

Developmentally appropriate pedagogies and training needs among Senior High School teachers in the new normal: a comparative study

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Abstract

In-service training programs in any organization enable employees to carry out their responsibilities concerning the organizations' standard and effective delivery. In the pandemic, there is an uprising concern among educators on delivering instruction and their readiness to do so. Hence, a descriptive-comparative approach was conducted to investigate senior high school teachers' readiness on developmentally appropriate pedagogies and their training needs. The data was collected using a researcher-developed electronic-based survey instrument through Google Form among 35 senior high school teachers in Dolores National High School. The data analyses include mean computation in assessing respondents' level of academic competence, the median for readiness on developmentally appropriate pedagogies and training needs, and non-parametric Mann Whitney U-test and Kruskal Wallis H-test on the significant difference of teacher readiness when compared according to their academic competence indicators. Findings revealed that the majority of the senior high school teachers possessed low academic competence, were exposed to developmentally appropriate pedagogies on teaching methods and modes of assessment and needed immediate training in managing learners with multiple intelligences and learning styles and provided instruction via electronic or distance learning mode. Also, results revealed a significant gap in the respondents' exposure to developmentally appropriate teaching methods compared to their training acquired ($p = .002$). Hence, the researcher recommends reviewing schools' in-service training and directing them in preparing senior high school teachers to deliver new-normal-based education.

Keywords:

Training needs; readiness; developmentally appropriate pedagogies.

1 INTRODUCTION

Education is the cornerstone between learners and the industry, which caters to developing basic up to complex 21st-century skills. Hudson (2009) pointed out that students are sensible learners and have growing approaches to learning; thus, the method based on students' needs must account for various instructional types. The United Nations Educational, Scientific and Cultural Organization (UNESCO, 2019) suggested that teachers must implement a student-centered model of instruction and appreciate differentiated curriculum as well as instruction and assessment paradigms. Instructional pedagogy depends on the context of the learners. In connection to this, Copple and Bredekamp (2009) suggested to educators to effectively plan instruction that portrays the learning and problem-solving development since learners will utilize an evidence-based approach in choosing varied training modalities ("Learner Preference," 2018). Also, there is an uprising concern among teachers who need to receive specific preparation on the adaptations of contextualized teaching approaches via in-service training for learners' better educational experience.

The coronavirus crisis showed the ill-preparedness of most schools when it came to remote learning capabilities. True enough, from grade school through graduate school, many institutions struggled to get up to speed online classes. Citing data from the National Telecommunications Commission, the DepEd said that as of December 2019, 67% of the Philippine population has access to the internet. The technology landscape is transforming at a rapid pace. As internet access has grown worldwide, so too is the demand for teachers to acquire technical skills in education software and class-on-web tools. Gilchrist (2020) mentioned that within the fourth quarter of 2019, the Covid-19 season caused a massive global increase in the use of educational apps by about 90%. Mynbayeva *et al.* (2018) suggested that the evolution of pedagogy, the teaching landscape, internet development and shift and technology development contribute to a transformation of available teaching methods. However, Brown (2002) recognizes teachers' lack of training on pedagogies, noting that some malpractices of organizations to develop and implement training without first conducting a needs analysis. Conducting a needs assessment is fundamental to the success of a training program. Finally, in a large, complex organization, a balance must be struck between standardization and customization of the needs analysis process to allow for the organization's different structures, subcultures, and levels of readiness (Reed & Vakola, 2006).

In this time of the years, teachers play a vital role in the continuous delivery of quality education. A meta-analysis conducted by Guerriero (n.d.) showed several studies stressing the importance among educators to incorporate learning derived from experiential and practical experiences in the classroom. The variations in 'opportunities to learn in teacher preparation are related to differences in student achievement: teachers from countries that are top performers in PISA and TIMSS tend to have more opportunities to learn content, pedagogical content and general pedagogy (Voss *et al.*, 2011). In a preliminary interview conducted by the researcher, many teachers have no idea of what to and prepare in the opening of classes. In comparison, some have admitted that they flocked to the use of technology-based approaches to teaching due to the unavailability of teaching tools, minimal training, and poor internet connectivity. Thus, a training gap by employees should be examined to improve the school's operating efficiency and learning outcomes. This paper analyzed the readiness of developmentally appropriate instructional pedagogies and the training needs of Senior High School teachers in Dolores National High School during 2020-2020. The study's findings served as the basis for the improvement of the annual training design.

Specifically, this study was directed with the following research questions:

- what are the respondents' levels of academic competence in terms of educational attainment and training/seminar attended?
- what are the respondents' perceived levels of exposure on developmentally appropriate pedagogies in terms of teaching methods, and mode of assessment?
- what are the respondents' perceived level of training needs on the aspects of professional development, and classroom management?
- When analyzed by educational attainment and training/seminar attended, is there a significant difference in the respondents' level of exposure to developmentally appropriate pedagogies when analyzed by educational attainment and training/seminar attended?

2 METHODOLOGY

This study employed descriptive comparative research method in examining the academic competence in terms of educational attainment and training attended, exposure to developmentally appropriate pedagogies grouped into teaching methods and modes of assessment, and training needs on classroom management and professional issues among Senior High School teachers in preparation for the opening of flexible classes for the school year 2020-2021 at Dolores National High School.

A total of fifty-two teachers in the said locale were invited to fill out the survey questionnaire right after receiving approval from the school principal's office to gather data. However, only thirty-five responded and agreed on the statements placed in the consent form. The respondents are regularly employed licensed professional teachers handling full-time senior high school subjects and are willing to fill out the electronic questionnaire made via a google form. The researcher developed the three-part survey questionnaire and was validated among three individuals; one an expert researcher at the Eastern Samar State University, a Senior High School Master teacher II who holds a Doctorate degree in Education, and a school head using a five-point Likert scale for quality assurance. The data from the validation was tested through Exploratory Factor Analysis on SPSS in the grouping of factors/indicators for research objectives number 2 and 3. An overall Cronbach alpha of 0.78 signified that the instrument is acceptable and valid to use for this investigation.

Descriptive and inferential analyses were utilized at 0.05 level of significance via Statistical Packages for Social Science in analyzing the data. For the first objectives, a weighted mean was used to examine the academic competence of Senior High School teachers in terms of educational attainment and training attended. For the second objective, the frequency and percentage were used to determine the respondents' exposure on items consisting of developmentally appropriate pedagogies in terms of methods used and mode of assessment. The median-a measure of central tendency was utilized for the third objective on training needs because the variable (level of readiness) is ordinal. Lastly, on testing the significant difference in exposure on developmentally appropriate pedagogies, two non-parametric tests were utilized; Mann Whitney U-test for educational attainment since the respondents answer only two categories, and Kruskal Wallis H-test for training attended since there are already three categories that were filled-out.

3 RESULTS AND DISCUSSION

3.1 Academic Competence of Senior High School Teachers

Table 1 shows the academic competence level of senior high school teachers in terms of educational attainment and training/seminars attended. The results show that the respondents are baccalaureate degree holders-earning units leading to master's degree and have attended one training a year. Moreover, the majority of them have low academic competence, which implies that some senior high school teachers have not yet earned a master's degree in the last four-year run of the program since 2016, and they rarely attend training every year. Furthermore, results from the analysis show low academic competence in terms of educational attainment and trainings attended. This can be related to the fact that the program was just established four years ago, in 2016, with newly employed teachers to handle the subjects of the program.

Table 1. Academic competence of senior high school teachers in terms of educational attainment and training/seminar attended

Profile	Mean	Interpretation
Educational Attainment	1.31	Low
Training/ seminar attended	1.60	Low

Legend: 1.00-1.66 (Low level of competence); 1.67-2.33 (Average level of competence); 2.34-3.00 (High level of competence).

3.2 Senior High School Teachers' Exposure to Developmentally Appropriate Pedagogies

Table 2 depicts senior high school teachers' exposure to developmentally appropriate pedagogies in terms of teaching methods. Results reveal that majority of respondents are exposed to all the specified teaching methods, namely: use of games and simulation (77.1%), use of problem-based strategies (77.1%), challenging students' misconception (88.6%), use of academic freedom (74.3%), and integrating community-based learning (71.4%).

Table 2. Senior high school teachers' exposure to developmentally appropriate pedagogies in terms of teaching methods

On teaching methods	Exposed f (%)	Not Exposed f (%)
Use of games and Simulation	27 (77.1%)	8 (22.9%)
Use of Problem-based strategies	27 (77.1%)	8 (22.9%)
Challenging Students misconception	31 (88.6%)	4 (11.4%)
Use of academic freedom	26 (74.3%)	9 (25.7%)
Integrating community-based learning	25 (71.4%)	10 (28.6%)

Furthermore, Table 2 above shows that challenging learners' misconception has the highest percentage of exposure among the thirty respondents, while the integration of community-based learning as a teaching method has the least percentage of exposed respondents. These findings imply that majority of the respondents are exposed and have utilized teaching methods in their respective classes. Table 3 below reflects senior high school teachers' exposure to developmentally appropriate pedagogies in terms of modes of assessment. Results reveal the majority of the respondents are exposed to four out of the five indicators of modes of assessment, namely; use of formative assessment (88.6%), use of authentic assessment (65.7%), collaborative learning approach/group work assessment (77.1%) and use of rubrics in evaluating projects (68.6%), while there are 22 or 62.9% among the respondents, who are not exposed to the use of e-portfolio assessment.

Table 3. Senior high school teachers' exposure to developmentally appropriate pedagogies in terms of modes of assessment

On modes of assessment	Exposed f (%)	Not Exposed f (%)
Use of formative assessment tools	31 (88.6%)	4 (11.4%)
Use of authentic assessment	23 (65.7%)	12 (34.3%)
Collaborative learning approach/	27 (77.1%)	8 (22.9%)
Use of e-portfolio	13 (37.1%)	22 (62.9%)
Use of rubrics in evaluating projects	24 (68.6%)	11 (31.4%)

Furthermore, Table 3 above demonstrates that the highest percentage of respondents are exposed to formative assessment, while the use of authentic assessment as a mode of assessment has the least percentage of exposed respondents. These findings imply that most respondents are exposed to traditional formative assessment tools but not on e-portfolio assessment. This certainly will impact the implementation of online distance learning modalities.

3.3 Senior High School Teachers Training Needs

Table 4 shows senior high school teachers' level of training needs on five indicators of professional development. Results reveal that senior high school teachers need immediate training on professional development topics, specifically on; dealing with multiple intelligences, tapping varied learning styles, teaching learners how to learn, and exploring learner's emotional intelligence, while there is a remote need among the respondents to be trained on building rapport with learners.

Table 4. Senior high school teachers' level of training needs on professional development

On professional development	Median	Interpretation
Dealing with multiple intelligences	4	Immediate need
Tapping varied learning styles	4	Immediate need
Teaching learners how to learn	4	Immediate need
Building rapport with learners	3	Remote need
Exploring learners' emotional intelligence	4	Immediate need
Over-all Median	4	Immediate need

Legend: 1 – No need; 2 – Very weak need; 3 – Remote need; 4 – Immediate need; 5 – Very Immediate need

Table 4 above implies an immediate need to provide technical assistance among senior high teachers on managing a wide diversity of learners. Table 5 below magnifies training needs on classroom management of senior high teachers. Results reveal that the senior high school teachers need immediate training on classroom management topics, specifically on; dealing with academically challenged learners, facilitating learning electronically, encouraging academic integrity, and inculcating values in instruction, while there is a remote need among the respondents to be trained on managing electronic classrooms.

Table 5. Senior high school teachers' level of training needs on classroom management

On classroom management	Median	Interpretation
Dealing with academically challenged learners	4	Immediate need
Managing electronic classrooms	3	Remote need
Facilitating learning, electronically	4	Immediate need
Encouraging academic integrity	4	Immediate need
Inculcating values in instruction	4	Immediate need
Over-all Median	4	Immediate need

Legend: 1 – No need; 2 – Very weak need; 3 – Remote need; 4 – Immediate need; 5 – Very Immediate need.

Table 5 above implies that most of the respondents have poor and dismal preparations and training in classroom management via distance learning modalities. Hence, there is a need to orient and upskill senior high school teachers in

crafting meaningful and inclusive electronic classroom designs, protocols, and learning experiences in the age of new normal.

3.4 Significant Difference of the Senior High School Teachers' Level of Exposure on Developmentally Appropriate Pedagogies

Table 6 reveals the result on the test of significant difference of senior high school teachers' level of exposure on developmentally appropriate pedagogies on methods used and modes of assessment when grouped according to profile using non-parametric Mann Whitney U-test for Educational Attainment, and Kruskal Wallis H-test for Training/Seminar attended. Regarding educational attainment, respondents who are graduates of master's degree programs portrayed higher exposure to developmentally appropriate pedagogies in teaching methods (Mean Rank = 18.92) and modes of assessment (Mean Rank = 19.10). The Mann Whitney U-test analysis was utilized because two categories (Graduate of MA/MS and Graduate of BS/BA with units in MA/MS) were compared. The test results on teaching modes ($p = .156$) and modes of assessment ($p = .196$) signify a non-statistically significant difference between the two groups on teaching methods and mode of assessment since their p-values are higher than the set level of significance at .05. The findings imply that the exposure to teaching methods and assessment modes is not due to teachers enhancing academic endeavors such as attending graduate programs.

Table 6. Significant difference of the senior high school teachers' level of exposure on developmentally appropriate pedagogies on method used and modes of assessment

Academic Competence	Developmentally appropriate pedagogies in teaching methods			Developmentally appropriate pedagogies on modes of assessment		
	Mean	Result	Decision/Interpretation	Mean	Result	Decision/Interpretation
<i>Educational attainment</i>						
Graduates of MA/MS	18.92	U=110	Fails to reject H0 Not significant	19.00	U=105	Fails to reject H0 Not significant
Graduates of BS/BA in Education with units in MA/MS	16.00	$z=-1.418$ $p=.156$		15.59	$z=-1.294$ $p=.196$	
<i>Teaching/seminar attended</i>						
Beginner	16.00	$p=.002$	Reject H0 Significant	17.50	$p=.684$	Fails to reject H0 Not significant
Intermediate	23.78		19.83			
Advanced	16.00		16.92			

In terms of trainings and seminars attended, respondents who possess intermediate competence portrayed higher exposure to developmentally appropriate pedagogies in teaching methods (Mean Rank = 23.78) and modes of assessment (Mean Rank = 19.83). The Kruskal Wallis H-test analysis was utilized because three categories (Beginning, Intermediate, and Advanced) were compared. Surprisingly, the computed value on training and seminars attended ($p = .002$) was lower than the set significance level at 0.05. Hence, there is enough evidence to reject the null hypothesis and state a significant difference in exposure to developmentally appropriate teaching methods, according to training and seminars attended. The findings imply that the exposure to teaching methods is due to teachers' available training. This can be attributed to the fact that teachers become aware of the varied teaching approaches and methods used by other teachers they have met in a conference or trainings.

This study exemplifies the relevant need among teachers to be trained or sent to training and seminars offered by government and private institutions. Emmer et al. (2015) contended the relevance of teachers' professional development on classroom management by keeping them updated on the delivery of high-quality instruction. According to Vermunt (2014), high quality of training influences teacher instructional outcomes. Educators, therefore, must undergo cognitive and metacognitive learning processes to achieve learning outcomes in the form of changed beliefs about their practice or, even better, behavior change. Furthermore, the results pushed for a review of schools-already prepared in-service training programs for the whole year-round. In this way, teachers can reposition themselves as participants or as trainers in their respective schools since the study's findings revealed the intermediate capacity of teachers via their level of training. This study has many limitations, for instance, in the number of respondents due to time constraints. Besides that, the researcher did not consider the role of administrators and Master Teachers as Human Resource champions, teacher's attitude towards trainings, and strategies used in the training program, which future researchers can freely delve into.

4 CONCLUSIONS AND RECOMMENDATIONS

Based on the present study's findings, it was concluded that the majority of senior high school teachers in the chosen research locale possessed low academic competence in terms of educational attainment and trainings/seminars attended. They are generally exposed to teaching methods and modes of assessment required in the opening of classes via distance learning modalities. This includes game-based pedagogies, constructive learning approach, problem-based learning, and

integration of community participation to education for teaching methods. Also, they are exposed to the use of formative assessment, group work and use of rubrics for modes of assessment. Furthermore, there is an immediate need to train senior high school teachers in dealing with learners with multiple intelligences and learning styles. Likewise, it was found that they need to be trained on electronic delivery of instruction. Lastly, there is a significant difference in the senior high school teachers' exposure to teaching methods compared to their academic competence in terms of trainings grouped as Beginner, Intermediate, and Advanced levels. This portrays the need to review schools' in-service training and directs them in preparing senior high school teachers to deliver new-normal-based education.

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