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# DANCE AND CHOREOGRAPHY COMPETENCE OF UNIVERSITY PHYSICAL EDUCATION TEACHERS

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#### Abstract:

The research determined the Physical Education (PE) Teachers' dance and choreography competence among government owned higher education institutions (HEIs) in Eastern Visayas Region, Philippines. These competences include subject matter, pedagogy, assessment, guidance, classroom management for dance competence, dance techniques, leadership, creativity and discipline on choreography competence. The study also examined the degree of association between the level of dance and choreography competences among PE Teachers, and investigated the problems encountered by the PE Teachers in doing dance choreography. A descriptive survey research design was used as the main data gathering tool. A Focus Group Discussion (FGD) was also conducted to triangulate the validity and reliability of the generated information. The study was implemented in ten HEIs with forty university PE Teachers as research respondents. Findings revealed that PE Teachers in the study area are very competent in dance. They know what they are teaching, know how to teach, evaluate, guide students and has classroom management. The same hold true for PE Teachers dance choreography competence. They can discipline their students and know the dance technique of the dance type they teach. They possess the knowledge and the skills along the courses they teach. The finding also indicated a significant direct relationship between dance and choreography competences among tertiary PE Teachers. The most common problem encountered by PE Teachers in doing choreography is on the attitude of the dancers while least common problem pertains to the age of the students where older students are hesitant than the younger ones when told to perform. Notwithstanding the various encountered problems, PE Teachers are still very competent and resourceful with lots of initiatives on how to deliver their tasks in teaching dance choreography. They possess love and passion toward their jobs and willing to pursue what needs to be accomplished.

Keywords: dance, choreography, dance competence, choreography competence

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#### 1. Introduction

Dance is an art that demonstrates artistic abilities and discipline. It is experienced in many ways through socialisation activities in the community and is formally learned in school through the PE programme. It is important that skills acquisition be gained in this specific field and can be made possible through the competences of teachers (Rodriguez and Abocejo, 2018) in the various dance types of their fields of specialisation.

The Department of Education (DepEd) plays a big role in the skills learned by the students (Abocejo and Padua, 2010) specifically in the senior high school wherein these skills are carried on when they get to university. The Special Program for the Arts (SPA) which is a nationwide programme for students with talents in the arts. Its dance programme develops the dance skills of interested high school students. This suggests that arts education is an integral component of the educational programme in senior high school. Skills in dance are taught and are evaluated through a dance recital showcasing the talents and skills of the students.

At the University level of physical education courses (3 and 4), dance is a performance-based wherein students' basic skills are already learned. These skills are further developed into the advanced level in the tertiary PE-based curriculum approach. Dances may include hip-hop, folk dance, contemporary dance, cheer dance, and others. The students' dance skills are honed through the abilities of the dance teachers who are able to pass such abilities to their students.

It is of great importance that PE Teachers be dance and choreography competent though teachers may acquire various levels in both areas. Dance experiences like being a dance troupe member at the university and through seminars and workshops developed their skills in terms of teaching competency. Dance forms may either be folk dance, hip-hop, contemporary dance, among others.

On the competences of the dance teacher as choreographer, there should be familiarisation on the dance technique being taught. The choreographer must be able to use movements of the dance types. These movements are used in order to make a new dance piece using the choreographer's own creative ideas in combining the different dance steps. Having competence in choreography does not merely portray of being able to create a dance but it also includes being a manager and leader of the class. A competent choreographer must be able to lead both individuals and the whole class and face whatever problems may arise (Windermere, 2019). On the other hand, on dance competences, the PE Teacher must have knowledge on the dance type being taught and have a system in assessing the students' activities. Application of the approaches in dance teaching must be applied together with the effective teaching of the students both individually and in group.

It is important that having competent and effective teachers would yield in having skilled students in dance and choreography. Most PE Teachers in government run universities teaching dance and choreography only focus on a specific field of specialisation where their competence on a single dance form is put to use. Teachers have to consider being versatile in terms of teaching (Cuñado and Abocejo 2018) and not to focus on a one field such as any sports for being a PE teacher does not focus on one specialisation alone. Dance and choreography must also be considered aside from focusing on sports when there is a need particularly for PE teachers. Dance and other skills are needed to become an effective and efficient PE teacher.

There are only few teachers who teach dance and choreography in the government HEIs for the undergraduate degree programmes such as Bachelor in Secondary Education major in Physical Education (BSEd PE) and the Bachelor in Culture and Arts Education which have dance and choreography in their respective curriculum. Students taking dance and choreography courses must learn the fundamentals for them to be prepared as future PE Teachers and to develop their skills. Yet, only some PE Teachers can choreograph and teach dance. While most teachers who teach physical education at the university level, there is a need for them to learn dance and choreography skills.

Dance should be shared by people in a community and not merely written down or documented which would later be forgotten. The audience and spectators appreciate the beauty of a dance as their eyes see it. It involves other people like performers and the production staff which makes it social in nature. The choreographer's ideas are represented through movement, coupled with other elements of production such as lights, sounds, costumes and props. The choreographer conceptualises an idea on what dance to choreograph.

This paper argues that assessing the dance and choreography competences of PE teachers provide avenue for holistic skills development in their delivery of teaching services to students and clienteles, improve their classroom and lessons strategies, advance their creativity, discipline and teaching leaderships.

## 1.2 Study Objectives

This study investigated the dance and choreography competences of University PE Teachers in various higher education institutions (HEIs) in the three islands of Leyte, Biliran and Samar, Philippines. Specifically, the study determined the PE Teachers' dance competency as to subject matter (course), pedagogy, assessment, guidance, and classroom management and the choreography competency in terms dance techniques, leadership, creativity and discipline. It also examined the association between the levels of dance and choreographic competences, and the problems encountered by PE Teachers in doing dance choreography.

#### 2. Literature Review

Dance teachers can be found in many places where a dance space is available. There are many ways of becoming a dance teacher. Seminars and workshops also give credit to dance teachers where they gain information on issues and updates their knowledge about dance. The most comprehensive way is gaining knowledge on dance is obtaining a Master's or a Doctorate degree. Wilson (2019) found out that the teaching of dance depends on the extent of the availability of the skills and knowledge of the teachers when they teach different dances depending on their field of specialisation.

After gaining the knowledge in dance, a competent dance teacher must be flexible in terms of adjusting to different situations in class and is willing to solve problems that may arise along the way. Dance teaching is considered to be most demanding for it requires unconventional hours and is physically tiring and this may pose as a problem on the part of the teachers. Feeling physically tired may cause a difficulty in approaching the dance course to bring out the best of the students. Handling different students with mixed ages or abilities also requires different energy levels from the teacher (Rodriguez and Abocejo, 2018) but when students reach their potential and develop as a dancer is the greatest reward a dance teacher can get (Energetiks, 1988).

Teaching dance can be a hard task especially to teachers who do not have the basic training or skills in dance. This is true especially to teachers who have no dance exposure but rather have sports during the formative years and do not consider themselves as dancers. Teachers have to change the way they think on the concept and idea about dance and how it has to be taught. It is on the part of the teachers to think of strategies on how dance would become an interesting topic for the students. This is usually the dilemma that teachers encounter when the topic is about dance but in other cases it becomes different and changes when it comes to sports and other related PE topics (Contant, 2015). Aside from being tiring in teaching dance, another problem which a dance teacher may encounter is on the different abilities of the students. This holds true to different levels and ages of the learners. At the university level, teachers have to patient enough in teaching especially the slow learners for some students need to develop dance skills more than others (Trazo and Abocejo, 2019). Learning dance skills develops through time and the teacher needs to understand to take consideration the differences in skills acquisition of the students. What teachers have learned are passed on to the students where skills may be learned from training (El-sherif, 2016). Students of PE are taught by teachers to become confident and competent movers. To be globally competitive, an individual should be able to demonstrate through various movements and motor skills learned from PE Teachers.

Though different dance forms are taught in school, teaching still applies the same guidelines to be followed in making a lesson plan or syllabus. The dance teacher must know the coverage of the content of the topic to be taught. Here, the length of the time to be spent on each topic can be teacher-identified. The teacher must be able to break the subject matter or course into smaller parts for the students to catch up with the lessons (Rodriguez and Abocejo, 2018). There should also be an order to sequence on what has to be taught. It would be easier for the students to understand the segments of a whole concept through its smaller parts (Powers, 2019).

Other problems may be encountered in teaching dance as for little is said about the inclusion of dance in the curriculum. A certain study (Janal, 2016) was conducted to compare the motivation between male and female students in learning dance. It was found out that when dance is a part of PE, males are less likely to participate in dance classes for having the thought of learning dance is irrelevant for them. They may also have the feeling of lack of confidence or the fear of being embarrassed when execution is not properly done (Janal, 2016). This problem is encountered by PE Teachers in teaching dance especially that dance is commonly associated with females.

Learning dance can help develop positive traits such as problem solving, critical thinking, and decision-making can be learned through the guidance of the teachers is considered above-the-ordinary process in teaching (Ambrosio, 2015; Jolejole-Caube, Dumlao and Abocejo; 2019). A good teacher would be able to guide students to understand the principle of using the right and left side with the same degree of performance (Florica, 2017; Rodriguez and Abocejo, 2018). Dancers or learners may feel awkward in doing one of either side for they have their strong side and has to develop the weaker side. This is the case in the training of most dance forms. Exercises are performed both to the right and left side. There is an analysis on how movements happen and what adjustment has to be done in order to fix whatever problem which may arise. The strategy of the dance teacher is to make exercises on the right side followed by repetition of the same exercise done on the left side. This is one pedagogical approach which PE Teachers has to do in order to develop balance between the strong and weak side of the dancers.

For students to fully understand the creative process and have an integrated vision of the dance discipline, knowledge of the body, movement vocabulary, the art, and dance milieu, teachers should know the content of what they are teaching. These are sometimes taken for granted by the teachers and focus on the technical skills knowledge of the students (Fortin, 1993). It is important that dance pedagogy be used by PE teachers whenever they teach the dance genre or dance style of their specialisation for teachers do have different approaches in teaching dance. For example, in teaching folk dance, the fundamental steps have to be taught first prior to the teaching of a specific dance to give the students the understanding on how the dance is formed.

Dance teachers must know how to assess dance for dance is performance-based. The dance teacher decides on how dance in class has to be evaluated based on a teacher-made criteria. Assessing a movement may be quite difficult and the students may be required to repeat the movement several times before finally giving its rating. There are many ways on how to assess a dance which may include the outcome, purpose, lesson topic, instrument and assessment recording form (Cone and Cone, 2011). Performance assessment may involve many factors and the result may be affected by grades in academic subjects leading to different paces on how fast they learn. Students who have dance integrated in the high school curriculum have better performance compared to those who do not (Malarsih, 2016).

In the classroom, dance teachers should be able to assess the dance required from the students when they present different contemporary dance techniques. Students must be able to identify the aesthetics of the dance as introduced by their teachers to come with a new and specific form (Sansan, 2017). A set of standards should be set for the student to know what the teacher is looking for during a presentation.

This would serve as a guide for students on what they have to work on in a dance piece based on the criteria presented to them.

One trait of a dance teacher is having the competence in pedagogy. Whatever the topic may be, it should be carried out effectively to the students. Dance learning does not only happen within the four walls of the classroom. In South Africa, informal dance classes are offered and participated in by non-dancers and is held in any space where there is room for dance classes but not inside the classroom (Marx and Delport, 2017). This indicates that dance can be learned anywhere and not only in school. The teachers have to make use of whatever facility is available. Though participants are non-dancers, the dance teacher's creativity will come in. To make dance learning fun and enjoyable, a dance teacher and choreographer must be creative, athletic, has good interpersonal skills, is persistent, has physical stamina, is fun-loving and can work with a team (Sharma, 2019).

A dance teacher should also be a choreographer. Having the competence in choreography would make a competent dance teacher. Choreography principles such as space, time, levels and energy are used to make a dance piece effective. Application of these principles has to fit into whatever space there is available for the dancers or performers to use. The choreographer must also be able to use the element of time to make a dance piece more interesting. Variations in counting pattern can be used by adding and in between regular counts together with making use of the principle of levels which is the vertical space used by the performer. Group dynamics is effective when qualities of contrasting movements are used. This is characterised by the softness or lightness and the abruptness of sharpness of a movement. These qualities of motion give emotion to the movement not only for dancer but are also used by theatre actors. A skilled choreographer will utilise these principles extensively to give meaning to a dance (Şuşu, Creţu and Bălăiță, 2018). These principles of choreography have been used by choreographers for centuries. The role of the choreographer is to use these principles accompanied with aesthetics to make a dance. There are no shortcuts and there is no recipe for success (Abocejo, 2017). Choreographers have a peculiar system to the dance such as having an idea of the dance, listen to the music or improvise movements (Ellfeldt, 1988).

Students' learning is highly affected by the teachers' role in imparting knowledge (Fernandez and Abocejo, 2014). Competence in dance and technique strengthens dance in PE (Diamond, 2016) to address to different connotations about dance which is supposed to be for all regardless of gender. Teaching strategies in the teaching of dance is an important element to gain the interest and motivation in learning dance especially for the male learners (Amado, Sanchez-Miguel and Molero, 2017).

Cardina and DeNysschen (2018) found out that public school teachers need to develop their skills and knowledge in dance through professional development courses to ensure that there is quality education to consider them to be competent in their profession. When there is an understanding of the principles of motion and how they happen is already dance competence of a teacher and when used in the school's curriculum would yield to a high standard of learning and teaching. The same applies to teachers in tertiary level who teach dance in PE. Dance can be taught by moving naturally and set to music. It is through these seminars that teachers gain the knowledge in dance and choreography which is used in teaching PE.

Understanding the subject matter or course signifies that a dance teacher must be able to explain and give examples to students for them to clearly understand a certain principle. Dance movements can be related to this machines which a dance teacher must be able to comprehensively explain to the students. Understanding the different qualities of movement would serve as ground in order to create a new movement. The teacher must also be able to explain the different muscle groups in the body and what muscles are used in certain movements. The application of movement and what muscles are used is known as kinesiology or teaching the parts of the body and how it is related to movement (Chatzistefani, 2017).

An approach on teaching contemporary dance in the tertiary level is the use of sequence of movements arranged according to the students' ability in being creative. Assessment on choreographic skills and dance skills can be measured in this approach. Modern dance can be taught using the Feldenkrais Method and Hanna Somatics which are techniques used to treat chronic pain. Simple movements are used which can be applied in sports or dance (Roche and Huddy, 2015). This is one approach which dance teachers can use in order to develop students' creativity and can be used as a strategy in teaching for students to learn about movement.

High school and tertiary PE have the same cognitive, psychomotor and affective domains in PE. Dance in PE addresses these three domains. It includes learning the dance steps, critical thinking is applied in analysing and creating a dance routine and demonstrates self-expression when delivering an emotion during a performance. In order to get students to be motivated, the content that would be included in the syllabus, in the case for teaching university students, must be determined by the teacher. The teacher's knowledge on the subject matter is a factor for this can be challenging on how the topic would be delivered to the students. When a teacher feels uncomfortable in teaching dance skills, approach to the subject matter would be easy. There would be the feeling of comfort rather than awkwardness. Teachers have to update themselves through various means such as watching videos to have an idea on how to start the class. The basics of movements such as locomotor and non-locomotor movements can be used as an initial tool in teaching dance (Bajek, 2016).

Qualifications of teacher who are able to teach dance vary. There are teachers who may be over-qualified or there are teachers who possess moderate or high skills in dance and choreography competence and are physically educated in health-enhancing activities yet students expect less from them (Montgomery, 2015). Undergraduate teachers should be highly competent to be able to let the students perform with accuracy the required activity and make them competent which is necessary to finish the subject. Arguably, PE Teachers must be physically and theoretically competent in teaching (Julian, 2015).

Being able to choreograph is both a skill and an art. Cultural activities such as stage presentations and festivals need the choreographic skills of a dance teacher. Dance is one tool in order to preserve a culture. An example is the *Tikbubulan* dance which was researched on and choreographed that imitates the movement of a bird. It is a creative dance wherein the different principles of choreography was used by the choreographer in order to deliver the concept of the dance and is taught in public schools in Tacloban City (Ripalda, 2017). Another study on choreography was conducted showing the artistry and choreography competence of the teacher which can be used in teaching PE are the dances *Gaway-gaway*, *Tiklos* and *Cariñosa* which was modified in order to make the dance more interesting to the learners (Ripalda, 1998).

Choreographic skills which a teacher can have is in making use of music creating it into a dance such as an operetta wherein the story depicted in songs would be delivered as a dance (De Paz, 1998). All aspects of choreography including the needs in staging a dance were used. This includes lights, sound, costumes, musical arrangements, finances, and others. The Dance teachers' knowledge must be competent to utilise these skills in terms of stage production since using these aspects would make a dance production full in itself.

Aside from musical arrangements, religious practices can also be a given a dance counterpart wherein the working script is the output of the study that considers historical development such as that of the Penitentes of Palo, Leyte (Saboren, 2013). Original ideas using the principles of dance may also be used by the choreographer in creating an original dance piece in festivals to show thanksgiving to a patron saint for abundant blessings for a bountiful harvest (Enage, 2013). A choreographer's skill in creating dances would be put into realisation if the performers or dancers demonstrate discipline in the art of dance. Discipline which is applied to dance technique and also in terms of observing other areas of staging the dance such as costume, hair and make-up, and props.

Competence can be both applied in teaching and learning. Competence in teaching may include subject matter, pedagogy, assessment, guidance and classroom management in any academic level taught either singly or in a multi-grade level (Cuesta, 2013). All these competences will make competent teachers specifically in the tertiary level where dance is part of the PE programme.

A dance teacher in the present time is identified as a 21<sup>st</sup> century dance teacher who sees a person as a whole entity. In learning dance, there should be this putting together of fragments into a whole which means uniting the mind, the body, the curriculum to the community, teaching uniting each individual's identity. It is the teacher's consideration on the different parts on how to address it into a whole unit and should see the connections of each variable from one another. An individual also has these elements to be considered as a whole person has the intellect, emotions, physical capability, social, aesthetic, creative and spiritual elements. Dance teachers should be able to put her competency into use and perceive each individual dancer as a whole. The teacher must be prepared to face the challenges of collaborating all these factors together with intellectual capacity in order to meet the learning outcomes and have the understanding of the dance content and dance techniques, principled of choreography, dance history and culture.

In teaching dance, teachers should be prepared so that professional knowledge will be imparted to the learners taking into account also the school system, foundations, curriculum, instruction and assessment. The aforementioned factors affect the quality of the teaching-learning process which gives a final output on the performance of the students in terms of their academic performance. Having all of these in mind makes holistic dance teachers take into consideration that dancers are human beings who act and behave in a particular way. Preparedness for change is also a vital component of being a holistic teacher especially as dance is a part of the curriculum where changes may occur including the course and curriculum design, lessons and other activities (Sööt, 2013).

## 2.1 Theoretical and Conceptual Framework

This study anchored its framework on the Gestalt theory, Social Sciences theory, Choreologist aesthetic theory and Rudolph Laban's Movement Theory. These theories focus on the teaching of dance and how it can contribute to the society which is the product of effective teaching.

The Gestalt theory of Koffka (Caldwell, 2016) identifies that explains that explains that what is 'seen' is what appears to the seer but does not look into the details on how what is seen actually happens. It identifies that learning is the reorganisation of a whole contrasting that of psychology which view that learning consists of stimuli and responses. The brain as a powerful organ matches, structures and filters information in order to make sense thus giving meaning to a greater whole than its smaller parts (Salazar, 2017). Choreographers apply this theory when teaching dance. A theme of a specific dance is conceptualised and looking into the details later on, on how the other components of staging a dance would be put together in order to have one whole piece applying the conceptualised theme or story.

The Functionalist Theory of Durkheim (1895) identified that education in a society is one of the socialising means of the people in a community (Cliffs Notes, 2016). Education plays a vital role in transmitting core values and social control. Dance is an activity where cultural and social interaction is demonstrated. Dance explores the ethnic features of a certain culture which serves as a medium of social and cultural interaction. Different genres and styles are shown in a community's social setting and culture. Dance features the ideology of peoples, the social class, nationality, ethnicity, sexuality, and others (Rakoeeviae, 2015).

In the Choreologist Aesthetic Theory (as cited in Uji and Justin, 2014) identifies the principles of choreography such as floor patterns, floor and aerial space, and qualities of movement which serve as the foundation of choreography. Dance aesthetics is used to give a piece its artistic output or result. When creating a dance, new or budding choreographers have the storyline and the emotions in mind required of the dance. To be able to deliver a better picture of the entire piece to the audience, the different principles of choreography have to be used. Collaborating concepts, emotions and the principles of choreography give life to the dance piece with the technique and artistic delivery of the performer produces a master piece. Labanotation or Kinetography Laban is one method of recording dance which was introduced by Laban (1928) who is also a choreographer. He introduced the use of body lines and movements combining aesthetics and floor patterns make a wellchoreographed dance. Dance teachers make use of this theory for the students to learn and understand. Tertiary PE Teachers must understand theories in order to link dance and choreography competencies acquired through different methods which vary from teacher to teacher based on the teachers' past dance experiences. A competent choreographer will articulately use space, time and energy levels in a dance piece combined with artistic imagination into one coherent output.

The Experiential Learning Theory of Kolb (1984) defines that through the transformation of experiences and the result of grasping and transforming these experiences is how knowledge is gained. Experiences are grasped through concrete experiences and abstract conceptualisation. These are then transformed into reflective observation and active experimentation. When ideas are tested, the learning mode works best when gathered information through experience cycles back from the beginning through gathered information. The learning mode will work best as chosen by the individual based on specific situations.

Learning dance can be acquired through different ways. One way is through observation of dance performances, reading dance instruction books or may go directly to engaging in a dance experience and learn the sequence of steps and the technique on how it is performed (Cherry, 2018). Before dance teachers can teach dance, their past learning experience is an important influencing factor to make them competent and effective teachers. What teachers teach to students would be passed on to the next learners of dance. The teacher-dancer process of learning dance continues and the cycle repeats itself. In essence, teaching effectiveness and either or both dance and choreography competence work together in the learning process as presented in this study.

These experiences can serve both on the application of the strategies and be the subject matter which may be presented to the students for them to learn dance. Having the past learning experience would help the teacher apply a specific dance technique which the learners have to master and develop creativity in putting together choreography principles to make a dance. Different approaches and strategies in teaching the subject matter is to be used to have a positive result on student learning.

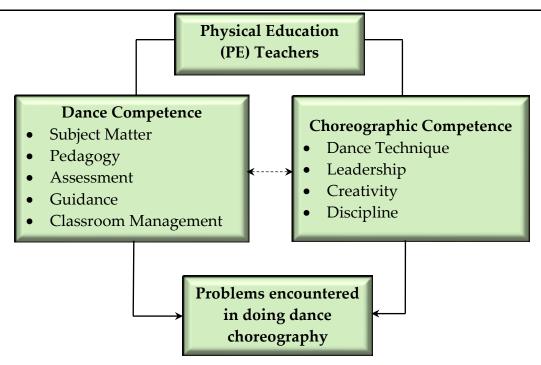


Figure 1: Conceptual Framework of the Study

At the university level where Physical Education course is taught, there are inevitable needs to have competent teachers deliver the taught courses. There are different dance genres that are taught such as folk dance, contemporary dance, jazz and social dances. Whatever the dance genre is being taught, PE Teachers need the competence in both dance and choreography. Dance competence would include the subject matter, pedagogy, assessment, guidance and classroom management. The choreographic competence however, would include dance technique, leadership, creativity and discipline.

The study would like to find out if there is a relationship between dance and choreographic competence of college PE Teachers specifically those who teach in state universities and college. Problems are unavoidable in doing choreography. These are problems which teachers have to face are commonly on the students such as their attitudes, their religion, age or the lack of confidence. The current study would like to find out if the problems encountered in doing dance choreography have bearing on the competences on dance and choreography.

## 3. Research Methodology

## 3.1 Research Design

This study employed the descriptive and correlational survey search design identifies the dance and choreography competences of PE Teachers. The correlational design was utilised to determine if there existed a significant relationship between dance and choreography competences of PE Teachers. The qualitative data analysis reinforced that quantitative findings particularly on the encountered problems of PE Teachers in doing dance choreography.

## 3.2 Research Locale

This study was conducted in ten Higher Education Institutions (HEIs) sparsely situated in the three islands Leyte, Samar and Biliran, Philippines. All HEIs implemented common PE curriculum.

## 3.3 Research Respondents

The respondents were University PE Teachers who teach dance. They were randomly selected by the head or chairperson of the PE department in each HEI. Both male and female Dance Teacher respondents were considered to evade gender bias. There were forty identified PE Teachers teaching dance from the HEIs under study.

### 3.4 Ethical Considerations

The respondents were informed through the questionnaire on the purpose of the study. Decision of the respondents on the acceptance of the survey was respected. Their right to be informed of the results of the study and their anonymity was dealt with utmost confidentiality. To ensure that the conduct of the study was thoroughly and ethically done, the selected teacher-participants were informed that their identities and answers would remain confidential. The respondent had the right to withdraw their participation if they decide to do so. Assurances that the findings of the study are dealt with utmost confidentiality and will solely be used for research purposes.

#### 3.5 Research Instruments

The researcher made use of a three-part self-structured questionnaire to be answered by the teacher-respondents on their competencies on dance and choreography. Part I was on the profile of the respondents, Part II was on the level of dance competence on the aspects on the subject matter, pedagogy, assessment, guidance and classroom management and on the choreography competence are the dance technique, leadership, creativity, and discipline using the Likert scale. Part III was on identifying the problems encountered by Dance teachers in doing choreography using a checklist.

Dance competence in terms of subject matter, pedagogy, assessment, guidance and classroom management and choreography competence in terms of dance technique, leadership, and creativity was identified based on the article of "*Conseil québécois des ressources humaines en culture [CQRHC]*" (2013).

## 3.6 Validation of Research Instrument

A pilot test was conducted at University of Aklan (UA), Philippines, one of the government universities in Western Visayas region, Philippines. UA was chosen because of its commonalities with the research locale of the study. The validation instrument was answered by PE Teachers who teach dance courses. The validation's purpose was to revise, improve and delete items that were unnecessary or misleading. Results showed that the *Cronbach* alpha of the questionnaire was 0.81 describing the instrument to be reliable. In effect, no item in the instrument was deleted no modified.

#### 3.7 Data Gathering Procedures

The researcher wrote a formal letter of request to the university presidents to grant the permission to collect data. Upon approval, the research instrument was sent to the different schools through email and was personally distributed by a research assistant or head and/or chairperson of the PE Department of every school.

The questionnaires were collected by the head or chairperson of the PE Department and were sent back to the Researcher. The researcher personally administered and retrieved the research instrument from some schools. Each HEI in the study area had two (2) to ten (10) respondents.

The problems encountered in doing choreography were identified by the respondents during the conduct of the Focus Group Discussion (FGD). The generated data were process to determine if there was a need for a proposed intervention scheme in view of developing the dance competence and choreography competence of university PE Teachers.

### 3.8 Treatment of Data

Frequency count was used to describe the problems encountered by PE Teachers in doing choreography. To test if there is statistical association between dance competence and choreography competence, the Pearson r was utilised and the weighted mean was used to identify the level of significance on the various competencies on dance and choreography. The level of significance was at se 0.05 level in order to reject or not to reject the null hypothesis.

#### 4. Results and Discussion

## 4.1 Level of Dance Competence of PE Teachers

Data revealed that PE Teachers were very competent in all the attributes being assessed about them towards the delivery of dance lessons to their students (Table 1). They have very competence level in guiding their students, maintain exemplary classroom management and implement pedagogical approach in their PE lessons. Looking at their subject matter or course indicate that PE teachers are very competent in identifying distinctive elements of choreography taught and competently articulates dance content using vocabulary.

Whatever the subject matter is, either on a dance form or on the technique, it is successfully carried out or delivered to the learners having the knowledge on the specific dance form (Table 1). Whatever the dance genre is taught, the dance teachers know and understand the culture of the dance for each dance genre has a different dance technique.

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Competence				Mean	SD	Description
Guidance				4.76	0.45	Very Competent
Classroom Management				4.59	0.55	Very Competent
Pedagogy				4.55	0.54	Very Competent
Assessment				4.41	0.65	Very Competent
Subject matter				4.36	0.66	Very Competent
Grand Mean				4.53		Very Competent
Overall SD					0.57	
Range	es for the	e weighte	d mean Description			
1.80	-	1.80	Not competent			
1.81	-	2.60	Slightly Competent			
2.61	-	3.40	Moderately Competent			
3.41	-	4.20	Competent			
4.21	-	5.00	Very competent			

The result indicate that university PE Teachers are both very competent in conducting warm-up before going into the dance proper and in identifying unique physical qualities. A warm-up is necessary in preparing the dancer's body for more heavy activities. University PE Teachers observe the importance of conducting warm-up exercises. The physical qualities of the dancer is identified by the teachers and has a vivid understanding on what the dancer can do based on the physical qualities. It is the role of the teacher on the approach to be used in dance lessons. In the delivery of the lesson, it shows that the teachers are always looking into mastery of dance steps or piece through the various teaching approaches in teaching dance. This is usually the dilemma that teachers encounter when the topic is about dance but changes when it comes to sports and other related PE topics (Contant, 2015).

PE Teachers are also very competent when it comes to assessment (Table 1). This suggests that they provide feedback to their class and also facilitate peer-to-peer feedback. It shows that PE Teachers are aware of the importance of assessment being applied for follow up on what has been learned and on the improvement of students' skills in dance. The dance teacher knows what to look for in a dancer or in a dance. There is no specific criteria on how to assess a dance or a dancer and varies from teacher to teacher. Feedback plays an important role in developing movement or a dance composition. Not only does a teacher's comment help but also the comments of other group members or groups. Dance teachers must know how to assess dance for dance is performance-based. The dance teacher decides on how dance in class has to be evaluated based on a teacher-made criteria. Assessing a movement may be quite difficult and the students may be required to repeat the movement several times before finally giving its rating. There are many ways on how to assess a dance which may include the outcome, purpose, lesson topic, instrument and assessment recording form (Cone & Cone, 2011).

Teacher competence on Guidance of college PE Teachers was found to be very competent. This implies that the teachers are always aware of the importance in guiding their students, to motivate them to explore, develop enthusiasm and lead them to doing the proper and fastest way of improving their skills. Guidance is the process of how teachers relate and interact with the students so that they perform the best of their capabilities. One way of guiding the students is through guiding instructions which they have to follow or by doing movements and dance steps with the students.

The result also indicates that PE Teachers are very competent in classroom management (Table 1). This shows that they are able to effectively manage the HEI physical facilities and bring about good relationships between then and their students. This also suggests that the space and equipment needed in a dance class are always ready and checked by the PE Teacher prior to their use. PE Teachers being very competent in classroom management makes learning more successful especially in ensuring that school facilities and equipment used in the class are in good condition, the space used is well ventilated and spacious enough to carry on dance classes.

PE Teachers very competent in dance, they know what they are teaching, knows how to teach, evaluate, guide students and has classroom management. These identified competences in dance are important for college PE Teachers for future educators will be learning from them. It is a great advantage if all dance teachers would maintain this level of competence. A competent dance teacher passes on to the students the skills learned from dance experiences and the process repeats itself when students are now teachers (El-sherif, 2016).

### 4.2 Level of Choreography Competence

In terms of choreography, the PE Teachers were also very competent in all subindicators with discipline exhibiting the highest mean of 4.76, followed by leadership, creativity and dance technique registering means of 4.58, 4.48 and 4.43 in that order (Table 2). This implies that PE Teachers are highly disciplined and can also implement discipline to their students to project proper behaviour in class. They see to it that students can practice on their own with the minimal supervision. They are able to make their students dressed in proper dance attire to be able to move properly, long haired students neatly tied and proper class behaviour is observed.

The result suggest PE Teachers can make use of movements using their own creative minds, expression of feelings through movement as well as interpretation of music which are organised in order to make a new artistic work or dance piece. Every dance teacher follows a certain dance technique of a specific dance genre they teach. Various qualities of movements are used such as flowing, percussive or sustained movements (Ellfeldt, 1988).

Qualities of being a good leader were used and this implies that college physical education teachers are able to lead their classes very competently in terms of problem solving and being influential to the students. One trait of good dance teachers is the ability to demonstrate good leadership particularly in problem solving where it is inevitable. The dance teacher-respondents are quick to solving problems by analysing the situation at hand and give solutions either by themselves or through consulting others. They can balance situations and can assess risks in problem solving because solutions cannot be applied immediately for it may cause more damage than good.

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Table 2: Choreography Competence of PE Teachers							
	Competence				SD	Description	
Discip	pline			4.76	0.46	Very Competent	
Leade	Leadership				0.55	Very Competent	
Creat	Creativity				0.64	Very Competent	
Dance	e Techn	nique		4.43	0.68	Very Competent	
Gran	d Mear	1		4.56		Very Competent	
Overa	all SD				0.58		
Range	es for th	e weighted	l mean Description				
1.80	· ·						
1.81	-	2.60	2.60 Slightly Competent				
2.61	-	3.40	Moderately Compe	tent			
3.41	-	4.20	Competent				
4.21	-	5.00	Very competent				

Creativity is a skill which not all dance teachers have. It is when the teacher makes use of ideas on how to choreograph a dance. It was found that the tertiary dance teachers can make use of their own creativity in doing choreography. They have their own strategies in creating dances which may be based on creative parameters. Dance teachers were able to utilise principles in dance and were able to give meaning to movement (Şuşu, Creţu and Bălăiţă, 2018) wherein these principles were accompanied with aesthetics to make a dance. Creativity was not only used in teaching dance but also in terms of technical aspects on the use of lights, sounds, costumes and props to make a whole concept or piece.

Having demonstrated these qualities, results of the study indicate that PE Teachers in are very competent when it comes to choreography. They can discipline their students and knows the dance technique of the dance type they teach. The choreography competence of dance teachers goes hand-in-hand as they teach dance which they also have to teach to students. It is not easy when doing choreography for it has to come from the minds of the teachers and not copied from somebody else's work to consider it as an original choreographic work.

Variable				Mean	SD	r-value	<i>p</i> -value
Dance competence				4.53	0.57	0.891	0.000**
Choreography competence				4.56	0.58		
Grand Mean				4.55		Very Competent	
Overall SD					0.58		
Ranges for the weighted mean Description							
1.80 – 1.80 Not competent							
1.81	-	2.60	Slightly Competent				
2.61	-	3.40	Moderately Competer	nt			
3.41	-	4.20	Competent				
4.21	-	5.00	Very competent				

Table 3: Correlation between Dance and Choreography Competence

\*\* - highly significant at  $\alpha < 0.01$ 

Table 3 shows that dance and choreography competence are significantly correlated. The positive or direct association suggest that dance and choreography competences go in the same direction, such that when PE Teachers possess high dance competency they also have high choreography competency. This implies that the level of dance competence lies at the same level in choreography competence.

### 4.3 Problems Encountered in Doing Dance Choreography

Problems are inevitable in physical education classes. These problems were identified by the study respondents which may affect their competence on dance and choreography as PE Teachers (Table 4). The problems are either on the physical, mental or emotional aspects of the students and on the facilities used in dance class.

Problem	Frequency	Percent (%)
Attitude of dancer	23	57.5
Limited time of dancers	20	50.0
Religion	19	47.5
Dancers' feeling of incompetence or lack of confidence	15	37.5
Students with physical disabilities	15	37.5
Availability of dancers	14	35.0
Noisy environment	14	35.0
Dancer's/dancers' capability to perform choreographer's needs	13	32.5
No venue	13	32.5
Balance of attention given to boys, girls and LGBT	10	25.0
Sense of timing	8	20.0
Body size	6	15.0
Body structure	6	15.0
Students in the front perform better than those at the back	6	15.0
Age, older students are hesitant than the younger ones	5	12.5
Class size	5	12.5

**Table 4:** Problems encountered in doing dance choreography

The most common encountered problem by PE Teachers in doing dance choreography is on the attitude of the dancers as revealed by 57.5 percent of the study respondents. This was followed by limited time of dancers (50 percent) and religious affiliation (47 percent). Students are not easily taught to dance if they possess a negative attitude toward the art. With the positive attitude, students are fast-learners and acquire the skill to be learned in a shorter time compared to those who do not. There is this eagerness to learn and finds dancing an enjoyable activity rather than a mere requirement in school.

The least encountered problems are on the age of the students wherein older students are hesitant than the younger ones when told to perform. Older students have the tendency to feel insecure in terms of learning how to dance and think that the younger ones do better than they do. They may also have the feeling of lack of confidence or the fear of being embarrassed when execution is not properly done (Janal, 2016). University PE Teachers do not mind the age of students as long as they follow instructions at the best of their capabilities and make all students comfortable with each other's company. Class size, a large one at that, is another problem encountered for giving instructions is not easy especially to students who are situated at the back portion of the room. Having one teacher to a class of 40 or 50 would be difficult in assessing if students really learn what is taught. It would be taxing on the part of the teacher to observe them one by one compared to having a smaller class size of less than 40.

Notwithstanding the different problems faced by dance teachers in doing choreography, they are still very competent and very resourceful with initiatives in the delivery of teaching tasks and in making dances. They possess love and passion toward the art because dance teachers are artists where passion is inherent. They are willing to pursue whatever has to be done for quality teaching outputs and outcomes.

### 5. Conclusions and Recommendations

University PE dance Teachers are very competent in terms of subject-matter, pedagogy, assessment, guidance, and classroom management competences. They are able to handle the class well and know to deal with students. The competences on dance technique which are leadership, creativity, and discipline of tertiary PE Teachers who teach dance are very competent in terms of choreography. They know how to apply their own choreographic skills and know how to discipline the students. All tertiary PE Teachers in the study area demonstrated the skills in choreography and dance. Though there are problems encountered by dance Teachers in doing choreography, they are highly competent in teaching dance.

It is recommended that all University Teachers who are Bachelor in Culture and Arts Education (BCAEd) and Bachelor in Physical Education (BPE) majors, not teaching dance must undergo dance trainings and workshops to acquire dance competence. Choreography competence is a learned and an acquired skill which all PE Teachers should develop in order to make teaching dance more appealing to the learners.

All PE Teachers must attend dance trainings and workshops to have continually update themselves on the trends in dance and choreography. They need to be versatile in teaching not only in sports but in dance as well. Since the HEIs under study have limited available facilities, PE Teacher must make use of other resources and find ways to make learning effective rather than be affected by the different problems of their students. School administrators should look into the facilities and equipment needed by PE Teachers for efficient and effective delivery of the lessons supportive to students' skills development.

## About the Author

Maria Celeste F. Ripalda is an Assistant Professor with permanent "*plantilla*" item from the Eastern Visayas State University in Tacloban City, Leyte, Philippines. She teaches Physical Education to University freshmen and sophomore students with specialisation in dance. She specialises in neo-classic, ballet and contemporary dances. She teaches and trains high school and University students with foundations in classical ballet. She has earned her Diploma in dance from the University of the Philippines, Diliman, Quezon City, Philippines. Her research interests are in the areas of education, supervision, teaching, learning and supervision.

### References

- Abocejo, F. T. (2017). The impact of international monetary fund (IMF) structural adjustment program policies (SAPs) on the Philippines. Recoletos Retrieved Multidisciplinary Research Journal. 2(1), 19-28. from https://rmrj.usjr.edu.ph/index.php/ RMRJ/article/view/48
- Abocejo, F. T., & Padua, R. N. (2010). An econometric model for determining sustainability of basic education development. CNU Journal of Higher Education. 4(1), 40-53. Retrieved from <u>http://www.jhe.cnu.edu.ph/index.php/cnujhe/article/ view/39</u>
- Amado, D., Sanchez-Miguel, P. A., Molero, P. (2017). Creativity associated with the application of a motivational intervention programme for the teaching of dance at school and its effect on both genders. *PLoS ONE*, 12(3). doi: 10.1371/journal. pone.0174393
- Ambrosio, N. (2015). Critical thinking and the teaching of dance. *Dance Education in Practice*, 1(1), 7-11, doi: 10.1080/23734833.2015.990341
- Bajek, M., Ressler, J., & Richards, K. A. (2016). Student-centered strategies for teaching modern dance in secondary physical education. *Journal of Physical Education*, *Recreation & Dance*, 87(2), 52-54. Retrieved from <u>https://search.proquest.com/doc view/1795622975? accountid=173015</u>
- Cardina, C. E., & DeNysschen, C. (2018). Professional development activities and support among physical education teachers in the United States. *Physical Educator*, 75 (1), 138-157. doi: 10.18666/TPE-2018-V75-I1-7716
- Chatzistefani, N. (2017). A pedagogy of movement: interdisciplinary approaches to human motion. *Exchanges: The Warwick Research Journal*, 5(1), 98-105. Retrieved from <u>https://www.exchanges.warwick.ac.uk/article/view/213</u>
- Cherry, K. (2018, June 15). *Experiential learning theory of David Kolb*. Retrieved from www.verywellmind.com
- Cliffs Notes. (2016). *Cliff Notes Theories of Education*. Retrieved from <u>www.cliffsnotes.com</u>
- Cone, S., & Cone, T. (2011). Assessing dance in physical education for the novice to experienced assessor. A Journal for Physical and Sports Educators, 24 (6), 28-32. Retrieved from <u>https://search.proquest.com/docview/880111389?accountid=1730 15</u>
- Conseil québécois des ressources humaines en culture [CQRHC]. (2013). Choreographers Competency Profile. *The conseil Quebecois des ressources humaines en culture (CQRHC)*. Bibliotheque et archives nationales du Quebec, Library and Archives Canada. Retrieved from <u>http://www.cqrhc.com/assets/application/files/f095af8 e1f 71384file.pdf</u>

- Contant, R. (2015). Just dance!: boosting engagement and maximizing learning in a PE classroom. *Physical and Health Education Journal*, 81(1), 30-32. Retrieved from <u>https://search.proguest.com/docview/1704438218?accountid=173015</u>
- Cuñado, A. G., & Abocejo, F.T. (2018). Lesson planning competency of English major university sophomore students. *European Journal of Education Studies*. 5(8), 395-409. doi: 10.5281/zenodo.2538422
- Cuesta, V. Y. (2013). *Competencies and practice of multi-grade teachers and their pupils' academic performance in Eastern Samar division.* (Unpublished dissertation, Eastern Visayas State University, Philippines)
- De Paz, J. A. (1988). *Limasawa: a transition from operetta to dance drama*. (Unpublished Thesis, Leyte Normal University, Philippines)
- Diamond, E. (2016). How can we strengthen dance in physical education? *Journal of Physical Education, Recreation and Dance,* 87(3), 56-59. Retrieved from <u>https://search.proquest.com/docview/1795622933?accountid=141440</u>
- Ellfeldt, L. (1988). A Primer for choreographers. Long Grove, Illinois: Waveland Press, Inc.
- El-sherif, J. L. (2016). Learning, teaching and assessing dance in physical education. *Strategies*, 29(5), 31-36. Retrieved from <u>https://search.quest.com/docview/181920</u> <u>628?accountid=141 440</u>
- Enage, N. N. (2013). *The choreographic perspective and narratives of the pasaka festival performance of Tanauan, Leyte.* (Unpublished thesis, Leyte Normal University, Philippines)
- Energetiks. *Teaching dance: practical advice for getting the best out of your students.* Australia: Melbourne
- Fernandez, R. C. C., & Abocejo, F. T. (2014). Child labor, poverty and school attendance: Evidences from the Philippines by region. CNU Journal of Higher Education. 8(1), 114-127. Retrieved from <u>http://www.jhe.cnu.edu.ph/index.php/cnujhe/article/ view/151</u>
- Florica, G. M. (2017). Influence of dance sport on the development of the capacity for ambidexterity and laterality of juniors. *Journal of Physical Education and Sport*, 5(17), 2250-2254. doi:10.7752/jpes.2017.s5238
- Fortin, S. (1993). The knowledge base for competent dance teaching. *Journal of Physical Education and Dance*, 34-35. doi:10.1080/0730384.1993.10607347
- Janal, G. (2016). How can we strengthen dance in physical education? *Journal of Physical Education, Recreation and Dance,* 87(3), 56-59. Retrieved from at: <u>https://search.proguest.com/docview/1795622933?accountid=141440</u>
- Jolejole-Caube, C., Dumlao, A. B., & Abocejo, F. T. (2019). Anxiety towards mathematics and mathematics performance of grade 7 learners. *European Journal of Education Studies*. 6(1), 334-360 doi: 10.5281/zenodo.2694050
- Julian, J. (2015). How much skill competence should PE teachers have, and how do we best prepare undergraduate students for skill competence? *Journal of Physical Education, Recreation & Dance,* 86(2), 55-58. Retrieved from <u>https://hearch.proquest.com/docview/165871971?accountid=141440</u>

- Malarsih, M. (2016). The tryout of dance teaching media in public school in the context of and creation learning. *Harmonia: Journal of Arts Research and Education*, 6(1), 95-102. Retrieved from <u>https://journal.unnes.ac.id/nju/index.php/harmonia/article/ view/4561</u>
- Marx, M., & Delport, A. (2017). I am because we are "dancing for social change." *Educational Research for Social Change*, 6(1), 56-71. doi: 10.17159/2221-4070/2017/ v6i1a5
- Montgomery, M. (2015). How much skill competence should PE teachers have, and how do we best prepare undergraduate students for skill competence? *Journal of Physical Education, Recreation & Dance,* 86(2), 55-58. Retrieved from <u>https://hearch.proguest.com/docview/165871971?accountid=141440</u>
- Powers, R. (2019). Teaching tips. Standford, Australia. Retrieved from <u>www.socialdance.stan ford.edu</u>
- Rakoèeviæ, S. (2015). Ethnochoreology as an interdiscipline in a post disciplinary era: a histography of dance scholarship in Siberia. *Yearbook of Traditional Music*, 47, 27-44. Retrieved from <u>www.ethnochoreology.com</u>
- Ripalda, E. (2017). *Tikbubulan: A transition from Waray folksong to a creative dance.* (Unpublished dissertation, Eastern Visayas State University, Philippines)
- Roche, J., &. Huddy A. (2015). Creative adaptations: integrating Felkenkrais principles in contemporary dance technique to facilitate the transition into tertiary dance education. *Theater, Dance and Performance*, 6(2), 45-158. doi: 10.1080/19443927. 2015.1027452
- Rodriguez, K. F. R., & Abocejo, F. T. (2018). Competence vis-à-vis performance of special education pre-service teachers. *European Academic Research*. 6(7), 3474-3498. Retrieved from <u>http://www.euacademic.org/UploadArticle/3707.pdf</u>
- Saboren, H. M. N. (2013). *The evolution of the tai-dupol Palo penitents: basis for a proposed working script for a dance drama.* (Unpublished Thesis, Leyte Normal University, Philippines)
- Salazar, A. (2017). Gestalt theory: What is it, characteristics, its laws and main applications. *Cognifit Health, Brain & Neuroscience*. Retrieved from <u>https://www.blog.cognifit.com/gestalt-theory/</u>
- Sansan, K. (2017). When is contemporary dance? *Dance Research Journal*, 49(3), 38-52. doi:10.1017/S0149767717000341.
- Sharma, P. (2019). *Qualities that every dancer and choreographer must possess*. San Francisco, California, USA. Retrieved from <u>http://www.hubpages.com</u>
- Sööt, A. & Viskus, E. (2013). Teaching dance in the 21<sup>st</sup> century: A literature review. *The European Journal of Social & Behavioral Sciences*, 7(4), 1193-1202. Retrieved from <a href="https://www.future.academy.org.uk/files/menu\_items/other/ejsbs99.pdf">https://www.future.academy.org.uk/files/menu\_items/other/ejsbs99.pdf</a>
- Şuşu, P., Creţu, C. M., & Bălăiţă, A. (2018). The acting student's choreographic training. Several cognitive objectives. *Review of Artistic Education*, (15), 110-126. doi: 10.2478/RAE-2018-001.

- Trazo, S. P., & Abocejo, F. T. (2019). International phonetic alphabet (IPA) front vowel sound recognition of beginner foreign learners. *European Journal of Education Studies*. 5(12), 183-196 doi: 10.5281/zenodo.2606194
- Uji, C. & Justin, A. W. (2014). Towards the theories and practice of the dance art. *International Journal of Humanities and Social Science*, 4(4), 251-259. Retrieved from <a href="http://www.ijhssnet.com/journal/index/2347">http://www.ijhssnet.com/journal/index/2347</a>
- Wilson, B. (2019), *How to become a dance Teacher: Step-by-step career guide*. North Central University, Minneapolis, USA.

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