. Shah (2023), Jain (2023), and McLeod (2025) emphasize that reflective practice involves analyzing teaching decisions, incorporating feedback, and refining strategies to enhance learner outcomes. In online and blended learning contexts, reflective teaching helps educators adapt lessons effectively, ensuring that instruction remains responsive, inclusive, and meaningful for diverse learners.

Overall, innovative teaching strategies such as inquiry-based, integrative, collaborative, constructivist, and reflective approaches significantly enhance MAPEH online learning by promoting engagement, critical thinking, creativity, and holistic development. These strategies are widely supported by international and local studies, including Farooqi (2020), Klein (2020), Jacobs (2022), Omodan et al. (2024), McLeod (2025), and DepEd (2023; 2024), all of which emphasize learner-centered and competency-based education. In combination, these approaches transform MAPEH into a dynamic and interactive learning area that develops not only academic knowledge but also essential 21st-century skills.

METHODOLOGY

This section presents the discussion of the research methodology used, the subjects and respondents of the study, the research instruments used, the validity and reliability of the instruments, the procedure for data gathering, and the statistical tools and procedure for data analysis.

Research Design

This study utilized descriptive research design to determine the extent of utilization of innovative strategies in teaching Music, Arts, Physical Education and Health (MAPEH) as basis for a capability building plan in one of the medium-sized divisions in Central Philippines for the School Year 2021-2022.

Descriptive research is valuable in providing facts in which scientific judgment may be based, providing essential knowledge about the nature of objects and persons and for closer observation into the practices, behavior, methods, and procedures, and playing a large part in the development of instruments for the measurement of many gathering instruments like questionnaires, tests, interviews, checklists, score cards, rating scales, and observation schedules, and formulating of policies in the local, national, or international level (Mason, 2017).



Likewise, descriptive research design engages in fact-finding procedures particularly in conditions that exist, practices that prevail, beliefs that are held, processes that are going on, effects that are being felt or trends that are developing. Considering that this study aimed to determine the level of awareness of the secondary school teachers on Reflective approach in teaching MAPEH, the researcher considers the descriptive research design as the most appropriate tool to use.

Study Respondents

The respondents of the study were the 74 MAPEH teachers from across the seven (7) districts in the said division where online classes were adapted. Since the number of respondents is manageable, Total Population count which is basically purposive sampling was used.

Purposive total enumeration, also known as total population sampling, is a type of purposive sampling where a researcher chooses to examine the entire population that possesses a specific characteristic or set of characteristics. This method is used when the population of interest is relatively small or when it's crucial to include every member to ensure comprehensive coverage (Laerd Statistics, 2020).

Instruments

A researcher-made survey questionnaire was used to gather data on the extent of utilization of innovative strategies in teaching MAPEH in online learning. The instrument consisted of two parts: Part I focused on the respondents' profile in terms of sex, highest educational attainment, grade level taught, and number of MAPEH-related trainings, while Part II contained 50 items evenly distributed across five areas, namely Inquiry-Based, Integrative, Collaborative, Constructivist, and Reflective strategies. Responses were measured using a 5-point Likert scale ranging from very low extent (1) to very great extent (5). The instrument underwent content validation by three experts in education and MAPEH, who evaluated its appropriateness using established criteria, resulting in a validation score of 4.93 interpreted as "excellent," indicating high validity. To establish reliability, the questionnaire was pilot tested among 30 teachers from another division, and Cronbach's Alpha was used to measure internal consistency, yielding a reliability coefficient of 0.893, interpreted as good and therefore indicating that the instrument is reliable for use in the study.

Data Gathering Procedure

After establishing the validity and reliability of the instrument, the researcher submitted a letter request to the Schools Division Superintendent asking permission to conduct of the study. Upon its approval, the researcher set a schedule for the data gathering with a letter of request to the school heads and head teachers each school. In the conduct, the researcher explained the purpose of the study through a cover letter and the data gathering instruments was administered to target respondents via email (because of the lockdown at that time). This was to ensure that there was no face-to-face encounter between the researcher and the respondents or among respondents. The Statistical Package for Social Sciences (SPSS) will be used in the processing of the encoded data.

Data Analysis and Statistical Treatment

The data analysis employed various statistical procedures aligned with the study's objectives as presented in Chapter 1. For Objective No. 1, a descriptive analytical scheme using the mean was utilized to determine the extent of utilization of innovative strategies in teaching MAPEH in online learning in terms of Inquiry-Based, Integrative, Collaborative, Constructivist, and Reflective teaching strategies. Meanwhile, for Objective No. 2, a comparative analytical scheme using the Mann-Whitney U test was applied to determine whether there was a significant difference in the extent of utilization of innovative strategies in teaching MAPEH in online learning when respondents were grouped and compared according to selected variables.

Ethical Consideration

The protection of human subjects through the application of appropriate ethical principles is important in all research study. The principle of voluntary participation requires that people not be coerced into participating in research. As to the informed consent, the participants were fully informed about the procedures and risks involved in research and gave their consent to participate. As such, participants were entirely enlightened about the procedures of the entire research and were encouraged to participate by signing a consent. Additionally, several safeguards were in place to minimize harm in a research protocol that



involves vulnerable participants or sensitive topics. As to the confidentiality of the results, the participants were assured that identifying information will not be made available to anyone who is not directly involved in the study. In terms of anonymity, there was a stricter standard in which the participants remained as anonymous in this research study.

RESULTS AND DISCUSSION

This section deals with the presentation, analysis and interpretation of data gathered to carry out the objectives of this study. All these were made possible by following certain appropriate procedures so as to give the exact data and solution to each specific problem.

Extent of Utilization of Innovative Strategies in Teaching MAPEH in Online Learning According to the Areas, Inquiry-Based, Integrative, Collaborative, Constructivist and Reflective

Table 1

Extent of Utilization of Innovative Strategies in Teaching MAPEH in Online Learning According to the Area Inquiry-Based

Items	Mean	Interpretation
As a MAPEH Teacher, I...		
1. guide learners through posing questions for them to interpret data.	4.22	Great Extent
2. Identify the resources that learners shall use to answer questions.	3.38	Moderate Extent
3. use guided-inquiry questions that learners need to answer and/or provide solutions.	3.89	Great Extent
4. use free-inquiry topics regardless of the prescribed outcome.	3.95	Great Extent
5. control specific learning activities that demonstrate learners' understanding of the subject.	3.99	Great Extent
6. provide essential questions to unpack pre-determined resources.	3.99	Great Extent
7. empower learners to choose and select resources to answer queries related to the subject.	3.82	Great Extent
8. allow learners to construct their own questions and search answers from a wide array of resources.	4.01	Great Extent
9. customize assessments which are based on the design chosen by the learners to gauge their learning.	3.89	Great Extent
10. use scaffolding in learning the subject (i.e., starts with learner inquiry, followed by controlled inquiry, then guided inquiry, and concludes with free-inquiry).	3.93	Great Extent
Overall Mean	3.91	Great Extent

The overall mean of 3.91 indicates that MAPEH teachers utilize inquiry-based strategies in their instruction to a great extent, reflecting a strong commitment to learner-centered and exploratory teaching practices.

The highest-rated item, "As a MAPEH teacher, I guide learners through posing questions for them to interpret data" with a mean score of 4.22, interpreted as "great extent" highlights teachers' emphasis on cultivating analytical thinking and data literacy.

On the other hand, the line item with the lowest mean score which says, "As MAPEH teachers, I identify the resources that learners shall use to answer questions" with a mean score of 3.38, interpreted as "moderate extent".

This implies that while teachers encourage inquiry, learners may lack sufficient guidance in navigating appropriate resources potentially affecting the depth and accuracy of their learning.



This is supported by the study of Belo (2021) which showed that effective inquiry-based learning requires a balance between learner autonomy and structured support, particularly in online or blended modalities where access to curated content is crucial.

Table 2

Extent of Utilization of Innovative Strategies in Teaching MAPEH in Online Learning According to the Area Integrative

Items	Mean	Interpretation
As a MAPEH Teacher, I...		
1. allow learners to use prior knowledge during class discussions to support new knowledge and experiences.	3.81	Great Extent
2. allow learners to draw on their skills and apply the latter to new experiences to improve learning.	3.70	Great Extent
3. encourage learners to take ownership of their learnings and make meaningful connections with other fields to develop critical thinking skills.	3.84	Great Extent
4. consider learners' interests and needs in crafting activities and learning experiences.	3.68	Great Extent
5. help learners connect their knowledge and skills to real life situations.	3.80	Great Extent
6. employ multi-disciplinary integration to improve learners' academic performance.	3.74	Great Extent
7. use content-based, thematic, and focused teaching approaches.	3.77	Great Extent
8. adopt student-centered and teacher-guided instructional approaches.	3.76	Great Extent
9. encourage learners to integrate their learnings in MAPEH to the network of learning opportunities before them to gain more knowledge and experiences.	3.73	Great Extent
10. apply kinesthetic approach following the "get your hands into what you are doing and do things that matter" principle.	3.91	Great Extent
Overall Mean	3.77	Great Extent

The data in Table 2 reveals that MAPEH teachers utilize integrative strategies in online learning to a great extent, as reflected by the overall mean of 3.77. This suggests that teachers are consistently designing instruction that connects MAPEH content to learners' prior knowledge, real-life experiences, and interdisciplinary contexts—hallmarks of integrative pedagogy.

The line item which says "As a MAPEH teacher, I apply kinesthetic approach following the 'get your hands into what you are doing and do things that matter' principle" got the highest mean of 3.91, interpreted as "great extent".

On the other hand, the lowest-rated item which states that "As a MAPEH teacher, I consider learners' interests and needs in crafting activities and learning experiences" with a mean score of 3.68, interpreted as "great extent" which suggests a relative gap in learner-centered customization.

These findings imply the need for sustained professional development that supports teachers in designing personalized, integrative learning experiences especially in digital environments where learner engagement can be more difficult to sustain.

According to Carag (2020), effective integrative teaching requires not only cross-disciplinary content but also responsive design that reflects students' cultural, emotional, and developmental contexts.



Table 3

Extent of Utilization of Innovative Strategies in Teaching MAPEH in Online Learning According to the Area Collaborative

Items	Mean	Interpretation
As a MAPEH Teacher, I...		
1. create small to medium size groups to collaborate learning.	4.00	Great Extent
2. establish clear group goals at the start of classes.	3.72	Great Extent
3. builds trust and open communication between and among learners.	3.85	Great Extent
4. encourage learners to discover their strengths and weaknesses and finds way for potential improvement.	3.82	Great Extent
5. establish group interactions between and among learners through discussions on subject-related issues and concerns.	3.99	Great Extent
6. promote and appreciates diversity in terms of learners' personal background, knowledge, skills, and learning abilities.	3.92	Great Extent
7. allow and respects intellectual divergence among learners.	3.80	Great Extent
8. utilize varied situations to stimulate learning and cooperation among groups.	3.78	Great Extent
9. promote higher thinking skills among learners thru group reflections on subject-related and real-life situations.	3.78	Great Extent
10. provide activities that are designed to promote interactions between and among learners.	3.69	Great Extent
Overall Mean	3.84	Great Extent

The data in Table 3 reveals that MAPEH teachers utilize collaborative strategies in online learning to a great extent, as reflected by the overall mean of 3.84. This suggests that teachers are actively fostering group-based learning environments where students can interact, reflect, and co-construct knowledge an essential component of 21st-century education.

The highest-rated line item which states that “As a MAPEH teacher, I create small to medium size groups to collaborate learning” with a mean score of 4.00, interpreted as great extent’ and this indicates that teachers prioritize structured groupings to facilitate peer interaction and cooperative learning.

On the other hand, the lowest-rated item which states that “As a MAPEH teacher, I provide activities that are designed to promote interactions between and among learners” with a mean score of 3.69, interpreted as “great extent,” suggests a relative gap in designing explicitly interaction-driven tasks.

This may reflect challenges in crafting online activities that go beyond passive participation and truly stimulate dynamic collaboration. According to Carag (2020), effective collaborative learning in MAPEH requires intentional design of tasks that are interactive, inclusive, and performance-based, especially in digital environments where physical presence is limited. These findings highlight the need for continuous professional development in digital collaborative pedagogy, ensuring that group activities are not only present but also purposeful and learner centered.



Table 4

Extent of Utilization of Innovative Strategies in Teaching MAPEH in Online Learning According to the Area Constructivist

Items	Mean	Interpretation
As a MAPEH Teacher, I...		
1. make sure to involve learners in all subject-related activities.	3.77	Great Extent
2. provide activities that bridge learners' pre-existing knowledge and new learnings.	3.73	Great Extent
3. create a democratic learning environment during classes.	3.84	Great Extent
4. Uses interactive and student-centered activities.	3.69	Great Extent
5. facilitate activities that allow learners to be self-reliant and dependable.	3.91	Great Extent
6. provide activities that allow learners to perform subject-related tasks creatively and independently.	3.84	Great Extent
7. encourage learners to engage with research works and present findings in class.	3.80	Great Extent
8. facilitate educational trips to create connections between concepts and ideas learned in class with the real-world context.	3.70	Great Extent
9. stimulate individual learning processes through diverse activities.	3.62	Great Extent
10. use modeling, coaching, and scaffolding to facilitate learning.	3.74	Great Extent
Overall Mean	3.76	Great Extent

The data in Table 4 shows that MAPEH teachers utilize constructivist strategies in online learning to a great extent, as reflected by the overall mean of 3.76. This suggests that teachers are actively engaging learners in constructing their own understanding through meaningful, experience-based, and student-centered activities.

The highest mean is with the line item that states, “As a MAPEH teacher, I facilitate activities that allow learners to be self-reliant and dependable” with a mean score of 3.91, interpreted as “great extent”. This highlights the emphasis on learner autonomy, an essential tenet of constructivist pedagogy.

Meanwhile, the lowest-rated item, “As a MAPEH teacher, I stimulate individual learning processes through diverse activities” with a mean score of 3.62, interpreted as “great extent,” which suggests that a relative need to diversify instructional strategies that cater to individual learning styles. This may reflect the challenge of personalizing instruction in online settings where learner feedback and engagement cues are less visible.

According to Reyes, Daran, and Daran (2023), MAPEH teachers in distance learning environments often struggle to adapt constructivist strategies due to limited access to interactive tools and learner variability. These findings imply that while constructivist principles are embraced, there is room to enhance individualized learning pathways and differentiated instruction in virtual MAPEH classrooms.

Table 5

Extent of Utilization of Innovative Strategies in Teaching MAPEH in Online Learning According to the Area Reflective



Items	Mean	Interpretation
As a MAPEH Teacher, I...		
provide reflection activities to consider the learners' prior learning experiences in light of particular learning objectives.	4.45	Great Extent
encourage learners to reflect on their daily learning experiences and analyze the latter in relation to the subject.	4.39	Great Extent
encourage learners to write daily journals or blogs to express and reflect their learning experiences of the subject.	4.42	Great Extent
encourage learners to express and reflect on their daily learning experiences through video recordings.	4.19	Great Extent
encourage learners to interact with their classmates and friends to discuss and reflect on their respective learning experiences.	4.41	Great Extent
facilitate activities to build essential connections between learners' previous and current experiences as basis for reflection activities.	4.53	Very Great Extent
encourage learners to prioritize self-learning responsibilities.	4.46	Great Extent
empower learners to demonstrate essential learning skills in their everyday lives.	4.31	Great Extent
encourage learners to embrace the "I learn today from experience" principle to develop a new and reflective learning pathway.	4.32	Great Extent
empower learners to use reflective thinking in various ways beneficial to their academic and personal life.	4.36	Great Extent
Overall Mean	4.38	Great Extent

Table 5 reveals that MAPEH teachers utilize reflective strategies in online learning to a great extent, with an impressive overall mean of 4.38. This indicates a strong commitment to fostering metacognitive skills and self-awareness among learners—key components of 21st-century education.

The highest-rated item, "As a MAPEH teacher, I facilitate activities to build essential connections between learners' previous and current experiences as basis for reflection activities" with a mean score of 4.53, interpreted as "very great extent".

Meanwhile, the relatively lower (yet still high) mean of 4.19 for the item "encourage learners to express and reflect on their daily learning experiences through video recordings" may reflect logistical or technological challenges in implementing multimedia-based reflection tasks. This is consistent with findings by Paclibar (2023), who noted that while MAPEH teachers value reflective practices, the digital divide and limited access to devices can hinder the full integration of tech-based reflection tools in online settings.

Reflective strategies are essential in MAPEH because they allow learners to internalize values, assess their performance, and connect physical and artistic experiences to personal growth.

As Wood (2010) emphasized, reflection is not merely a review of content but a transformative process that deepens understanding and informs future action. These findings affirm that reflective pedagogy is not only present but thriving in MAPEH online instruction—though further support in digital facilitation could enhance its reach and impact.



Comparative Analysis in the Extent of Utilization of Innovative Strategies in Teaching MAPEH in Online Learning According to the Areas, Inquiry-Based, Integrative, Collaborative, Constructivist and Reflective when grouped and compared according to the Variables, Sex, Highest Educational Attainment, Grade Level and Number of Trainings in MAPEH

Table 6

Difference in the Extent of Utilization of Innovative Strategies in Teaching MAPEH in Online Learning According to the Area Inquiry-Based According to Variables

Variable	Category	N	Mean Rank	Kruskal Wallis H test	Mann Whitney test	U	p-value	Sig. level	Interpretation
Sex	Male	29	34.83	3.394	575.00		0.388		Not Significant
	Female	45	39.22						
Highest Educational Attainment	Lower	42	36.93		648.00		0.792		Not Significant
	Higher	32	38.25						
Grade Level	Grade 7	21	43.57				0.335	0.05	Not Significant
	Grade 8	16	38.13						
	Grade 9	18	36.50						
	Grade 10	19	31.21						
Number of Trainings Attended in MAPEH	Few	20	44.25		405.00		0.098		Not Significant
	Many	54	35.00						

Table 6 presents the results of the statistical analysis examining whether selected variables significantly influence the extent of MAPEH teachers' utilization of inquiry-based strategies in online learning. Using Mann-Whitney U and Kruskal-Wallis H tests, all computed p-values were found to be greater than the 0.05 level of significance, indicating no statistically significant differences when grouped according to sex, highest educational attainment, grade level taught, and number of trainings attended.

In terms of sex, male and female teachers showed comparable mean ranks, suggesting that gender does not significantly affect the use of inquiry-based strategies. Likewise, no significant differences were observed when teachers were grouped according to educational attainment, indicating that academic qualifications alone do not determine the extent of inquiry-based practice. Grade level comparisons also showed no significant variation, although teachers handling lower grade levels slightly demonstrated higher use of inquiry-based approaches due to the need for more guided questioning and exploratory learning activities.

Although the number of trainings attended showed some variation in mean ranks, the difference was still not statistically significant, suggesting only a weak trend where teachers with fewer trainings may rely more on inquiry-based strategies as adaptive classroom responses. Overall, the findings indicate that demographic and professional characteristics do not significantly influence the utilization of inquiry-based strategies in online MAPEH teaching. Instead, instructional practices are more likely shaped by contextual factors such as curriculum demands, resource limitations, and classroom realities in distance



learning environments. This aligns with Carag (2020), who similarly found that teacher-related variables do not significantly affect pedagogical strategy use, emphasizing the role of shared institutional constraints in shaping instructional practices.

Table 7

Difference in the Extent of Utilization of Innovative Strategies in Teaching MAPEH in Online Learning According to the Area Integrative According to Variables

Variable	Category	N	Mean Rank	Kruskal Wallis H test	Mann Whitney U test	p-value	Sig. level	Interpretation
Sex	Male	29	38.07	0.563	636.00	0.854		Not Significant
	Female	45	37.13					
Highest Educational Attainment	Lower	42	37.75		661.50	0.908		Not Significant
	Higher	32	37.17					
Grade Level	Grade 7	21	40.14			0.905	0.05	Not Significant
	Grade 8	16	36.00					
	Grade 9	18	35.47					
	Grade 10	19	37.76					
Number of Trainings Attended in MAPEH	Few	20	55.40		182.00	0.000		Significant
	Many	54	30.87					

Table 7 presents the statistical analysis on whether selected variables significantly influence the extent of utilization of integrative strategies in teaching MAPEH in online learning. Using Mann-Whitney U and Kruskal-Wallis H tests, results show that sex, highest educational attainment, and grade level taught yielded p-values greater than 0.05, indicating no significant differences across these categories. This suggests that these demographic and professional characteristics do not significantly affect the use of integrative strategies among MAPEH teachers.

In terms of sex, male and female teachers showed nearly similar mean ranks, and the p-value of 0.854 confirms no significant difference. Likewise, educational attainment showed no significant variation ($p = 0.908$), implying that higher academic degrees do not necessarily translate to greater use of integrative strategies. Grade level taught also revealed no significant differences ($p = 0.905$), although slight variations in mean ranks suggest minor differences in instructional tendencies across grade levels, these are not statistically meaningful. These findings align with Carag (2020), Paclibar (2023), and Reyes et al. (2023), who emphasized that MAPEH teaching practices are largely shaped by shared curriculum demands and classroom realities rather than personal or demographic factors.

However, the number of trainings attended in MAPEH showed a statistically significant difference ($p = 0.000$), making it the only variable that influences integrative strategy utilization. Teachers with fewer trainings had a higher mean rank compared to those with more trainings, suggesting that limited exposure to formal professional development may lead teachers to rely more on self-developed or adaptive integrative practices. This finding implies that training programs play a crucial role in shaping how effectively teachers implement integrative strategies. Overall, while most variables do not significantly influence instructional practice, professional development remains a key factor, highlighting the need for targeted, context-based training to strengthen



Table 8

Difference in the Extent of Utilization of Innovative Strategies in Teaching MAPEH in Online Learning According to the Area Collaborative According to Variables

Variable	Category	N	Mean Rank	Kruskal Wallis H test	Mann Whitney U test	p-value	Sig. level	Interpretation		
Sex	Male	29	39.22	1.079	602.50	0.577	0.05	Not Significant		
	Female	45	36.39							
Highest Educational Attainment	Lower	42	41.18		517.50	0.089		0.05	Not Significant	
	Higher	32	32.67							
Grade Level	Grade 7	21	38.07						0.782	Not Significant
	Grade 8	16	32.81							
	Grade 9	18	40.06							
	Grade 10	19	38.39							
Number of Trainings Attended in MAPEH	Few	20	54.55		199.00	0.000				Significant
	Many	54	31.19							

Table 8 presents the statistical analysis of whether selected variables significantly influence the extent of utilization of collaborative strategies in online MAPEH teaching. Results show that sex, highest educational attainment, and grade level yielded p-values greater than 0.05, indicating no significant differences. Male and female teachers, as well as those with lower or higher degrees, reported similar use of collaborative strategies, while grade-level comparisons also showed uniformity.

The only variable with a statistically significant difference was the number of trainings attended. Teachers with fewer trainings had a higher mean rank (54.55) compared to those with many trainings (31.19), with a Mann-Whitney U value of 199.00 and a p-value of 0.000. This suggests that limited training may push teachers to rely more heavily on collaborative approaches, often improvising with peer-to-peer tasks and group projects to sustain engagement in online classes.

The null hypothesis is accepted for sex, educational attainment, and grade level, as no significant differences were found. For number of trainings attended, the null hypothesis is rejected, confirming a significant difference in collaborative strategy use.

These findings imply that demographic factors do not shape collaborative practices, but training quality and relevance are decisive. Teachers with fewer trainings often compensate by maximizing collaboration, while those with more trainings may apply strategies more selectively. This underscores the need for targeted, high-quality professional development that equips MAPEH teachers to implement collaborative approaches effectively in online learning contexts.



Table 9

Difference in the Extent of Utilization of Innovative Strategies in Teaching MAPEH in Online Learning According to the Area Constructivist According to Variables

Variable	Category	N	Mean Rank	Kruskal Wallis H test	Mann Whitney U test	p-value	Sig. level	Interpretation
Sex	Male	29	39.26	0.718	601.50	0.570		Not Significant
	Female	45	36.37					
Highest Educational Attainment	Lower	42	41.60		500.00	0.059		Not Significant
	Higher	32	32.13					
Grade Level	Grade 7	21	39.24			0.869	0.05	Not Significant
	Grade 8	16	40.00					
	Grade 9	18	34.97					
	Grade 10	19	35.87					
Number of Trainings Attended in MAPEH	Few	20	53.13		227.50	0.000		Significant
	Many	54	31.71					

Table 9 shows that sex, highest educational attainment, and grade level all yielded p-values greater than 0.05, indicating no significant differences in the use of constructivist strategies. Male and female teachers, as well as those with lower or higher degrees, reported similar levels of application, while grade-level comparisons also showed uniformity.

The only variable with a statistically significant difference was the number of trainings attended. Teachers with fewer trainings had a higher mean rank (53.13) compared to those with many trainings (31.71), with a Mann-Whitney U value of 227.50 and a p-value of 0.000. This suggests that limited training may push teachers to rely more heavily on constructivist approaches, often improvising with experiential tasks and contextualized activities to sustain engagement in online classes.

The null hypothesis is accepted for sex, educational attainment, and grade level, as no significant differences were found. For number of trainings attended, the null hypothesis is rejected, confirming a significant difference in constructivist strategy use.

These findings imply that demographic factors do not shape constructivist practices, but training quality and relevance are decisive. Teachers with fewer trainings often compensate by maximizing constructivist methods, while those with more trainings may apply them more selectively. This underscores the need for targeted, context-sensitive professional development that equips MAPEH teachers to implement constructivist approaches effectively in online learning environments.

Table 10

Difference in the Extent of Utilization of Innovative Strategies in Teaching MAPEH in Online Learning According to the Area Reflective According to Variables



Variable	Category	N	Mean Rank	Kruskal Wallis H test	Mann Whitney U test	P-value	Sig. level	Interpretation
Sex	Male	29	38.09	8.914	635.50	0.850		Not Significant
	Female	45	37.12					
Highest Educational Attainment	Lower	42	39.75		577.50	0.300		Not Significant
	Higher	32	34.55					
Grade Level	Grade 7	21	34.60			0.030	0.05	Significant
	Grade 8	16	29.50					
	Grade 9	18	50.00					
	Grade 10	19	35.61					
Number of Trainings Attended in MAPEH	Few	20	28.00		350.00	0.200		Significant
	Many	54	41.02					

Table 10 shows that sex and highest educational attainment yielded p-values greater than 0.05, indicating no significant differences in reflective strategy use. Male and female teachers, as well as those with lower or higher degrees, reported similar levels of application.

The grade level variable, however, produced a significant difference ($H = 8.914$, $p = 0.030$). Grade 9 teachers had the highest mean rank (50.00), while Grade 8 had the lowest (29.50), suggesting that reflective strategies are more emphasized in Grade 9, possibly due to the developmental needs of learners and the complexity of performance-based tasks at this stage.

The number of trainings attended showed no significant difference ($p = 0.200$), though teachers with more trainings tended to report higher reflective practice.

The null hypothesis is accepted for sex, educational attainment, and number of trainings, as no significant differences were found. For grade level, the null hypothesis is rejected, confirming a significant difference in reflective strategy use.

These findings imply that demographic and training factors do not strongly shape reflective practices, but grade level does. Teachers in Grade 9 appear to rely more on reflection to adapt instruction to learners' transitional needs, highlighting the importance of scaffolding reflective strategies across grade levels. This underscores the need for capability-building programs that emphasize developmental responsiveness, ensuring reflective teaching is consistently applied in all year levels of online MAPEH instruction.

CONCLUSION

The findings show that the respondents were predominantly female MAPEH teachers, with a nearly balanced distribution between those with and without postgraduate studies, most teaching Grade 7 and having attended more than five MAPEH-related trainings. Overall, the utilization of innovative teaching strategies in online MAPEH instruction—including inquiry-based, integrative, collaborative, constructivist, and reflective approaches—was consistently rated to a great extent, indicating strong adoption of learner-centered practices regardless of sex, educational attainment, or grade level taught. However, when grouped according to selected variables, only the number of MAPEH trainings attended showed a statistically significant difference in the extent of strategy utilization. This suggests that while teachers generally demonstrate high levels of instructional innovation in online learning, their effectiveness and consistency in applying these strategies are significantly influenced by the



extent of their professional training, highlighting the critical role of sustained, targeted, and quality-driven capacity-building programs in strengthening MAPEH instruction.

RECOMMENDATIONS

Based on the conclusions drawn from the study, several program-based recommendations are proposed to strengthen the utilization of innovative strategies in teaching MAPEH in online and modular learning environments. These include the “MAPEH Reimagined: Strategy-Based Micro-Training Series,” a quarterly hybrid training led by school heads and EPS-MAPEH to enhance mastery of inquiry-based, integrative, collaborative, constructivist, and reflective strategies; the “TAP (Training Accelerator Program) MAPEH,” a 3-day annual intensive bootcamp for teachers with limited prior trainings to strengthen foundational pedagogical skills; the “MAPEH Gawad Sining: Strategy Exhibition and Lesson Showcase,” a bi-annual district-level program promoting sharing of best practices through demonstrations and exhibits; the “MAPEH SPRINT: Strategy Progress Review and Intervention Tool,” a continuous monitoring and coaching program led by school heads and master teachers to track implementation and provide feedback; and the “Catch-Up MAPEH: Community of Practice for Late-Trained Teachers,” a 6-month peer mentoring initiative supporting newly hired or undertrained teachers through coaching and collaborative lesson planning. These programs are supported through possible funding from MOOE, SBM, and local partnerships, with cost-efficient use of DepEd Commons and digital platforms, and will be evaluated using teacher feedback, classroom observation tools, strategy-aligned lesson plans, and learner performance outcomes.

Conflict of Interest

The author declares the absence of any conflict of interest that could have influenced the content or conclusions of this paper. She affirms that no financial, personal, or professional relationships with other individuals or organizations have compromised the objectivity, integrity, or impartiality of the research work. As a final point, no external parties influenced the study design, data collection, analysis, or interpretation.

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