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Differentiated Instruction Approach in Teaching Volleyball Basic Skills in Grade 9 Students

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Abstract

The Differentiated Instruction (DI) Approach addresses learners' diverse needs, abilities, interests, and readiness levels through varied instructional strategies and activities. This study determined the effectiveness of the DI Approach in developing the basic volleyball skills of Grade Nine learners, particularly serving, receiving, and spiking, and explored their learning experiences. The study employed an explanatory sequential mixed-methods research design. The quantitative phase utilized a pretest-posttest quasi-experimental design involving forty-five Grade Nine learners in Cebu City. Adapted research instruments, including a volleyball skills assessment and a semi-structured interview guide, were used to gather data. Ten selected learners participated in the qualitative phase to further explain the quantitative findings. Quantitative data were analyzed using frequency, percentage, mean, standard deviation, paired-samples t-test, and Cohen's d, while qualitative data were examined through Brown and Clark analysis. Before the intervention, learners demonstrated developing proficiency in serving and receiving and beginning proficiency in spiking. After the intervention, their performance improved to proficiency in serving and receiving and developing proficiency in spiking. Significant improvements were also noted in all three volleyball skills. The qualitative findings generated three themes: Positive and Comfortable Learning Experience, Guided Practice and Skill-Focused Learning, and Challenges Solved through Practice and Persistence. These findings revealed that learners valued varied activities, demonstrations, guided practice, and opportunities to develop their skills according to their readiness and abilities. Overall, the findings demonstrated that the DI Approach enhanced learners' volleyball skills, confidence, and learning experiences. The recommended output of the study is an Enhanced Lesson Guide integrating differentiated instructional strategies and activities to support the development of basic volleyball skills.

Keywords: *Physical Education, Differentiated Instruction, Volleyball Skills Physical Education, Psychomotor Performance, Learner-Centered Instruction, Cebu, Philippines*

Introduction

Physical Education is important for building physical fitness, motor skills, cooperation, and healthy living throughout life. Of the various sporting activities included in the Grade 9 Physical Education course of study, volleyball stands out as a sport that helps develop the psychomotor, cognitive, and affective domains of learners. Nevertheless, since students come to Physical Education lessons with varying skill levels, previous experiences, physical fitness, motivation, and ways of learning, it is difficult for teachers to use one method of teaching that can suit all learners. Many learners find it difficult to acquire some fundamental volleyball skills such as serving, passing, and spiking using the conventional form of teaching (Yang & Lin, 2024).

Internationally, there has been the rise of a new educational strategy referred to as differentiated instruction as a result of the recognition of the learner's readiness, interest, and profile. According to Wen and Cai (2024), differentiated instruction is one of the most crucial teaching strategies employed to attain inclusive and equitable education, especially in Physical Education. In their study, it is worth noting that the use of differentiated instruction by teachers positively impacts on the level of engagement of the learners due to the integration of flexible grouping and differentiated activities for learning. However, Wen and Cai (2024) pointed out that Physical Education teachers still struggle with differentiated instruction.

Similarly, according to Hollibaugh (2022), differentiated instruction ensures equitable learning experiences by enabling learners to engage in various learning experiences depending on their level of preparedness and not engaging learners in the same activities regardless of their individual differences. The research highlights different approaches to differentiation in Physical Education, noting that student choice and flexibility in task difficulty, as well as different kinds of instructional activities, increase motivation and engagement of learners. Nevertheless, it was established that many Physical Education teachers use one form of instructional experience regardless of diverse learners in class.

Further, a systematic review conducted by Nugroho et al. (2024) showed that differentiated learning has a great impact on the development of students' motor skills, motivation, socialization, affective states, and their learning experience in Physical Education. Though the study revealed positive results, the authors stressed the importance of conducting empirical research to investigate the influence of differentiated instruction in particular sports in secondary education, as there is a lack of evidence on this issue.

Speaking about the situation in the Philippines, it is important to note that developing the skills of playing volleyball is still an issue for Physical Education teachers. According to Redublado and Sumalinog (2024), many senior high school students encountered difficulties in developing volleyball skills due to the insufficient implementation of research-based methods of teaching. The findings of this study prove that the use of learner-centered instructional methods has positively impacted the skills and knowledge of students in comparison with conventional approaches. Still, the authors' study was concerned only with the use of the Jigsaw learning strategy.

In the same manner, the policy of the Department of Education in implementing the MATATAG Curriculum emphasizes the importance of providing inclusive, learner-centered, and competency-based instruction in which the teacher must teach the learners of their varying competencies through differentiated instruction. In spite of such a policy being implemented, empirical studies on differentiated instruction in Physical Education are few, especially for the teaching of basic volleyball skills for junior high school pupils.

International literature relating to the teaching of basic volleyball skills through differentiated instruction is consistent with the use of a differentiated instruction approach for improving the learning of physical skills in Physical Education lessons. According to the study conducted by Faturohman and Hadi (2024), differentiated learning methods led to significant improvement in the psychomotor achievement of the students in teaching of volleyball underhand serving. However, their study only focused on one volleyball skill (underhand serve) and senior high school learners.
In the same vein, Yang and Lin (2024) have investigated differentiated volleyball instruction among Taiwanese high school learners and concluded that differentiated instruction contributed to better performance in volleyball, increased motivation, and better learning strategies for the learners. The results showed that learners got more involved in instruction that was aligned to their ability level. Nevertheless, the study was not carried out in the Philippine context; hence, generalization to Filipino learners cannot be done easily.

Despite the consistent findings of past research studies that showed the efficacy of differentiated instruction and innovative teaching methods in the field of Physical Education, there still exist some gaps in previous research. First, most of the past research focused on general Physical Education, teacher beliefs, or specific volleyball skills but not on the holistic teaching of volleyball basic skills. Second, most of the past research was conducted in international settings with different curricula and cultures. Third, past research done in the Philippines did not concentrate on differentiated instruction in volleyball, but on cooperative or Jigsaw learning methods of volleyball instruction. Fourth, there is no study done on differentiated instruction in teaching Grade 9 students with varying readiness in volleyball basic skills.

Furthermore, from the researcher's observation during Physical Education classes in a regular class setting, Grade 9 students show less interest and participation during volleyball class sessions. Some Grade 9 students are having difficulties in executing the basic volleyball skills like serving, receiving, and spiking because of varying knowledge, physical ability, and readiness in learning volleyball.

To address these gaps, the present study seeks to determine the effectiveness of the Differentiated Instruction Approach in teaching basic volleyball skills to Grade 9 students. Specifically, it aims to examine whether the implementation of differentiated instructional strategies can improve students' performance and learning experiences in executing fundamental volleyball skills, particularly in terms of serving, receiving, and setting. The study recognizes that students have varying levels of readiness, interests, abilities, and learning preferences, which may influence how they understand, acquire, and perform specific physical skills. Thus, rather than employing a uniform approach to instruction, differentiated instruction provides opportunities to modify learning activities, teaching strategies, instructional materials, and performance tasks to address students' individual learning needs and differences.

Furthermore, the study intends to explore how differentiated instruction can provide meaningful and engaging learning opportunities for students with different levels of skill proficiency. Through appropriately designed activities, students may receive learning experiences that correspond to their current abilities while being encouraged to develop their competencies progressively.

Literature Review

According to Carol Ann Tomlinson's Differentiated Instruction Theory, which dates back to 1999 and was revisited in 2017, learners vary in their readiness, interests, and learning profiles. Therefore, it is necessary to vary the instruction and differentiate the content, process, product, and learning environment to meet learners' differences and achieve effective results. In regard to Physical Education and the process of teaching basic volleyball skills, differentiated instruction allows modifying learning activities based on learners' differences and needs. Learners are thus given opportunities for adequate learning and progress in their own rhythm while acquiring competencies in such volleyball techniques as serving, passing, setting, spiking, and blocking.
Extending from the learner-centered view of Tomlinson's theory, Lev Vygotsky's Social Constructivist Theory (1978) argues that learning is a process where individuals engage in significant social activities and guided actions. Lev Vygotsky has formulated the idea of the Zone of Proximal Development (ZPD), according to which the learning process is most effective when students are properly guided by teachers or more skilled peers. This idea is consistent with differentiated instruction since teachers can vary the amount of assistance and experience given to each student depending on his or her competence level. Collaborative activities, peer tutoring, demonstrations and guidance during volleyball classes are helpful for students to acquire basic skills.

Alongside social interaction and guided learning, another key component of David Kolb's Experiential Learning Theory (1984) is that learning occurs best through experience. In Kolb's theory, individuals learn through the ongoing process of concrete experience, reflective observation, abstract conceptualization, and active experimentation. Since Physical Education involves physical activities, the acquisition of volleyball skills mainly relies on practical experience through repeated practice, reflection, and application in real-life situations. The concept of differentiated instruction supports this theory as differentiated learning provides different learning experiences according to the readiness and skills of the learners so that everyone participates actively and acquires the required volleyball skills. All these theories support the theory that volleyball skills instruction should be learner-centered, collaborative, and experiential in nature. Therefore, it provides a solid theoretical framework for differentiated instruction for Grade 9 students.

Apart from these theories, there are other relevant laws and policies related to the subject matter from the Philippine context. For one, Republic Act No. 10533 or the Enhanced Basic Education Act of 2013, provided the institutionalization of the K-12 Basic Education Program. This act promotes the principles of learner-

centeredness, inclusivity, and developmentally appropriate educational processes and practices. Learners differ in their abilities and needs, and this provides the policy justification for implementing instructional approaches that will be responsive to the varied individual needs of the learners. Thus, the use of differentiated instruction in teaching basic volleyball skills can offer appropriate learning experiences for different learners.

Republic Act No. 9155, or the Governance of Basic Education Act of 2001, emphasizes the role of schools and teachers to continuously improve the quality of education delivered. Teachers should have a professional responsibility to implement effective instructional approaches and strategies that are responsive to learners' needs and will help in improving educational outcomes. Hence, it can be said that differentiated instruction in Physical Education is compatible with this policy orientation since it involves active involvement of learners, meaningful learning experiences, and responsive teaching in learners with varied volleyball skills.

Furthermore, the legal bases can be supplemented by DepEd MATATAG Curriculum, particularly DepEd Order No. 10, s. 2024, as it stresses on inclusion, competence, and learner-centeredness in education. The curriculum advocates for responsive approaches in the instructional process that respond to the different needs and levels of preparedness of the learners and guarantee acquisition of required competencies at the same time. Thus, differentiated instruction in the process of teaching basic volleyball skills can assist in achieving the purposes of the curricular framework since it will provide Grade 9 students with equal opportunities for engagement and development of their competencies.

Statement of the Problem

This study evaluated the effectiveness of the Differentiated Instruction Approach in teaching Volleyball Basic Skills on the performance of Grade 9 students at Don Carlos A. Gothong Memorial National High School during the SY 2026-2027 as a basis for an enhanced lesson guide.

Specifically, it sought answers to the following queries:

1. What is the pre-test performance of students in volleyball basic skills in terms of:
    1.1 serving,
    1.2 receiving, and
    1.3 spiking?
2. What is the post-test performance of students in the aforementioned skills?
3. Is there a significant difference between the pre-test and post-test performance of students utilizing differentiated instruction?
4. What are the experiences of students utilizing differentiated instruction in teaching volleyball?
5. Based on the findings of the study, what enhanced lesson guide can be developed?

Null Hypothesis

H0: There is no significant difference between the pre-test and post-test performance of students utilizing differentiated instruction.

Materials and Methods

An explanatory sequential mixed-methods research design was used in this study to determine the effectiveness of the Differentiated Instruction Approach in teaching basic volleyball skills among Grade 9 students. In the quantitative aspect of the study, a pretest-posttest design was used to test the effectiveness of the differentiated instruction in teaching basic volleyball skills by measuring the change in performance in serving, receiving, and spiking among the students. The qualitative aspect of the study explored the experiences of the participants when

implementing the Differentiated Instruction Approach. Qualitative data were analyzed using thematic analysis of Braun and Clarke.

The study was conducted in one of the public secondary schools under the Department of Education (DepEd) in Cebu City, Philippines. The school serves secondary-level learners and provides the research setting for the implementation of the Differentiated Instruction (DI) Approach in developing Grade 9 learners' basic volleyball skills. This institution accommodates a wide range of junior and senior high school pupils and has a conducive atmosphere to facilitate both academic and co-curricular learning. There are sufficient sports facilities available, such as the open court where Physical Education classes can be undertaken; hence, it provides a good platform for teaching and evaluating the basic volleyball skills of the Grade 9 learners. This institution uses the Physical Education curriculum of the Department of Education; therefore, it is a good place to conduct this study.

The respondents in this study were 45 Grade 9 students of the Don Carlos A. Gothong Memorial National High School, located in Cebu City. In order to determine the right respondents, the researcher initially performed a preliminary survey and skills assessment, which enabled the determination of the current level of proficiency of the students in basic volleyball skills. The findings of the survey and skills assessment provided the basis for choosing the respondents with low-performance levels that would benefit from the application of the Differentiated Instruction approach. Of those students with low-performance levels, 45 were selected as the respondents of the quantitative part of the study. In this case, purposive sampling was used in selecting the respondents, because the students were deliberately selected according to certain criteria related to the purposes of the study. Inclusion criteria for the selection included the following: students should be studying in Grade 9; they should regularly attend Physical Education lessons and play volleyball; and, finally, they should have poor skills in playing volleyball.

In the qualitative study, purposive sampling was used whereby 10 students out of the total 45 respondents were selected for the semi-structured interview. Selection of students for the qualitative part was based on their involvement in the intervention, availability, readiness to be interviewed, and their capacity to give meaningful descriptions of their experience. Ten students who took part in the interview were selected such that they represented the students who underwent the differentiated instructional activities during the intervention. The interview results gave qualitative data on their perception of the activities, instructional techniques, involvement, confidence, and skills development.

The study used researcher-made instruments to gather the necessary data in determining the effectiveness of the differentiated instruction approach in teaching basic volleyball skills among Grade 9 students. Before the implementation of the intervention, the researcher developed a Volleyball Skills Survey Questionnaire to determine the students' initial level of volleyball skills. The results of this survey served as the basis for identifying the participants who required instructional intervention and were included in the study.

To assess the students' performance before and after the intervention, the researcher also developed a performance rubric for evaluating the three selected volleyball basic skills, namely serving, receiving, and spiking. The rubric contained specific performance indicators and scoring criteria to ensure an objective and consistent assessment of the students' skill performance during the pretest and posttest. Both the Volleyball Skills Survey Questionnaire and the performance rubric underwent content validation by experts in Physical Education and educational research. The experts evaluated the instruments for clarity, relevance, appropriateness, and alignment with the study objectives. Based on their recommendations, the necessary revisions were incorporated, and the instruments were approved for use in the study.

Moreover, in order to gain an insight into the experiences of the students with regard to the adoption of the differentiated instruction strategy, the researcher designed a semi-structured interview guide containing three qualitative questions. These questions dealt with the students' experiences, perception, and reflection on the

differentiated instruction activities carried out during the intervention process. The interview guide was subjected to expert validation in order to determine its content validity and suitability for collecting qualitative data. Ten respondents out of the forty-five respondents chosen for the interview process were interviewed. Their answers were transcribed and analyzed through the use of thematic analysis in order to derive themes and patterns regarding their experiences.

Data Gathering Procedure

Preliminary Stage: Prior to the conduct of the study, approval was obtained from the Schools Division Superintendent of the Department of Education–Cebu City Division through the submission of a letter of request. Approval being attained, permission was sought from the School Principal of Cebu City Don Carlos A. Gothong Memorial National High School for the conduct of the study. Meetings for coordination with the Physical Education teachers were conducted in order to discuss the objectives, procedures, and schedule of the intervention.

Prior to the selection of the respondents, a volleyball skills survey was given in order to determine the level of volleyball skills of the students. From this volleyball skills survey, 45 Grade 9 students who had low levels of volleyball skills and needed instructional intervention were chosen as the respondents of the study. In order to avoid biasness and objectivity in assessing the performance of the students in volleyball, the researcher made use of four (4) Physical Education teachers to independently rate the students. Two PE teachers rated the performance of the students in the pre-test, while the other two independently rated the performance of the students in the post-test with the help of the performance rubric that was validated for use in the study. Before conducting the evaluation, the raters were informed about the criteria for rating and the use of the rubric.

Data Gathering Stage: During the predetermined schedule, an orientation was done by the researcher among the respondents for the purposes of giving details regarding the objective, procedures, and ethical considerations involved in the study such as voluntary participation and confidentiality of answers. Having gained consent from the participants, the pretest was given to evaluate the performance of the students on the three basic skills of playing volleyball that is serving, receiving and spiking. After conducting the pretest, the approach of differentiated instruction was introduced into the volleyball classes within the intervention period. The activities involved in the teaching were designed based on the level of readiness of the learners. A posttest was conducted after the intervention using the same criteria. The learners also completed the survey questionnaire formulated by the researcher to share their experience on the use of the differentiated instruction approach.

Post Data Gathering Stage: Once the collection process was completed, the researcher coded and checked the validity and accuracy of the information gathered. Both pre-test and post-test results, along with the responses of the respondents from the experience questionnaire, were statistically and qualitatively analyzed to answer the posed research questions. These findings provided the foundation for conclusions and recommendations and the development of the improved lesson guide on teaching basic volleyball skills through a differentiated instruction approach.

The following statistical analyses were performed to examine the quantitative data collected in the research. First, the frequency and percentage were utilized in describing the distribution of the respondents in terms of their performance levels in the basic volleyball skills. In addition, the mean and standard deviation were calculated to determine the average performance of the students and the variation of their scores in serving, receiving, and spiking in the pretest and posttest. The paired-samples t-test was conducted to find out if there was a significant difference between the respondents' pretest and posttest performances.

As far as qualitative data is concerned, the answers provided by the ten students who were interviewed were transcribed and analyzed through the thematic analysis technique developed by Braun and Clarke. This process entailed the identification, organization, and interpretation of recurring patterns and themes that emerged in the students' answers to the three qualitative questions on differentiated instruction. The findings from qualitative analysis were later used to complement quantitative data.

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With regard to the implementation of this research that deals with the effectiveness of the Differentiated Instruction Approach in Teaching Volleyball Basic Skills among Grade 9 students, the researcher took utmost caution in observing the ethics that should be followed in conducting educational research. Before conducting the study, permission was sought from the Schools Division Office, the school principal, and the concerned Physical Education teachers. Furthermore, consent from the parents/guardians and assent from the student respondents were also obtained before the study by providing an explanation about its objectives, process, benefits, and duration.

It must be noted that participation in the research was purely voluntary, and the respondents were notified of their rights to opt out of the research without suffering any kind of penalties or academic consequences. Throughout the whole process of the study, confidentiality, anonymity, and privacy of the respondents were ensured. Instead of using the names of the student respondents, only codes were used in assessment sheets, questionnaires, and data files. All the information that was gathered during the pretest, posttest, volleyball performance assessment, and survey questionnaire was handled confidentially and were used solely for academic research purposes.

There was an assurance on the part of the researcher that no form of physical, psychological, or emotional harm would come to the subjects participating in the study. The differentiated instruction exercises were done in the Physical Education class period through safe execution of the volleyball skills. The intervention posed no threat to the normal learning experience of the subjects and did not put anyone in a disadvantageous position. In addition, fairness and respect were ensured by giving equal learning chances, instructional help, and unbiased evaluation using performance criteria validated by teacher-raters.
Finally, the research was done following the ethics and institutional research protocol of the school and the Department of Education. The ethical principles of respect for persons, beneficence, justice, confidentiality, voluntariness, and the right to withdrawal were followed all throughout the process of conducting the research.

Results and Discussion

Table 1

Pretest Performance of the Respondents in Volleyball Skills

Skill	Beginning f (%)	Developing f (%)	Proficient f (%)	Excellent f (%)	Mean	SD	Interpretation
Serving	10 (22.22)	25 (55.56)	10 (22.22)	0 (0.00)	2.00	0.67	Developing
Receiving	13 (28.89)	18 (40.00)	14 (31.11)	0 (0.00)	2.02	0.78	Developing
Spiking	29 (64.44)	16 (35.56)	0 (0.00)	0 (0.00)	1.36	0.48	Beginning

Table 1 displays the summary of the pretest performance of the respondents for the three fundamental skills of playing volleyball, namely serving, receiving, and spiking, before the intervention was done. The results show that the respondents were at the developing and beginning levels of volleyball skills. This suggests that they had not been able to master the skills and needed further development.

In serving, the majority (25, representing 55.56%) of the respondents were rated as developing, while 10 (representing 22.22%) were rated as both beginning and proficient. None of the respondents attained the excellent level. Serving skill has a mean score of 2.00 (SD = 0.67). This corresponds to the developing level of skill. This suggests that even though the respondents had the necessary skills for serving, there was a need for further development.

Regarding receiving, 18 respondents (40.00%) had developed a Developing level, 14 respondents (31.11%) had achieved the Proficient level, and 13 respondents (28.89%) had a Beginning level. As with serving, none of the

respondents had reached the Excellent level. The mean score of 2.02 (SD = 0.78) meant a Developing level of performance. Compared with the other two skills, receiving has the highest mean score, which means the respondents could perform relatively better in receiving than in serving and spiking before the intervention.

Concerning spiking, most of the respondents (29 respondents or 64.44%) have a Beginning level of performance, while the remaining 16 respondents (35.56%) developed a Developing level. None of the respondents performed excellently or proficiently in spiking. Therefore, this skill got the lowest mean score of 1.36 (SD = 0.48) with an interpretation of Beginning level. It indicates that spiking is the least mastered skill among the three, showing poor ability to perform the skill efficiently.

On the whole, it can be seen that the results obtained from the respondents showed that they entered the study with low levels of volleyball skill in spiking while in terms of serving and receiving skills, they had a Developing level. This also means that the lack of respondents who fell into the category of Excellent when it comes to the mentioned skills shows that there was plenty of room for improvement before the intervention was applied. Thus, these results indicate that the respondents did not master the fundamental volleyball skills properly, which made them good candidates for an intervention study. Besides, it is obvious that there should be more focus on the development of spiking skills while working on improving the serving and receiving skills of the respondents.

These results support earlier research that shows how students in their secondary years tend to lack expertise in volleyball skills owing to lack of previous exposure and practice opportunities as well as variations in individual learning abilities. Based on the study conducted by Faturohman & Hadi (2024), students normally have difficulties in acquiring basic skills in volleyball before any instructional interventions, especially with the use of uniform instruction. The study shows that students need differentiated and incremental learning experiences for them to acquire psychomotor skills. In line with this, Nugroho et al. (2024) found that differentiated learning improves the acquisition of motor skills, motivation, and self-efficacy of the students in physical education lessons because the instructional activities are suitable for the students' ability levels.

The poor results of the pretests especially in spiking also support the findings of Yang and Lin (2024) that volleyball spiking is among the most difficult skills to learn because it involves coordination, timing, balance, jumping skills, and correct arm movements. In their findings, Yang and Lin revealed that the majority of the students have a hard time with the skill but greatly improve when the teaching is adjusted to their learning requirements. Similarly, according to Redublado and Sumalinog (2024), there were poor pretest performances of the Filipino senior high school students in volleyball skills before applying the learner-centered approach to the teaching of the subject.

Furthermore, the results are also backed up by the assertions made by Tomlinson (2017) that learners come into class with different readiness levels, interests, and proficiencies, meaning that the assumption that they will be able to perform equally well using one mode of instruction can hinder their overall learning process. Low baseline performance noted in the current study emphasizes the need to use differentiation to cater to their diverse needs and offer them an appropriate learning experience in order to facilitate skills development. In general, these studies back up the implication that the poor pretest performance of the respondents necessitated the need for an instructional intervention.

Table 2

Posttest Performance in Volleyball Skills

Skill	Beginning f (%)	Developing f (%)	Proficient f (%)	Excellent f (%)	Mean	SD	Interpretation
Serving	2, (4.44)	10, (22.22)	22, (48.89)	11, (24.44)	2.93	0.81	Proficient

Receiving	0, (0.00)	8, (17.78)	25, (55.56)	12, (26.67)	3.09	0.67	Proficient
Spiking	2, (4.44)	32, (71.11)	8, (17.78)	3, (6.67)	2.27	0.65	Developing

Table 2 summarizes the performance of the respondents for the post-test in terms of their competency levels in the three basic skills in volleyball following the intervention. As seen in Table 4 below, there is a marked improvement in the performance of the respondents in terms of their proficiency in playing volleyball, where serving and receiving reached the Proficient category and spiking reached the Developing category.

For serving, the largest number of respondents (22 or 48.89%) fell under the Proficient category, followed by 11 respondents (24.44%) in the Excellent category and 10 respondents (22.22%) in the Developing category. Only 2 respondents (4.44%) belonged to the Beginning category. The mean score of 2.93 (SD = 0.81), which corresponds to the Proficient category, implies that the respondents were already good in performing the skill of serving with only few execution mistakes.

For spiking, the majority of the respondents (32 or 71.11%) were at the Developing level, while 8 respondents (17.78%) reached the Proficient level and 3 respondents (6.67%) attained the Excellent level. Only 2 respondents (4.44%) remained at the Beginning level. The mean score of 2.27 (SD = 0.65) indicated a Developing level of performance. Although spiking continued to register the lowest mean among the three skills, the emergence of respondents in both the Proficient and Excellent categories demonstrated a marked improvement compared with the pretest results, where none of the respondents attained these performance levels.

In general, it can be said that the post-test results revealed that the respondents' basic volleyball skills were enhanced due to the Differentiated Instruction Approach in Teaching Volleyball Basic Skills. Specifically, serving and receiving skills reached the Proficient level, while spiking skills improved from the Beginning to the Developing level. The higher number of respondents who belong to Proficient and Excellent performance levels, along with a decrease in the number of respondents who had their skills assessed as belonging to the Beginning level, were indicative of the progress that was made by the respondents. Thus, it can be assumed that the Differentiated Instruction Approach in Teaching Volleyball Basic Skills was successful in helping to improve basic volleyball skills of the respondents, specifically serving and receiving skills. Despite the fact that there was some improvement in spiking skills as well, the lower mean score for this type of skill indicated that it was the hardest to develop one.

The improvements in the posttest performance of the respondents were consistent with the results of previous studies which proved that learner-centered instructional strategies can help students learn better their motor skills in Physical Education classes. According to Casey and MacPhail (2018), learner-centered pedagogy allows students to be more actively involved in the learning process, which leads to better psychomotor performance and increased confidence in doing physical skills. The results of their study indicate that when the instruction is personalized to the needs and abilities of the students, they tend to be more engaged and successful in learning.

The findings of the current study were also comparable with those of Killian and Woods (2020). These findings demonstrated that the active involvement of the students through various learning activities positively influences their skill performance and engagement in Physical Education. As revealed by their study, the use of different types of learning activities in accordance with the students' preparedness promotes the development of basic skills and increases confidence in their implementation. The results of this study are also congruent with those of Siedentop, Hastie, and van der Mars (2020). Specifically, the authors argued that an effective teaching approach to Physical Education must offer meaningful practice, regular feedback, and progressively difficult tasks to promote skill development. In accordance with their statement, the students show much better progress if the teachers use specific instructional approaches allowing ample practice. This can be the reason for the considerable improvement in the students' performance in volleyball.

Additionally, according to Dyson (2021), learner-centered pedagogy fosters collaboration, involvement, and reflection learning practices, which contribute to improving cognitive and psychomotor development of students. The author pointed out that methods that cater for individual differences of learners increase their involvement and lead to better acquisition of skills in physical education. In addition, the results are consistent with the assertions of UNESCO (2024) that stated that quality PE should embrace inclusive and learner-centered strategies. It caters to the different abilities of learners.

Table 3

Test of Significant Difference Between the Respondents' Pretest and Posttest Volleyball Skills

Skill	Pretest M (SD)	Posttest M (SD)	Mean Gain	t	p	Decision	Cohen's d
Serving	2.00, (0.674)	2.93, (0.809)	0.933	12.64	<.001	Reject H_0	1.88
Receiving	2.02, (0.783)	3.09, (0.668)	1.067	10.95	<.001	Reject H_0	1.63
Spiking	1.36, (0.484)	2.27, (0.654)	0.911	9.15	<.001	Reject H_0	1.36

Note. N = 45; paired-samples t-test, df = 44, $\alpha = 0.05$, Mean Gain = Posttest Mean − Pretest Mean.
Cohen's d values were interpreted using the following criteria: 0.20 = small, 0.50 = medium, 0.80 = large, and values greater than 1.20 indicate a very large effect.

Table 3 provides a comparison of the performance of the respondents in the three basic skills of volleyball in terms of pretest and posttest through a paired-samples t-test. The results show statistically significant gains in serving, receiving, and spiking following the implementation of the intervention program. All the obtained values of p are below the 0.05 level of significance ($p < .001$), hence the rejection of the null hypothesis for all the three skill domains. It can be concluded that the intervention positively impacted the performance of the respondents in volleyball skills.

For the case of serving, there was an increase in the average score of the respondents from 2.00 (SD = 0.674) in the pretest to 2.93 (SD = 0.809) in the posttest, indicating a mean increase of 0.933. The calculated value of t is 12.64, which corresponds to a value of $p < .001$, thus showing a statistically significant increase in the performance of the respondents. Moreover, the value of Cohen's d of 1.88 shows a very large effect size.
Also, receiving exhibited the most significant improvement among the three volleyball skills. The mean score rose from 2.02 (SD = 0.783) during the pretest to 3.09 (SD = 0.668) during the posttest, producing the highest mean gain of 1.067. The calculated t-value of 10.95 ($p < .001$) is proof that the gain was statistically significant. In addition, a Cohen's d of 1.63 means that the intervention had a very large effect on improving the receiving skills of the respondents.

Spiking received an average gain in scores from 1.36 (SD = 0.484) during the pretest to 2.27 (SD = 0.654) during the posttest, giving a mean gain of 0.911. The calculated t-value of 9.15 ($p < .001$) proves that there was a statistically significant improvement in spiking. Also, a Cohen's d value of 1.36 implies a very large effect size, indicating that the intervention effectively improved the spiking skills of the respondents despite still being the poorest-performing skill among the three.

In summary, the findings reveal that there was a statistically significant and practically important difference between the respondents' volleyball skills before and after the intervention. While all the three skill domains were statistically significant, the respondents scored highest gains in the receiving (1.067), serving (0.933), and spiking skills (0.911) domains, respectively. The very large effect sizes in all the skill domains further show that the improvements in the respondents' skills were not only statistically significant but educationally important as well. This means that the intervention was effective in developing the fundamental skills in volleyball among the respondents. From the substantial improvements that were made, one can conclude that the instructional

techniques used during the intervention were quite successful in promoting skill development. Therefore, the intervention is an effective instructional strategy that can be used to develop the psychomotor skills of students in volleyball.

The significant improvements seen in the test performances of the respondents prior to and after undergoing the intervention are consistent with findings from other literature which stressed on the effectiveness of learner-centered instruction in improving the acquisition of motor skills among learners. According to Aktop & Karahan (2023), learners engaged in structured and differentiated physical education lessons performed better in specific sports skills compared to those who underwent traditional instruction.

The enhancement in the performance of the respondents in volleyball can be associated with the variety of learning activities employed in the Differentiated Instruction strategy. Some of these activities included individual skill exercises, group work activities based on ability, peer tutoring, paired drills, station activities, teacher demonstration, guided practice, and progressive skill exercises. The use of individual activities enabled the students to exercise depending on their ability and pace of learning, while the use of group activities made sure that the students were working together and being active participants. With peer tutoring, the learners had the chance to learn from other classmates who performed the skills better, while the progressive exercises enabled the learners to gradually learn the skills, especially serving, receiving, and spiking. This is because there was continuous guidance, demonstration, and feedback from the teachers.

Moreover, Bores-García et al. (2021) also found that instructional methods that promote active involvement, collaboration, and personalized learning increase the effectiveness of learners' psychomotor ability and performance in Physical Education. According to this study, when students are exposed to adequate learning activities based on their abilities, they gain confidence in performing movement skills, which is true to the significant effects found in the present study.

The results found in the current study are also supported by López-Belmonte et al. (2022). These researchers found that new and learner-centered instructional methods contribute positively to learners' skill performance, motivation, and engagement in physical education classes. This implies that learners experience improvements in their skill performance and learning as long as the instructional methods cater to the learning needs of the learners. This is what happened in the present study, where differentiated instruction led to significant effects in all the volleyball skills.

In addition, the emphasis was made by Casey and Goodyear (2023) that current approaches to teaching in Physical Education need to be based on the adaptation of lessons to the needs of diverse learners and creation of meaningful experience for learners' continuous development. As stated by the authors, adaptive learner-centered teaching techniques help students to gain better psychomotor results and have more active participation. The above statement proves the effectiveness of the differentiated instruction technique applied within the current study.

Finally, the results correspond to the SHAPE America National Standards (2024), according to which learners need to apply developmentally appropriate and inclusive teaching techniques that can promote their competence in motor skills and lifelong participation in physical activity. Therefore, the significant changes and the very large effect sizes achieved within the current study prove the effectiveness of the differentiated instruction technique used to improve volleyball skills of the participants.

THE EXPERIENCES OF STUDENTS UTILIZING DIFFERENTIATED INSTRUCTION IN TEACHING VOLLEYBALL

Theme 1: Positive and Comfortable Learning Experience

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A learning experience is said to be positive and comfortable when it relates to the good perception of the students about taking part in the volleyball lessons using the Differentiated Instruction approach. Within the framework of this research, it is seen in how the students feel that the activities are not difficult, diverse, and appropriate for their skill level. The students explain that they became more confident, willing, and comfortable as the activities became more suited for them. Their experience shows that the use of differentiated activities lessens the pressure of the students, making them able to develop their volleyball skills through activities appropriate for them.

Here are the responses of the students regarding their experience in learning the volleyball skills using the Differentiated Instruction approach.

> *"Maayo akong experience kay mas nasabtan nako ang volleyball. Dili kaayo lisod ang activities kay giangay man sa among level."*
> *(My experience was good because I understood volleyball better. The activities were not too difficult because they were adjusted to our level.) – Student 1*
>
> *"Ganahan ko kay lain-lain ang activities. Mas comfortable ko kay dili parehas ang difficulty sa tanan."*
> *(I liked it because the activities were varied. I felt more comfortable because the difficulty was not the same for everyone.) – Student 2*
>
> *"Maayo akong experience kay nakat-on ko hinay-hinay. Mas confident na ko moapil sa volleyball activities."*
> *(My experience was good because I learned gradually. I became more confident in participating in volleyball activities.) – Student 3*
>
> *"Nalingaw ko kay daghan og klase nga activities. Mas dali nako nakasunod kay gi-adjust ang exercises."*
> *(I enjoyed it because there were different kinds of activities. It was easier for me to follow because the exercises were adjusted.) – Student 4*
>
> *"Maayo kay mas nasabtan nako ang basic skills. Dili ko ma-pressure kay pwede ko magsugod sa activity nga akong kaya."*
> *(It was good because I understood the basic skills better. I did not feel pressured because I could start with an activity that I could handle.) – Student 5*
> *"Ganahan ko sa pamaagi kay hinay-hinay ang activities. Mas na-improve akong skills kumpara sauna."*
> *(I liked the approach because the activities progressed gradually. My skills improved compared to before.) – Student 6*
>
> *"Mas active ko sa klase kay mas sayon nako sundon ang mga activities. Nakahatag pud siya og confidence."*
> *(I became more active in class because it was easier for me to follow the activities. It also gave me confidence.) – Student 7*
>
> *"Positive akong experience kay mas confident na ko mo-perform. Sauna, hesitant ko moapil sa volleyball."*
> *(My experience was positive because I became more confident in performing. Before, I was hesitant to participate in volleyball.) – Student 8*

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"Enjoy ko sa activities kay dili boring. Naay different exercises ug nakapractice ko sa akong own pace."
(I enjoyed the activities because they were not boring. There were different exercises, and I was able to practice at my own pace.) – Student 9

"Maayo akong experience kay na-improve gyud akong volleyball skills. Mas confident na ko kaysa sauna."
(My experience was good because my volleyball skills really improved. I became more confident than before.) – Student 10

The responses confirmed that the students had viewed the Differentiated Instruction approach positively. The descriptions of the activities being manageable, varied, and adjusted to their abilities suggested that the approach had made it possible for them to get involved in the lessons in such a way that they saw it as appropriate for their readiness levels. In addition, the responses confirmed that the students felt more confident, enjoyed their lessons, and participated in volleyball activities.

These responses suggested that providing varied activities and gradually involving students get involved in the lessons gradually could result in a more positive learning experience. Finally, the responses suggested that differentiation helped the students avoid feelings of pressure, especially for those students who initially felt unsure about performing volleyball activities.

This study was in line with recent literature. García-González et al. (2023) found that competence-supportive teaching in Physical Education was positively related to students' need satisfaction and autonomous motivation. The findings suggested that the way teachers provided guidance and support to students could influence their motivation experiences during Physical Education lessons. These findings were relevant to the present findings because the students felt more comfortable when activities were adjusted to their abilities.

Theme 2: Guided Practice and Skill-Focused Learning

Guided practice and skill development involved the experiences of the students with instructional activities that offered them chances to observe, practice, and perfect certain volleyball skills. For the current study, the experiences of the students involved their description of demonstrations, repetitive drilling, partnering, practice among peers, and feedback from teachers. The students reported that by observing the correct execution of certain movements and by practicing them repetitively, they became skilled in executing serving, receiving, and spiking.

The following are the responses given by the students regarding those activities and teaching techniques that facilitated their improvement in volleyball skills.

"Ang demonstration sa teacher ug balik-balik nga drills nakatabang nako labi na sa serving ug receiving."
(The teacher's demonstrations and repeated drills helped me, especially in serving and receiving.) – Student 1

"Ang partner practice ug drills nakatabang nako. Kung masayop ko, ma-correct dayon sa akong partner ug teacher."
(Partner practice and drills helped me. When I made mistakes, my partner and teacher corrected me right away.) – Student 2

"Ang step-by-step nga demonstration ug repeated practice nakatabang gyud nako sa tulo ka skills."

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(The step-by-step demonstrations and repeated practice really helped me with the three skills.) – Student 3

"Ang individual drills ug teacher demonstration nakatabang nako labi na sa serving."
(The individual drills and teacher demonstrations helped me, especially in serving.) – Student 4

"Ang partner drills ug balik-balik nga practice nakatabang nako sa receiving ug serving."
(Partner drills and repeated practice helped me improve my receiving and serving.) – Student 5

"Ang demonstration ug step-by-step nga drills nakatabang nako labi na sa spiking."
(The demonstrations and step-by-step drills helped me, especially in spiking.) – Student 6

"Ang group drills ug practice with classmates nakatabang nako. Sige pud og correction ang teacher."
(Group drills and practicing with my classmates helped me. The teacher also regularly corrected me.) – Student 7

"Ang repeated drills sa serving ug receiving mao ang pinakanakatabang nako."
(The repeated drills in serving and receiving helped me the most.) – Student 8

"Ang partner drills ug demonstration sa teacher nakatabang nako nga masabtan ang sakto nga execution."
(Partner drills and the teacher's demonstrations helped me understand the correct execution.) – Student 9

"Ang demonstration, drills, ug repeated practice ang pinakanakatabang nako sa serving, receiving, ug spiking."
(The demonstrations, drills, and repeated practice helped me the most in serving, receiving, and spiking.) – Student 10

From the answers, it was clear that students viewed demonstration, repeated drills, partner activity, group activities, and feedback from the teachers as an important element in helping the students develop their volleyball skills. The repeated answer regarding demonstration indicated that modeling would help students comprehend the right body position and movements prior to undertaking the skill themselves. Repeated practice would allow the students to put into action the demonstrated movements as well as get their mistakes corrected. Partner and group activities would also allow students to get assistance and feedback as they practice. These observations show that differentiation was not only about varying the difficulty level of the activities, but also providing suitable guidance and practice for the students.

This finding was backed up by Faturohman and Hadi (2024), who conducted research on differentiated learning in volleyball and found that there was improvement in lower-service skills among the students due to differentiated learning strategies being used. It showed the capability of differentiated learning in improving psychomotor performance through activities that address students' learning needs. This is similar to the findings

of the present study, where students viewed repeated drills and differentiated activities as useful in developing their volleyball skills.

Similarly, García-González et al. (2023) noted the significance of competence-supporting instruction in Physical Education. In particular, their research results revealed that competence-supporting instruction and guidance could be linked to more adaptive motivation of students. Such results confirmed students' claims that teacher instructions, corrections, and guidance facilitated their understanding of how to conduct themselves in performing volleyball skills.

Furthermore, Leo et al. (2023) stated that teacher-student interactions and class cohesion could promote students' involvement in Physical Education. The above research result can be applied to the current situation, as the students indicated that partner practice, group drilling, teacher's corrections, and guidance contributed to their learning process. Through such teacher-student interactions, students had chances to practice certain skills under the supervision of both the teacher and other students.

Theme 3: Challenges Addressed Through Practice and Persistence

Challenges as practiced and learned refer to the difficulties that the students had during the process of playing volleyball and the ways in which they attempted to solve these problems by practicing regularly. In this particular case, the difficulties that the students had were spiking, receiving, serving accuracy, timing, coordination, and confidence. In spite of the difficulties, the students stated that they continued practicing, listening to the teacher, and learning how to move properly. Their answers showed that the students faced the difficulties that turned into new opportunities for practicing.

The following are the answers of the students who pointed out the challenges and the ways in which they handled them during the Differentiated Instruction activities.

> *"Lisod para nako ang spiking kay dili sakto akong timing. Nag-practice ko balik-balik hangtod na-improve."*
> *(Spiking was difficult for me because my timing was not correct. I practiced repeatedly until I improved.) – Student 1*

> *"Lisod ko sa receiving kay usahay dili nako ma-control ang bola. Nag-practice ko sa sakto nga position."*
> *(I found receiving difficult because sometimes I could not control the ball. I practiced using the correct position.) – Student 2*

> *"Ang spiking akong pinaka-lisod. Nag-practice ko sa approach ug jump una pa ko nag-spike."*
> *(Spiking was the most difficult for me. I practiced the approach and jump first before attempting the spike.) – Student 3*

> *"Mahadlok ko usahay nga masayop. Nagpadayon lang ko sa practice hangtod nawala akong kahadlok."*
> *(Sometimes I was afraid of making mistakes. I continued practicing until I overcame my fear.) – Student 4*

> *"Lisod ang pag-control sa bola sa receiving. Nag-practice ko sa proper stance ug movement."*
> *(Controlling the ball during receiving was difficult. I practiced the proper stance and movement.) – Student 5*

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"Lisod ang timing sa jump sa spiking. Nag-practice ko sa approach ug jump hangtod nakasunod na ko."
(The timing of the jump in spiking was difficult. I practiced the approach and jump until I was able to perform them correctly.) – Student 6
"Kapoy usahay ang practice, pero nagpahuway lang ko gamay ug nagpadayon gihapon."
(Sometimes the practice was tiring, but I just rested for a while and continued.) – Student 7

"Lisod ang accuracy sa serving. Nag-practice ko sa target area hangtod na-control nako ang bola."
(Serving accurately was difficult. I practiced aiming at the target area until I was able to control the ball.) – Student 8

"Lisod sa una ang spiking kay dili ko kabalo kanus-a mo-jump. Nag-practice ko sa timing ug approach."
(Spiking was difficult at first because I did not know when to jump. I practiced the timing and approach.) – Student 9

"Lisod ang coordination sa kamot ug lawas. Gisunod nako ang instructions sa teacher ug nag-practice ko balik-balik."
(Coordinating my hands and body was difficult. I followed the teacher's instructions and practiced repeatedly.) – Student 10

The findings indicated that the students faced various challenges in executing basic volleyball skills, especially spiking, which was the most challenging skill. Such difficulties included timing, ball control, body coordination, accuracy, and confidence. Nonetheless, the respondents mentioned that practice was the main way through which they would overcome the mentioned challenges. They also reported using instructions from teachers and developing skills in a step-wise manner. The ability of the respondents to keep on practicing despite having difficulties indicates that the different activities provided opportunities for the students to address specific challenges.

The current findings are in line with recent research concerning the need for a competence-oriented PE learning environment. For instance, García-González et al. (2023) found that competence-supportive teaching was associated with high need satisfaction and autonomous motivation. Their results indicated that perceptions of instructional support increased adaptive motivational outcomes. It is worth noting that the current findings are consistent with the research because the respondents used the teacher's instruction and practice in addressing challenges.

Furthermore, Arık & Erturan (2023) investigated the relationship between autonomy support and motivation within Physical Education and found out the importance of the supportive environment for the promotion of the students' motivation. Thus, the current descriptions of the gradual elimination of fear and difficulties through repeated practice matched the findings of this study.

Finally, Wang et al. (2024) considered the effect of the teacher competence support on students' involvement into sports and found out that the teacher support was associated with students' perception of their competence, persistence in exercising and participation in physical education lessons. The study stressed the role of teacher support in encouraging the efforts and persistence of students in physical activities. This finding is similar to the current case of the student's experience when he practiced, followed the teacher's advice, and repeated the exercises until he could feel comfortable with his skill performance.

Another related study is by Wen & Cai (2024). In the study, the researchers investigated teachers' perceptions and practices for differentiated instruction in Physical Education. The findings from the study indicated that teachers' growth mindset, flexible grouping, and curriculum differentiation played significant roles in the implementation of differentiated instruction. It is therefore clear that in this particular study, the researchers noted the significance of adjusting instructional activities and flexible grouping to fit the needs of the learners. The findings from this study support the present study since in this study, students' experiences indicate the significance of engaging in suitable activities based on their skills, being guided appropriately, and practicing volleyball movement skills in their own pace.

Conclusion

The results obtained from the study revealed that the Differentiated Instruction Approach was highly successful in enhancing the basic volleyball skills among Grade 9 learners. The considerable improvement noted in serving, receiving, and spiking, in addition to the positive experiences of the learners, confirmed the assumption that instruction customized according to varying levels of preparedness and skills among learners may help in skill enhancement and participation. Following the principles of Differentiated Instruction Theory, Social Constructivist Theory, and Experiential Learning Theory, the Differentiated Instruction Approach offered various kinds of learning activities and guided practice, interactions, and experiences, which met the learning needs of students. It was also noted that there was improvement in confidence, participation, and psychomotor skills among learners. Based on the findings, a Revised Lesson Guide on the Differentiated Instruction Approach was created to conduct learning activities related to basic volleyball skills in Physical Education.

Recommendations

Based on the results and conclusions of the study, it is suggested that the Physical Education teachers use differentiated instruction in their volleyball classes to effectively accommodate the readiness level, preferred mode of learning, and ability of the learners. There should also be increased focus on developing the spiking skills of the learners through constant practice and learning exercises. The school administration is also advised to assist in the adoption of differentiated instruction by providing appropriate instructional resources, facilities, and training for the Physical Education teachers. The Enhanced Lesson Guide, which was created in the course of the study, should be used in the teaching of basic volleyball skills since it uses structured, learner-centered, and differentiated learning exercises.

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