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Enhancing the Language Literacy Skills of Children with Specific Learning Difficulties; A Review on the Use of Technology and the Application of Innovative Teaching Methods

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Abstract

The cultivation of language literacy has been one of the main goals of the educational process. However, students with Specific Learning Difficulties (SLD) are usually unable to keep up with the rest of their class as they face difficulties in their reading and later in their written speech skills. The aim of this paper is to present a brief literature review of teaching strategies and the applications and software that can enhance the basic competences and skills directly linked to the language literacy of students with SLD.

The use of new technologies for the language education of children with SLD is a great advantage because the teacher is able to apply innovative teaching methods. These methods contribute to the reduction of attention and memory problems and to the development of the necessary language skills of students with SLD by enhancing their interaction and collaborative learning. The use of technology can contribute to the appropriate adaptation of curricula, to the creation of multiple teaching activities and to the reduction of the attention and perception difficulties of these students.

Keywords: Specific learning difficulties, Language literacy, New technologies

1. Introduction

The term “literacy” is used by experts to refer not only to the technique of reading and writing, but also to the ability of the individual to understand, interpret and critically deal with different types of speech, to produce a variety of speech, to understand and negotiate the meaning of messages within their social context and generally to control their life and the environment through written discourse (Hatzisavvidis, 2010). The aim of language literacy is therefore to understand and produce spoken and written language, and the communication and cultivation of language skills (Matsagouras, 2007).

However, pupils with Specific Learning Difficulties usually deviate from the level of their class as they encounter difficulties, which are initially located in reading and later in writing too. Reading difficulties arise from different deficits that the students may show, and so different pedagogical actions are required, according to the ones needed for students with deficits in visual or audiophonic processing. Reading difficulties are usually accompanied by difficulties in writing, which may take the form of mistakes, such as reversals, confusion of letters, omission or addition of letters, etc. Curriculum can be customized at different levels in order to create an educational environment for different children with different needs. For example, the content of the lessons, the adaptation of teaching strategies and, in particular, the introduction of new forms of technology that meet the particular needs of pupils with an SLD can be changed (Pozzi, 2011). The use of technology can help teachers to provide students with SLD the much needed personalization of learning activities, the immediate feedback as well as the systematic and continuous practice (Pozzi, 2011).

A number of studies have demonstrated that computer usage is beneficial when used in general education.

However, the main goal of this brief review is to investigate how positive are the effects of technology on the language literacy skills of children with SLD, so as to fill the gap in the current literature and to spur further research.

2.The Use of Technology for the Improvement of the Language Literacy of Children with Learning Difficulties.

The use of technology can contribute to the appropriate curriculum adaptation, since many teaching activities can be used to mitigate the basic difficulties of students such as attention and perception difficulties so as to cater for their need to personalize exercises, to receive immediate feedback or to perform exercises systematically.

Educational technology programs include training programs, simulations, games, authoring programs, problem solving programs and strategy teaching programs (Panteliadou & Argyropoulos, 2011). At the same time, technology can contribute to the frequent collection and recording of data from a curriculum-based assessment as well as in teaching, while at the same time it can support the application of new teaching methods in a variety of subject areas (Dawson, Heathcote & Poole, 2010).

Findings suggest that the use of high quality interactive e-storybooks may support emergent literacy development through the use of scaffolding, thus, supporting vocabulary development, engagement, and comprehension of the story (Moody, 2010). E-storybooks or Electronic books are defined as an electronic form of a book with features similar to those of a traditional print book including pages that “turn,” and digital features that can assist the reader such as word pronunciations, text highlighting, and text-to speech options, and hypermedia (e.g., video, animations, and sound) (Adam & Wild, 1997; Horney & Anderson Inman, 1999; Korat & Shamir, 2004).

More specifically, E-storybooks are widely used with students who are beginning to learn to read or diagnosed with reading disabilities (Zucker, Moody, & McKenna, 2009). Their content may be cut off, detached or stored for later use (Vassiliou & Rowley, 2008). At the same time, specific adjustments such as changing the type or font size and screen brightness make reading easier and more efficient. Indeed, according to Tzivnikou (2015), the ebook with its features makes it more feasible to design a course in a more spherical way and is included in the list of adaptations and differentiations proposed for pupils with special educational needs.

It is a fact that students with difficulties in their written speech due to motor problems, benefit in particular from the learning of systematic typing. Indeed, according to Mponi (2013), typing of sentences or texts on the computer contributes to the development of all the individual factors involved in the written discourse, such as reading ability, phonological competence which in turn are related to spelling and writing. This is because the recording of a word on the computer is preceded by its letter-to-letter analysis, the pre-intonation of its letters, spacing between words, spelling, as well as the grammatical and editorial correctness of words.

Moreover, it is useful to use training programs through play or through exercises that can motivate these children to practice and improve their spelling. In fact, through typing, students see the word, listen to it, and then write it; on the one hand, they learn exemplary finger movements that help them remember the correct spelling, and on the other hand they are being helped to connect the sound with the graph, improving the phonological competence of the students (Hasselbring & Candyce, 2000; Kumar, Paek & Lee, 2012).

There are language learning applications with a virtual tutor for language learning and speech training. Several advantages of utilizing a computer-animated agent as a language tutor are clear, including the popularity of computers and embodied conversational agents. Computer-based instruction is emerging as a prevalent method to train and develop vocabulary knowledge for individuals with special needs (Massaro, 2004).

Also, it is possible to facilitate the connection of sounds and graphs through computer programs that read

the texts while also guiding the reader by highlighting on the screen each letter or word spoken. This method can help with reading decoding problems (Kumar, Paek & Lee, 2012). At the same time, some programs allow the user to click on an unknown word in order to hear its synonym or its explanation, thus improving and enriching their vocabulary. However, the most important element of these programs is the fact that they present the reading process in small steps as well as that they give students an incentive to read (Kumar, Paek & Lee, 2012).

3.The Use of Visual Aids and Concept Maps in Class as Useful Tools for the Enhancement of the Students' literacy Abilities.

In addition, the use of visual aids, graphemes and concept maps enhances the understanding and strategic thinking of students, who can have direct access to vocabulary or concept explanations as well as other useful information (Castellani & Jeffs, 2001). Indeed, concept maps are designed so that both students and teachers can point out the key ideas to which they should focus their attention, therefore avoiding any stimuli that could potentially distract them (Zaid, 2011). This method can help students a great deal; especially those who show attention difficulties, and can improve their ability to produce written speech by exercising the use of the conceptual map as a metacognitive tool (Novak, 2010).

More specifically, the concept map is a practical way of taking notes when delivering a lesson, as well as a tool for organizing their ideas during the phase before they begin writing. Planning, which is the initial writing phase of a text, increases the pupil's ability to perform mental work and contributes to the student's best performance when she reaches the writing stage. Moreover, the use of the Internet promotes the creation of a social reference framework for students with Learning Difficulties (Stanford & Siders, 2001). Internet-based videos enable connectivity, efficiency, interactivity and flexibility in teaching, by involving teachers and learners in activities that encourage the cultivation of communication skills and the presentation of ideas and information aiming to meet a variety of needs. In addition, as a source of information and means of communication, it is ranked as one of the powerful educational tool that facilitates access to learning, promotes and changes pedagogical practices by making use of sound, image and multimodal text (Cruse, 2007).

Using Internet video in education releases teaching and learning from the physical boundaries of the classroom and nullifies access time to learning resources. It also extends the experiences of children and achieves fundamental and qualitative changes in the nature of learning and teaching in a wide range of subjects.

4. Conclusion

Making use of ICT abilities can make a significant contribution to upgrading the nature and form of knowledge provided to people with learning difficulties. In addition, their use brings Special Education closer to society and to the modern approaches of teaching and pedagogical research. The current bibliography includes several papers that present mainly positive results from the use of technologies both in general and in special education towards the achievement of specific cognitive, social and emotional goals (Keenngwe, Schnellert & Mills, 2012; Walker, Rummel & Koedinger, 2011).

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Medical Student Neurophobia: A Review of The Current Pandemic And Proposed Educational Solutions

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Abstract

Traditionally, the subject of neuroscience has been one of the most difficult courses for medical students in undergraduate medical education. Over the last few decades, a fear of neurology and the neurosciences, termed neurophobia, has presented among medical students around the world. Today, neurophobia has resulted in medical students not learning neurology and neurosciences to a sufficient extent to be able to apply this knowledge to patients presenting with neurologic symptomatology. To address the crisis at hand, medical educators have developed novel learning modalities to fight this chronic disease of medical students. In this brief review, I examine the educational literature regarding the current pandemic of neurophobia as well as analyze published novel educational modalities that may be used to diminish neurophobia among medical students.

Keywords: Neurophobia, Neuroscience, Neurology, Medical education

I. Introduction

The term neurophobia was created over two decades ago to describe medical students' fear of neurology and the neurosciences (Jozefowicz 1994). Today, neurophobia has run rampant among medical students with studies confirming a significant fear of neurology and the neurosciences in the United States, China, United Kingdom, Ireland, Sri Lanka, and the Caribbean (Ramos et al. 2016, Zinchuk et al. 2010, Lukas et al. 2014, Pakpoor et al. 2014, Flanagan et al. 2007, Matthias et al. 2013, Youssef 2009). Worldwide emergence of this phenomenon has encouraged medical educators around the globe to develop potential solutions to this problem (Roze et al. 2016, Dao et al. 2015, Anwar et al. 2015, Hudson 2006). This manuscript will review the current educational literature addressing neurophobia in various countries around the world. Furthermore, this manuscript will analyze published novel learning modalities that seek to address and diminish neurophobia among medical students.

II. United States

In a study by Zinchuk (2010), questionnaires were administered to third and fourth year medical students at a United States medical school and to internal medicine residents affiliated with the particular medical school. The questionnaire examined the difficulty of eight clinical specialties, including neurology (Zinchuk et al. 2010). Respondents indicated that they felt neurology was the clinical specialty that they had the least amount of knowledge in ($p<0.001$) as well as neurology being the most difficult clinical rotation ($p<0.001$) (Zinchuk et al. 2010). Furthermore, medical students indicated that they had the least amount of confidence when confronted with patients presenting with neurological complaints (Zinchuk et al. 2010). Zinchuk (2010) concluded that both medical students and residents exhibited significant difficulty as well as a low degree of confidence when confronted with patients presenting with neurologic symptomatology.

III. China

An investigation by Lukas (2014) surveyed senior medical students at a medical school in Wuhan, China,

on their perceptions regarding knowledge of clinical neurology. Collected data indicated that students' self-assessment of knowledge pertaining to neurology ranked low, but not the lowest rank possible (Lukas et al. 2014). Furthermore, a positive correlation was observed between diagnosing/managing neurological patients and likelihood of specializing in the field of neurology (Lukas et al. 2014).

IV. United Kingdom

In an inquiry by Pakpoor (2014), an online survey was implemented to all United Kingdom medical schools. The data indicated that medical students found neurology to be significantly more difficult than other clinical specialties (Pakpoor et al. 2014). Moreover, medical students were the least comfortable with thinking of a neurological differential diagnosis relative to the other clinical specialties ($p < 0.0001$ for neurology) (Pakpoor et al. 2014).

V. Ireland

In a study by Flanagan (2007), questionnaires were administered to medical students as well as physicians from various colleges and hospitals throughout Ireland. The questionnaire was administered in two parts. The first part addressed medical students' perceptions of knowledge in neurology and confidence in dealing with patients with neurologic symptoms (Flanagan et al. 2007). Data in the first section of the questionnaire indicated that the respondents felt that their knowledge in neurology was limited ($p < 0.005$) after nephrology, geriatrics, and rheumatology (Flanagan et al. 2007). Furthermore, participants found neurology to be the most difficult clinical specialty over all other disciplines ($p < 0.001$) (Flanagan et al. 2007). The second part of the questionnaire requested respondents to indicate the reason why neurology was perceived as a difficult clinical specialty (Flanagan et al. 2007). Data in the second section of the questionnaire indicated that the number one reason respondents felt neurology to be a difficult specialty was due to poor teachings of neurology (Flanagan et al. 2007).

VI. Sri Lanka

An investigational study by Matthias (2013) evaluated medical students' perceptions of neurology, via questionnaires, from the University of Sri Jayewardenepura, in Sri Lanka. Medical students indicated that neurology was the least interesting clinical specialty (18.5%), the most difficult specialty for the majority of medical students (50.0%), and the specialty in which they had the least amount of confidence in dealing with patients presenting with neurologic symptomatology (i.e., headache, numbness of extremities, dizziness) (Matthias et al. 2013). Furthermore, the major reason as to 'why neurology was the most difficult clinical specialty' was determined to be the necessary understanding of neuroanatomy and the complex neurologic examination (Matthias et al. 2013).

VII. The Caribbean

Across-sectional study by Youssef (2009) surveyed senior medical students of the University of the West Indies, St. Augustine, Trinidad & Tobago, in the Caribbean. Medical students were asked four questions:

- (i) "What is your current level of interest in the following medical specialties?" ;
- (ii) "What is your current level of knowledge in the medical specialties?" ;
- (iii) "Do you think the subject is easy or difficult?" ;

(iv) "Why do you think neurology is difficult?" (Youssef 2009). Data collected showed that medical students found neurology to be the most difficult clinical specialty as well as the specialty that students had the least amount of knowledge in ($p < 0.001$) (Youssef 2009). The major contributor to difficulty with neurology was determined to be the requirement to understand neuroscience, which was closely followed by the complex neurologic examination (Youssef 2009).

VIII. Recent Educational Solutions Addressing Neurophobia

Given the well-documented phenomenon of neurophobia worldwide, medical educators have begun to bring forth potential solutions to the crisis at hand (Zinchuk et al. 2010, Lukas et al. 2014, Pakpoor et al. 2014, Flanagan et al. 2007, Matthias et al. 2013, Youssef 2009). In response to neurophobia among medical students, educators have initiated innovative simulation-based programs, applied neuroanatomy electives, team-based learning in neuroscience blocks, and case-based teaching within the neuroscience block of the medical curriculum (Roze et al. 2016, Dao et al. 2015, Anwar et al. 2015, Hudson 2006).

A proposed learning modality by Roze (2016) to improve the understanding of neurological semiology was to initiate simulation training. A simulation-training program known as ‘The Move’ was implemented for third year medical students of Pierre and Marie Curie University in Paris, France, throughout the students’ rotation in neurology (Roze et al. 2016). Using only mime gestures, medical students were taught to role-play patients presenting with neurologic syndromes such as parkinsonian, vestibular, pyramidal, and cerebellar (Roze et al. 2016). Furthermore, tonic-clonic seizures, axonopathies, and chorea were also taught and mimed by students (Roze et al. 2016). Questionnaires were administered to the students and teachers investigating the impact of the program (Roze et al. 2016). Students indicated that The Move program increased their motivation to understand neurologic semiology (78%) as well as improved both their long-term memorization of the neurologic syndromes (86%) and understanding of neurology (77%) (Roze et al. 2016). Moreover, 77% of students thought the skills learned in The Move would be useful for their clinical practice in the future (Roze et al. 2016). Importantly, 87% of students and 95% of teachers thought that it would be beneficial to include The Move program in their medical curriculum (Roze et al. 2016).

Granted that a cause of neurophobia is a poor understanding of neuroanatomy, Dao (2015) examined the efficacy in implementing an applied neuroanatomy elective dependent upon students utilizing interactive and artistic activities. Offered to first-year medical students, the elective in neuroanatomy consisted of four sessions encompassing four neurosensory modalities including taste/olfaction, auditory, vision, and proprioception/balance (Dao et al. 2015). Each module was 2-hours in length consisting of a 15 minute lecture component and 105 minute laboratory component (Dao et al. 2015). The lecture component was comprised of a review of the neurosensory pathways, clinical vignettes pertaining to neurology, and an introduction to the laboratory component (Dao et al. 2015). The laboratory component consisted of specific activities targeted to enforce the neurosensory pathways taught in the previous lecture component:

(i)taste/olfaction module integrated foods that highlighted each of the five taste sensations; (ii) auditory module integrated beat-matching music, DJing, and creating new sounds with use of synthesizers; (iii) visual module integrated photography as well as experiencing touch alone with use of blindfolding; (iv) proprioception/balance module integrated balance with unicycling, balance boarding, slack lining, and yoga (Dao et al. 2015). Data collected pre- and post-course indicated that the medical students were significantly more familiar as well as comfortable with the taste/olfaction, auditory, vision, and proprioception/balance pathways that were taught to them (Dao et al. 2015).

Recently, team-based learning has increasingly been regarded by undergraduate medical schools as an effective teaching modality to assist students in understanding lecture material (Anwar et al. 2015). In a study by Anwar (2015), team-based learning was implemented throughout a third-year neuroscience block. Medical educators evaluated the effect of team-based learning on student learning and correlated it with the medical student’s academic performance in the summary exam (Anwar et al. 2015). Data showed that students who attended the team-based learning modules performed better on the summary exam than those who did not attend team-based learning modules (Anwar et al. 2015).

A case based teaching modality was developed and implemented at Adelaide University in the Department of Physiology to integrate neuroscience with clinical neurology in the undergraduate medical curriculum (Hudson 2006). Each medical student attended a total of four 2-hour case based teaching exercises: (i) sensory function module teaching the interpretation of findings in the patient history; (ii) motor function module

teaching the interpretation of motor and sensory physical examination findings; (iii) a combined module on cranial nerve function and radiological imaging teaching the interpretation of cranial findings and utilizing radiological imaging to confirm a diagnosis, respectively; (iv) higher function module teaching how to present patients with neurologic symptomatology (Hudson 2006). Data from the case based learning initiative was gathered via questionnaires pertaining to the efficacy of the learning modality (Hudson 2006). Overall, students reported that case based learning was effective in facilitating an integration of clinical neurology with the neurosciences (Hudson 2006). Some students admitted to neurophobia, which was alleviated by the initiative to a degree; however, these students requested additional case based learning modules to further reduce their neurophobia (Hudson 2006).

IX. Conclusion

A chronic disease of medical students, neurophobia has been reported to affect students around the world. Novel initiatives are essential not only to cure those currently affected but also to prevent the next generation of physicians from developing a fear for neurology and the neurosciences.

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In the Canopy With Tardigrades, Herbivory and Wheelchairs, Engaging Mobility-Limited Students in Field Biology

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Abstract

We conducted research to quantify tardigrade (water bear) density, diversity, and distribution in temperate forest canopies, and to promote opportunity for undergraduates with mobility limitations as field researchers. This ecology project was funded by the National Science Foundation (NSF) Research Experiences for Undergraduates (REU) program to explore canopy biodiversity and herbivory in a temperate deciduous forest, with a special focus on tardigrade fauna. The program confirmation that a wheelchair is not a limitation to field biology since canopy research involves vertical not horizontal transects. Mobility-limited students with equal mental and visual capabilities ascended into the canopy, collected samples, used microscopes, identified new species, and wrote professional papers.

Keywords: Canopy, Tardigrade, Herbivory, Disability, Wheelchair

I. Introduction

Miller, Lowman, and McCord (2013) boldly declared that canopy access and invertebrate ecology are disability-friendly arenas for rigorous scientific research, and we used that idea for our NSF (National Science Foundation of the United States) REU (Research Experiences for Undergraduates) proposal. Approximately 11% of US undergraduate students have physical limitations, but only 9% pursue studies in the life sciences and mathematics (NSF 2009), and an even smaller fraction of those students attempt studies in ecology or field biology (Teresa Mourad, Ecological Society, personal communication, 2012).

E.O. Wilson (2005) called forest canopies the "eighth continent of planet Earth" due to their complexity and enormous biodiversity. For decades, canopy exploration has concentrated on the exotic tropical rain forests, with few surveys in temperate regions (Preisser, Lowman, and Smith 1999; Shaw et al. 2006). This disparity of knowledge precludes answers to basic ecological questions about habitat selection, abundance, herbivory, diversity, vertical stratification, and evolution. This paucity of data provides the opportunities for undergraduate students to conduct primary, cutting-edge research into little known habitats and groups of invertebrates. Using

protocols developed in the tropical forest canopies, undergraduate students can make discoveries in temperate forests (Bergelson et al. 1993).

Over the last two decades, ascent into the treetops has been facilitated by the development of safe single- and double-rope tree climbing techniques (SRT/DRT) (Lowman 1999, Haefke et al. 2013). This paradigm shift in accessibility has allowed canopy researchers to confirm that a large portion of global biodiversity inhabits the treetops (Lowman & Rinker 2004). Our project combined the adventure of canopy exploration with the hunt for a little known, charismatic animal, the water bear or tardigrade (Miller et al 2013).

1.1 Students with Disabilities as Field Biologists

As equal opportunity educators, we, along with our institutions are dedicated to broadening opportunities for women, minorities, and persons with disabilities. Over many years, the authors have worked with students and colleagues with many disabilities, and recognized that a wheelchair does not preclude good science. Burgstahler (2009) wrote that any student who is given a research opportunity can observe, sample, and understand ecology. Students with disabilities have the same ability to think, question, hypothesize, analyze, and write as any other student. In the laboratory, students in or out of a wheelchair can use microscopes, analytical instruments, computers, and books to classify animals and interpret temporal and spatial data (Burgstahler 2009). “*Yes, but how can a student in a wheelchair climb a tree?*”, is the first question asked of us, to which we point out that we employ technical hardware and ropes, so a person with average arm strength can climb into the canopy (Figure 1).

In Japan, the Treehab Program(treeclimbing.jp/Treehab.html) uses tree climbing in the therapeutic treatment of children with physical disabilities (Gathright et al. 2008). Although not ecological research, their project is a testimony to the idea that students with ambulatory disabilities need not be excluded from field biology or canopy exploration.

1.2 Herbivory

Herbivory in tropical rain forest canopies is lowest in sun leaves of the upper canopy. Insect herbivores prefer to eat young leaves more than mature ones (Lowman 1983, 1985, Lowman and Heatwole 1992, Lowman 2012). Further, insect herbivory has been shown to correlate to leaf toughness more significantly than to leaf chemistry (Lowman and Box 1983), however little is known about herbivory in temperate forest canopies.

1.3 Tardigrades

Tardigrades or water bears, are a little studied phylum of aquatic invertebrates living in the interstitial water that becomes trapped within the leaves of the mosses and thalli of lichens, and live as epiphytes on the trunks and branches of trees all over the world. Tardigrades exhibit cryptobiosis; they desiccate as their habitat dries and reconstitute when moisture returns (Miller 1997). In the dry state, tardigrade “tuns” can be picked up and carried by the winds. Thus, cryptobiotic tardigrades are rained into the canopies of the world, but must find acceptable habitat to survive (Miller 2004). Despite our knowledge of tardigrade physiology, we know almost nothing about their distribution and ecology (Ramazzotti and Maucci 1983, Kinchin 1994, Miller 1997, Mitchell et al. 2009). Miller, Gallardo, and Clark (2013) presented the first tardigrade vertical distributional pattern in a white pine tree in Kansas.

II. Research

This REU project exposed students to designing ecological field experiments, the development supportive laboratory work, and appropriate statistics to analyze data. We hypothesized uniformity or that there are no

significant differences in the diversity and density of tardigrade populations at different levels on different substrates (tree species) (Miller et al. 2013). Our herbivory hypothesis was that there are no significant differences in herbivory at different levels throughout temperate forest canopies, similar to their tropical counterparts (Lowman 1985).

III. Materials and Methods

We worked in the transition zone between the tall grass prairie and the western edge of the great deciduous forest in eastern Kansas. Our research was based on simple vertical transects using double rope technique (Haefke et al. 2013), with sampling at standard levels: ground, low (3 m), mid (7 m), and high (> 10 m). At each level in each tree (substrate), tardigrade habitats (moss and/or lichen) were collected by scraping the habitat into a paper bag. Each sample was processed in the lab and tardigrades mounted on slides (Miller 1997). The resulting data set from each substrate becomes statistically comparable to other tree species. The results at different levels are comparable to each other, as is the matrix of habitats (moss & lichen) found within the canopy. Differences between forest types can be studied over years to develop a picture of temporal changes. Replicate leaf samples were similarly sampled along these vertical transects (see Lowman et al. 2012). In addition, each student was trained to use a scanning electron microscope to image their specimens and appreciate tardigrade morphology (Figure 2).

IV. Results

As a team, mobility-limited or not, we climbed 117 trees (Figure 1) representing 20 different species, and collected 576 samples of moss & lichen habitat from the four different levels. Over 4,256 tardigrades were extracted, slide mounted, imaged, and identified. Our preliminary results indicate the presence of 2 classes, 3 orders, 5 families, 8 genera, and 16 species of tardigrade (Figure 2), six of which are new to Kansas, and four of which appear to be new to science. In addition, we collected 2,347 leaves in sets of 30 from almost each tree (some were out of reach), and measured leaf area and herbivory.

Preliminary results suggest distinct tardigrade stratification, with greater diversity and density in the upper canopy than the understory; association of specific tardigrade species with specific substrates and different habitats (moss versus lichen); and evidence of differential site acceptability (Table 1). In addition, herbivory was significantly different between tree species (Figure 3).

Each student created a professional PowerPoint presentation for public audiences that were given in the Daily Planet Theater of the North Carolina Museum of Natural Sciences. Students have presented posters nationally at the Council of Undergraduate Research conference in Washington D.C., the Sigma Xi Undergraduate Research Symposium in North Carolina, and regionally at the Missouri and Kansas Academies of Science annual meetings. Numerous public outreach events have been orchestrated, including water bear scavenger hunts and public tree climbing workshops.

Recent research (Laurance et al. 2013) has indicated the sooner young scientists begin to publish, the greater their motivation and professional advancement later in their careers. As we write this, two of our students have already published peer reviewed papers (Haefke et al. 2013, Spiers et al. 2013) and five other manuscripts are in preparation. Co-author Tripp has recently published her experience in the canopy from her wheelchair in Ability Magazine (Tripp 2013).

V. Discussion

Our undergraduate canopy researchers have studied a major forest type, conducted research via DRT climbing, and used SEM to visualize their subjects. Students have identified new relationships among deciduous canopy trees and the epiphytes that grow upon them. They will have discovered and described new species, new habitats, and new characteristics in the canopy environment of the temperate forest. They have made poster and oral presentations, and many will have submitted a paper for publication. Our REU students are part of a growing research community of young scientists and canopy experts. All now have a core understanding of the achievements and challenges faced by colleagues with physical disabilities, and are well prepared for graduate school in ecological sciences.

The two students in this project with ambulatory disabilities have been full partners in this project, participating in every aspect. They climbed the same number of trees, climbed as high, and collected as many samples as the ambulatory students. They found as many tardigrades as the other students and measured as many leaves. They are writing as many papers. The circumstance that some participants were in wheelchairs presented no scientific problems and required only thoughtful logistics and planning. The fact that one project student was vegan was more of a challenge. During Open Tree Climbing Day at the North Carolina Museum of Natural Sciences, our students assisted more than a hundred people into the canopy at the Prairie Ridge Ecostation. Among those whom our students helped climb out of their wheelchairs included our own ADA consultant Pam Dorwarth. And recently, Dr. Gathright has contacted us about using water bears to introduce citizen science into his program in Japan.

This project demonstrates that students with ambulatory disabilities can conduct cutting edge research in the field, in the canopy, and in the laboratory, and communicate the results to both colleagues and the public. Thus we continue to declare that canopy access and invertebrate ecology are disability-friendly arenas for rigorous scientific research.

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Motivational Inputs Received by Migrated and Non-migrated Students During Classroom Teaching in JNVS

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Abstract

Objective of the present study is to observe the level of motivational inputs received by migrated and non-migrated students of JNVs during classroom teaching. In this research JNV Bilaspur was selected for data collection. Ten migrated students and ten non-migrated students were selected as sample. The self-developed Classroom Motivational Input Scale for Students was used to measure the level of motivational inputs received by students in classroom teaching. The raw score obtained on Classroom Motivational Input Scale for Students were converted to Z-Score for analysis. The results found that there is variation in the motivational inputs received by students during classroom teaching.

Key words: Motivational inputs, Migrated and non-migrated students, Classroom teaching, Z-Score

I. Introduction

Swami ji defines education as ‘the manifestation of the perfection already in man.’ The aim of education is to manifest in our lives the perfection, which is the very nature of our inner self. This perfection is the realization of the infinite power which resides in everything and every-where existence, consciousness and bliss (satchidananda) (Retrieved on 1st of October 2012 from <http://www.esamskriti.com/essay-chapters/Education-in-the-Vision-of-Swami-Vivekananda-1.aspx>). Dictionary of Education (ed. Good) defines “Education as the aggregate of all the process by which a person develops ability, attitude and other of behaviors of practical value in the society in which people are subjected to the influences of a selected and controlled environment (especially that of school) so that they may obtain social competence and optimum individual developments” . (Seshadri, C. (1983). *Teacher and the Education* . New Delhi: NCERT. Page No.84) . This education is provided to the student through Formal learning, Informal learning and non-formal learning. (Source: A Memorandum on Lifelong Learning, European Commission, Unit E-3, <http://www.irlgov.ie/educ/new/Life Long Learninghtm.htm>). The National System of Education envisages a common educational structure. The 10+2+3 structure has now been accepted in all parts of the country. Regarding the further break-up of the first 10 years efforts will be made to move towards an elementary system comprising 5 years of primary education and 3 years of upper primary, followed by 2 years of High School. Efforts will also be made to have the +2 stage accepted as a part of school education throughout the country (National Policy on Education, 1986(Modified in 1992, pp.5). Broadly we can divide formal education in to primary, secondary and higher education. Secondary education is given through government school, Aided school, unaided school, Private school, Public school, Kendriya Vidyalaya, and Jawahar Navodaya Vidyalaya. The National Policy on education, 1986, envisaged the establishment of Navodaya Vidyalayas in each district of the country. The Vidyalayas are fully residential coeducational institutions providing education from classes 6th to 8th . Initially two experimental schools were established in 1985-86. These Vidyalayas aim at identification and development of talented, bright and gifted

children predominantly from rural areas who may otherwise find it difficult to avail of good educational opportunities. The Jawahar Navodaya Vidyalayas are working on following objectives:

To provide good quality education including a strong component of India's cultural heritage, inculcation of values, awareness of environment, adventure activities and physical education to talented children belonging predominantly to rural areas, without regard to their family socio-economic condition.

To ensure that all students of JNV attain a reasonable level of competence in three language as envisaged in three language formula, and

To serve, in each district, as a focal point for improvement in the quality of school education in general, through sharing of experience and facilities. (K.S., Saran (2004). "Navodaya Vidyalaya". Encyclopedia of Indian Education. (Vol. II Page No. 1240). New Delhi : NCERT)

Navodaya Vidyalayas aim at inculcating values of national integration through migration scheme through which the inter-regional exchange of students between Hindi and Non-Hindi speaking States and vice-versa takes place for one academic year. Efforts are made to promote better understanding of the unity in diversity and cultural heritage through various activities. The Regional Language is generally the medium of instruction from Class-VI to VIII and from Class- IX onwards, it is English for Science and Mathematics and Hindi for Humanities subjects. Under the three language formula, the students learn regional language, English and regional language of migrated state. (Retrieved on 1st of October 2012 from <http://www.navodaya.nic.in/welcome%20sbs.htm>) Teacher teaches their student in class through various methods and during their teaching they give verbal and non-verbal motivation to their students. These motivational inputs given by teacher motivate the student and they concentrate on their study. These motivated studies also affect the student's achievement. Migration scheme in JNVs were introduced to foster national integration and to minimize the cultural gap. In this scheme the inter regional exchange of students between Hindi and Non-Hindi speaking States and vice-versa takes place for one academic year. Efforts are made to promote better understanding of the unity in diversity and cultural heritage through various activities (Retrieved on 1st of October 2012 from <http://www.navodaya.nic.in/welcome%20sbs.htm>). When student migrate from their Non-Hindi speaking States JNV to Hindi speaking States JNV, they met with new culture, food habits, environment and the most important the language. Language is the most important factor which connects the students directly to the teacher, students and local people of the JNV where they migrated. During academic activities, playground activities and in hostel they communicate with each other in local regional language. The students of non-Hindi background are not comfort freely in the local language. Although the medium of study in class ix is in English but teacher often communicate with their students in regional language. During teaching the teacher motivates their students for study and to get their answers. All teachers are expected to motivate students during teaching in classroom. So migrated and non-migrated students of class during classroom teaching receive equal motivational input or not. There is any effect in receiving motivation due to different language and culture.

a) Is migrated and non-migrated students receiving equal motivational input during classroom teaching?

Researcher like Freeman, John and Klinger (2012) Heyman, GailD. And Dweck, Carol (2012) Yoshino, Asako (2012) De Freitas (2012) Kim, Kyung (2011) Rodgers and Summers (2008) Lens (2002) and Shim and Ryan (2002) in his study find that teachers provide motivational inputs at different level but they never demotivate their students and their motivational inputs affects students achievement, sometime students also perform through intrinsic motivation. So objective of the study is:

To study the level of motivational inputs received by migrated and non-migrated students of JNV during classroom teaching.

Research Hypothesis:

After formulating the objective of study, researcher needs to formulate the hypothesis for the process of

research. Basically scientific research which keeps scientific approach based on the hypothesis. These hypotheses are formulated on the basis of previous research reviews. Here researcher formulated following research hypothesis:

There is difference in the level of motivational inputs received by migrated and non-migrated students of JNV during classroom teaching.

Method: For the testing of hypothesis data has been collected through normative survey method which was followed by the researcher. The data analysis and their presentation are based on Z-Score value.

Sample and sampling:

Purposive stratified sample has been selected in three levels. In first level JNV Bilaspur has been selected as a purposive sample in first phase which is shown in table no. 1

Table No. 1

No. of JNVs in Chhattisgarh	Purposive selected JNVs
16	1

In second phase researcher has classified the group of migrated and non-migrated students of class ix has been selected which is shown in table no. 2

Table No. 2

JNV Bilaspur	Migrated student
	Non-migrated student

Table No. 3

No. of migrated students	No. of non-migrated students
10	10

Tool: Researcher developed Classroom Motivational Input Scale for Students (CMISS) for the collection of data. This tool has been administrated on students for measuring the level of motivational inputs received by migrated and non-migrated students during classroom teaching.

Analysis Procedure: The raw score obtained on Classroom Motivational Input Scale for Students were converted to Z-Score for their analysis. Division of migrated and non-migrated students according to level of motivation inputs received in the Classroom Motivational Input Scale for Students is given in table no. 4

Table No. 4

S.N.	Range Of Z- Scores	Level of Motivation	No. of Migrated Students	No. of Non-Migrated Students
1	1.43σ to 0.81σ	Extreme	2	2
2	0.81σ to 0.18 σ	High	4	2
3	0.18σ to -0.44 σ	Average	2	1
4	-0.44σ to -1.07 σ	Below Average	1	2
5	-1.07σ to -1.69 σ	Lowest	1	3
Total	1.43 σ to -1.69 σ		10	10

II. Results

The raw scores of students were converted in to Z-Score. Out of ten migrated students 2 students were reported for receiving extreme motivation, 4 migrated students for high motivation, 2 migrated students for average motivation, 1 migrated student for below average motivation and 1 students for receiving lowest motivation among all 10 migrated students. Out of ten non-migrated students 2 non-migrated students were reported for receiving extreme motivation, 2 non-migrated students for high motivation, 1 non-migrated student for average motivation, 2 non- migrated students for below average motivation and 3 non-migrated students for receiving lowest motivation among all 10 non-migrated students.

III. Discussion

The hypotheses formulated on objective were analyzed with Z-Score of migrated and non-migrated students obtained in Classroom Motivational Input Scale for Students and it was found that all migrated and non-migrated students were not receiving equal motivational input in the class. Out of ten migrated students 2 students reported for receiving extreme motivation, 4 migrated students for high motivation, 2 migrated students for average motivation, 1 migrated students for below average motivation and 1 students for receiving lowest motivation among all 10 migrated students. Out of ten non-migrated students 2 students reported for receiving extreme motivation, 2 non-migrated students for high motivation, 1 non-migrated students for average motivation, 2 non- migrated students for below average motivation and 3 non-migrated students for receiving lowest motivation among all 10 non-migrated students.

IV. Conclusion

On the basis of above findings it can be concluded that although it seems that all students receives equal motivational input during classroom teaching but in this research it was found that there was variation in motivational inputs received by migrated and non-migrated students. During classroom teaching migrated and non-migrated students were reported for receiving extreme motivational input to lowest motivational input.

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An Exploration of Academic English Teaching

— from Concepts to Logic

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Abstract

Academic English has become an important part of college English teaching. Academic English teaching should not be limited at the language level, but should delve into the infiltration of academic concepts and logic. Starting from the concept and closely adhering to academic logic to achieve the organic integration of language and profession, can we truly promote the deepening of academic English teaching.

Keywords: Academic English; Academic concepts; Academic logic

I. Introduction

When it comes to academic English, people naturally think of ESP (English for Specific purposes). So what is academic? Academics refers to systematic and specialized knowledge, which is a disciplinary demonstration of existence and its laws, generally referring to higher education and research. (Baidu, 2024.1). So, what is research? "Research" comes from the Middle French word "rechercher," meaning "to seek out." Writing a research paper requires us to seek out information about a subject, take a stand on it, and back it up with the opinions, ideas, and views of others. What results is a printed paper variously known as a term paper for a university course, a published article in a journal, and a thesis or dissertation as a partial requirement for a university degree, in which we present our views and findings on the chosen subject (Shen Yuru. 2020:001). "Research" refers to people's endless active exploration of the truth, nature and laws of things, from ignorance to knowledge, from knowing less to knowing more. Simply put, "research" is a process of seriously asking questions and finding answers to them in a systematic way. The English word "research"= "re"+ "search", which means to search again and again. (Baidu, 2024.1) From this concept, we can see three important elements of "research": questions, methods and answers. To research means to explore, such as observation, experimentation and measurement, etc.; to discuss, such as conferences, seminars, symposiums, etc. and to analyze, such as comparison, evaluating, selection, comments, etc.. Subjects vary widely, questions are naturally vast, and the answers are even more difficult to be uniform. It is precisely because of these differences and uncertainties that academic English teaching has long been limited at the level of language and terminology. Even with some strategies and skills, it is difficult to form a systematic methodology, so it is difficult to realize the organic combination of language and specialty. Long-term teaching practice tells us that we can still find the unity behind it through the differences of disciplines and the diversity of problems, that is, academic logic. What connects "question" and "answer" is "method", and behind "method" is real academic logic. Grasping concepts and sticking to logic is the essence of academic English teaching.

II. Theories and Methods

Concept is an important part of academic English. Starting with concept is the beginning of many research work and an important means of academic English teaching. So, what is a concept and why should we start with it? Concept is a form of thinking that reflects the essential attributes of an object. Any thinking object always has certain attributes. Attribute is the nature of the object itself or the relationship between objects. In the

process of understanding, concept is the summary of a certain stage of scientific understanding. In the scientific knowledge system, each science is a theoretical system composed of concepts. In logical thinking, concept is the basic element of judgment and reasoning and the “cell” of thinking (bilibili, 2024.1). If concept is the “bright line” and the grasping hand of academic English teaching, then academic logic is the “dark line” and the whole context of academic English teaching. So, what is academic logic? Academic logic includes linguistic logic and scientific logic. Linguistic logic includes three “C” principles: Complete, Concise, and Coherent, among which coherent is the vital, which means that “referential relationship” in a sentence is clear, and the logic is stable (certainly not allowing logical jumps or logical faults). Scientific logic is to scientifically analyze or demonstrate what you want to discuss on a certain scientific basis. It mainly includes the “four strands” of scientific research: Why do you do this? How did you do it? What is the result? What is your explanation? (Baidu, 2024.1). Besides three “C” principles, linguistic logic also includes some language features which are the significant distinguishing factor between academic writing and non-academic writing. Academic essay writing has a target audience --- scholars, i.e. professors or classmates. For this specific audience, writing language should follow some required style. Firstly, essay language is formal in tone, mainly achieved by lexical choice and sentence structures. Here are some tips: a. using advanced, precise and academic vocabulary; b. using complex and compound-complex sentences; c. minimizing the use of first and second person pronouns; d. avoiding the use of rhetorical questions. Secondly, essay language should be efficient by reducing redundancy, using an appropriate number of nouns or noun phrases and passive voice. Here are some tips: a. avoiding repetition and wordiness; b. using nouns or noun phrases; c. using a mix of active and passive voice. Thirdly, cautiousness is a characteristic of academic language demonstrating that writers are cautious and modest in their arguments. Caution language often called “hedging” or “vague language”, which are used to soften words, to make them less direct, and to limit or qualify the statements. Here are some tips: a. express uncertainty; b. show distance from the argument; c. qualify the quantity or frequency in an argument. Last but not least, essay language should be accurate. If professors or scholars read essay which is full of lexical or grammatical errors, they will become confused and fail to understand. Here are some tips: a. avoid run-on sentences; b. avoid agreement errors; c. avoid dangling modifiers; d. use articles correctly; e. choose appropriate words (Zhu Lin, Han Jinlong, 2020:56-97). Taking academic paper as an example, this paper introduces how the combination of concepts and logic can promote the deepening of academic English teaching. Academic thesis is an important part of higher education, an important carrier for academic exchanges and development, and also the core content of academic English teaching. This method will be illustrated from the following two perspectives. Firstly, introducing relative concepts. There are many ways to intervene in concepts, and the interim classification is more common, which can directly and effectively reveal the essential attributes of things. According to the research direction and purpose, academic papers can usually be divided into five categories: a. research papers, mainly used to show the process and results of a research work. This kind of paper usually includes abstract, introduction, methods, results and discussion, in which the method part describes the research design, data collection and analysis methods, and the results and discussion part presents the research results and analyzes and explains them. b. Summarize the papers, a paper that summarizes and evaluates the literature in a certain field or subject. The purpose is to summarize and summarize the existing research results, point out the shortcomings of the research and the future research direction, and provide readers with a comprehensive understanding of this field. c. conference papers, a paper published at an academic conference, usually a paper that is discussed in depth around a specific research direction under a specific theme. Such papers are usually published at conferences and then submitted to relevant journals for review and publication. d. Newsletter papers, a short academic paper, which usually includes only two parts: abstract and conclusion, and is mainly used to quickly report an important research achievement or discovery. This kind of paper requires concise and accurate language, which can quickly convey the significance and value of research results. e. critical paper, a paper that comments and evaluates a research achievement or an academic problem. This kind of paper needs to make in-depth analysis

and evaluation of the topics reviewed, and put forward its own opinions and suggestions, which is an important platform for academic exchanges and contention (Baidu, 2024.1). Through the introduction of these concepts, students will have a macro grasp of academic papers and a preliminary understanding of the properties of various papers. For example, the concept of “research paper” is introduced as follows: a research paper (or a thesis) is naturally a formal, fairly long and well-documented composition that explores, discussions or analyses a certain factual or theoretical issue (Li Xiangwu, 2015). Secondly, interpreting academic logic. A. Linguistic Logic. In academic paper writing, all tasks are need to be completed “academically”. What is the academic style? Academic style usually has the following four important features: I. More objective; Phrases such as “I think” “I believe” and “in my opinion” should not be used in academic writing. Academics are not looking for what you think or believe --- they want to see what you can show, demonstrate and prove through evidence. There are three specific strategies for achieving objectivity: Strategy 1: Hedging language increases the “distance” between the writer and the text, thereby creating more objectivity. Strategy 2: Empty introductory phrases provide a platform for objective statements. Strategy 3: The passive voice removes the need for a subject in the sentence. II. More complex; Academic writing often discusses difficult, challenging ideas which can only be expressed with particular grammar and language. This complexity may be seen in the following three aspects: Formality of language (e.g. using “the most significant distinction” rather than “big differences”); Grammatical Structures (e.g. using more passive voice, noun phrases and relative clauses); Density of language; This density can be achieved through a greater use of content words (such as verbs and nouns) rather than structured words (such as prepositions and conjunctions). III. More formal structure; The structure of academic writing usually has the following characteristics: a. The text as a whole has a specific, formalized structure ---- the introduction, main body and conclusion. b. The text must have cohesion and coherence ---- it must link together clearly so that it is possible to follow the writer’s argument. c. Paragraphs should be roughly of the same length throughout, so there is a good overall balance. d. Paragraphs often follow a similar structure --- topic sentence, outline of argument, supporting evidence, short conclusion and transition to the next paragraph. IV. More referencing. Building on the ideas of other people is one of the central features of academic writing. In order to show where these ideas come from (and to avoid plagiarism), a reference system is used (Jin Jing, Zheng Yuqi. 2023.2-5). B. Scientific Logic. The scientific logic in research papers (namely “four strands” above) can usually be described as “Basic steps to conduct research”, which is almost the whole process of academic paper writing: Step 1. literature review. Step 2. Identify RQS. Step 3. Select suitable methods. Step 4. Collect and analyze data. Step 5. Interpret the findings. As the whole work of guiding research paper writing is focused on the “Basic steps to conduct research” therefore it is actually the academic logic of research paper teaching. These basic steps will be illustrated one by one. Step 1: Literature Review. The “literature” in literature review refers to the collection of past research or past published papers on a certain topic. It is absolutely indispensable when you plan a research study because it would guide you in the appropriate direction by answering several questions related to the topic area: Has anybody worked on this topic area before? If so, what suggestions can you make from the results of the earlier studies? Did they encounter any methodological difficulties which you need to be aware of when planning your own research? Is more research required to be carried out this topic? If so, in what specific area? The literature review section should discuss the texts that you believe are most important to the project, demonstrate your understanding of the research issues, and identify existing gaps that your research intends to fill. You should also identify some leading scholars in the field, particularly those whose published works you have studied. A critical literature review is crucial to ensure that your project does not duplicate work already done without having any knowledge that the same study has already be carried out. Step 2: Identify RQS. Only by studying and combing the existing achievements can we identify research questions (that is, the “gap” between past and present research). The pieces of the AOS (area of specialization) include the subjects or subfields that encompass your work, definitions for those subjects, and a description of the problems addressed or current solution. Based on your interests and the need of research, you can identify your research questions.

Steps 3: Select suitable methods. This step is called research methodology, which is a hugely important part of your research. It chronicles the approach(es) you will use to achieve your research results. In methodology section, you should lay out, in clear terms, the way in which you will structure your research and the specific methods you will use. Make sure to include specific techniques and not just a general approach. Step 4: Collect and analyze data. Generally, data acquisition techniques include direct approaches such as interviews and questionnaires, participant observations; indirect approaches such as instrumenting systems and fly on the wall; and independent approaches such as static and dynamic analysis and documentation analysis (Jin Jing, Zheng Yuqi. 2023.19-23) . Step 5: Interpret the findings. This part is called conclusion section in research paper, which is the most valuable part. This part should serve the following functions: a. summarize and bring together the main areas covered in the writing, which might be called “looking back”. b. to analyze and evaluate your main points for readers. c. to point out the general implications and possible limitations of your research (Jin Jing, Zheng Yuqi. 2023:96) . Academic activities, whether oral or written, whether lectures, seminars, conferences or speeches, can certainly achieve the organic combination of form (language) and content (research) as long as they can start with concepts and closely follow academic logic.

III. Conclusion

English teaching should serve the requirements of disciplines, and academic English teaching should naturally serve the professional requirements of academic research. Academic activities are various and endless so it is impossible to formulate a unified method to guide academic English teaching. What we can focus on is the concepts and logic of respective AOS. Only by adhering to the concept and closely following academic logic can we avoid the separation of language and content, and improve academic English teaching further.

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Factorial Invariance of Self -Efficacy in the Sociocultural Sphere Scale on Men and Women University Students

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Abstract

The present study analyses the psychometric properties of the Self-efficacy in the Sociocultural Sphere Scale in men and women university students. The overall sample consisted of 1545 subjects: 616 women and 929 men, with a mean age of 18.11 years (SD= 0.69) and 18.27 years (SD= 0.75) respectively. Psychometric analysis showed that two-factorial structure (promotion of the culture and cultural identity) was viable and adequate for both populations (men and woman) according to the established psychometric requirements when the informers are the students themselves. The results showed that factor structure, factor loadings and intercepts of the instrument could be considered invariant across groups; however, there are differences between groups for the means of factors promotion of the culture and cultural identity.

Keywords: Self-efficacy, Factor structure, Measurement invariance, Multi group confirmatory factor analysis.

I. Introduction

The beliefs that people have about themselves are crucial for the control and personal competence when dealing with problems, challenges and decisions that have to be confronted during a lifetime. Among the beliefs of self-reference used by individuals to interact with their environment are self-efficacy beliefs (Pajares, 2001).

The application of the theory of self-efficacy of Bandura in education shows how students with high self-efficacy expectations have greater academic motivation (Brown, Tramayne, Hoxha, Telander, & Lent, 2008; Caprara et al., 2008). Also, they perform better, they are more able to effectively self-regulate their learning and show greater intrinsic motivation when they learn (Cartagena, 2008; Salanova, Llorens, & Shaufeli, 2011). Consequently, improving self- efficacy expectations increases the motivation and performance in learning tasks (Adeyemo, 2007) . Therefore, is not enough to be able to do something, people must be judged themselves capable or able to use the abilities and personal skills to a variety of circumstances, including emotional reactions to difficult situations (Blanco, Martínez, Zueck, & Gastélum, 2011).

Therefore, the greater perceived efficacy, the greater degree of effort that is invested and the greater persistence in achieving the proposed goal; situation of utmost importance for a person who is in a learning process to be successful (Ornelas et al, 2012; Schmidt, Messoulam, & Molina, 2008).

Definitely, self-efficacy beliefs represent a cognitive mechanism that mediates between knowledge and action and determines, along with other variables, the success of own actions (Sansinenea et al., 2008).

This instrumental study (Montero & León, 2005) aims to provide empirical support for the factorial division of Self-efficacy in the Sociocultural Sphere Scale; which it is justified by the importance of checking the factorial structure and the psychometric equivalence of the instrument in different groups; since in the context of intergroup comparison, it is essential to consider the need to carry out the adaptation of an instrument of psychological measure that fulfills all the criteria of equivalence, but above all consider whether the same factor structure is applicable to different groups of subjects or, more generically, to different populations (Abalo, Lévy, Rial, & Varela, 2006; Arbuckle, 2012).

This paper aims, firstly, to investigate whether the psychometric results proposed by Blanco et al (2011) for the Self-efficacy in the Sociocultural Sphere Scale (EAAAS) replicate, and secondly, expand them. To do this, first the degree of congruence of the factorial structure of EAAAS obtained in this study will be checked and the one reported by (Blanco et al., 2011). Secondly, the factorial invariance between samples of this study is calculated.

II. Methods

2.1 Participants

The sample of 1545 participants, 616 (39.1%) woman and 929 (60.1%) men, was obtained by a convenience sample, trying to cover the representation of the different degrees offered at the Autonomous University of Chihuahua. Women ages was ranging between 17 and 20 years, with a mean of 18.11 and a standard deviation of 0.69 years; and men ages was ranging between 17 and 20 years, with a mean of 18.27 and a standard deviation of 0.75 years.

2.2 Instrument

Self-efficacy in the Sociocultural Sphere Scale (EAAAS) is a Likert questionnaire assisted by computer of 9 items (Muñoz et al., 2012) where the respondent answers on a scale of 0 to 10, how capable he feels in every one of the items of the factors Promotion of the culture and Cultural Identity.

2.3 Procedure

Were invited to participate in the study the first year students of the degrees offered at the Autonomous University of Chihuahua; those who agreed to participate signed the corresponding consent letter. Then, the instrument explained above was applied using a personal computer using the administrator of the instrument module (Muñoz et al., 2012), in a session of about 20 minutes; in the computer labs of the participating academic units. At the beginning of each session students were given a brief introduction on the importance of the research and how to access the instrument; instructions on how to respond were in the first screens; before the first instrument item. At the end of the session students were thanked for their participation.

Once the instrument was applied, data was collected by the results generator module of scales editor, version 2.0 (Blanco et al., 2013).

III. Data Analysis

The psychometrical analysis was applied in two stages: 1) Factorial Confirmatory Analysis and 2) Invariance Factorial Analysis; so that it could obtain evidence that presents the best properties for the scores confirmation of self-efficacy in academic behaviors on men and women university students.

To conduct the confirmatory factorial analysis for each sample, AMOS 21 software was used (Arbuckle, 2012), variances in terms of error were specified as free parameters, in every latent variable (factor) a structural coefficient was set associated to one, so that the scale was equal to the superficial variables (items). The estimated method used was the maximum likelihood; following the recommendation of Thompson (2004), so

when the confirmatory factorial analysis is used, it is necessary to verify not only the adjustment of the theoretical model but it is recommended to compare the fit indexes of some alternative models to select the best.

To evaluate the adjustment model statistical chi-squared, the Goodness-of-fit index (GFI), and the root mean square error of approximation (RMSEA) were used as absolute adjustment measures. Adjusted goodness of fit index (AGFI) the Tucker-Lewis Index (TLI), the comparative fit index (CFI) were used as incremental fit indices. Parsimony normed fit index (PNFI), the Parsimony Goodness-of-fit index (PGFI), the chi-squared fit index divided by degrees of freedom (CMIN/GL) and the Akaike Information Criterion (AIC) were used as parsimony fit indices (Gelabert et al., 2011).

Finally, an analysis of the factorial invariance of the models of measurement obtained was made, following the recommendations of Abalo et al. (2006), and was calculated the reliability of each of the dimensions through Cronbach's alpha and Omega coefficient (Revelle & Zinbarg, 2009).

IV. Results

4.1 Confirmatory Factorial Analysis

According to the results obtained in Table 1 in the Confirmatory Factorial Analysis of 9 items grouped in two factors in the sample of women is optimal (GFI .992 y RMSEA .009) and according to the incremental adjustment measures and Parsimony significantly superior to the independent model and very similar to the saturated model.

Furthermore, the confirmatory factor analysis on the sample of men (Table 1) shows again that the measuring model of two factors is optimal (GFI .986 y RMSEA .042) and according to the incremental adjustment measures and Parsimony significantly superior to the independent model and very similar to the saturated model.

Table 1. Absolute, incremental and Parsimony fit indexes for the generated models.
Confirmatory factor analysis for women and men.

Model	Absolute indexes			Incremental indexes			Parsimony indexes	
	χ^2	GFI	RMSEA	AGFI	TLI	CFI	CMIN/DF	AIC
Factor solution for women								
Independent	2440.597*	.372	.330	.214	.000	.000	67.794	2458.597
Saturated	0.000	1.000				1.000		90.000
2 factors	23.022	.992	.009	.984	.999	1.000	1.046	69.022
Factor solution for men								
Independent	3816.989*	.363	.336	.203	.000	.000	106.027	3834.989
Saturated	0.000	1.000				1.000		90.000
2 factors	57.354*	.986	.042	.972	.985	.991	2.607	103.354

Note: * $p < .05$; GFI = goodness of fit index; RMSEA = root mean square error of approximation; AGFI = adjusted goodness of fit index; TLI = Tucker-Lewis index; CFI = comparative fit index; CMIN/DF = chi-squared fit index divided by degrees of freedom; AIC = Akaike information criterion

According to the results of Table 2, in both samples, except item 4, all of the items properly saturate in their dimension (factor) provided. Observing moderate high intercorrelations among the factors showing a not very good discriminant validity.

4.2 Invariance of the factorial structure among men and women university students

The fit indexes obtained (Table 3) allow to accept the equivalence of the basic measuring models between the two subsamples. Although the value of Chi-squared exceeds to that required to accept the hypothesis of invariance, the rest of the indexes contradict this conclusion (GFI .988; CFI. 994; RMSEA .023; AIC 172.370)

this allows us to accept the base model of invariance (model without restrictions).

Table 2 Standardized solutions for the confirmatory factor analysis in both samples.

Factor weights		Factor 1		Factor 2	
		Women	Men	Women	Men
7	Participate in proposals that contribute to the development of social and cultural improvement.	.82	.82		
9	Act as a promoter of life quality.	.82	.82		
8	Interact with different social groups promoting quality of life.	.79	.82		
6	Generate an interaction with the environment, encouraging the community cultural level.	.76	.76		
1	Actively participate in processes of creation, conservation and diffusion of the culture.	.73	.72		
5	Analyze the phenomena of globalization and sustainable development from different perspectives.	.65	.63		
3	Show values towards the different traditions and multicultural difference.			.83	.75
2	Act with respect and tolerance			.55	.65
4	Identify with the culture of my state and country.	.23	.27	.32	.30
Correlations between factors					
Factor 1		-	-		
Factor 2		.61	.65	-	-

Note: F1 = promotion of the culture; F2 = Cultural Identity

Adding to the base model restrictions on factorial weights the metric invariance was characterized. The values obtained from table 3 permit to accept this invariance level. The goodness of fit index (GFI .986) and the root mean square error of approximation (RMSEA .024) continue to provide convergent information in this direction. Also, the Akaike Information Criterion (AIC 175.349) and Bentler comparative fit index (CFI .992) do not suffer large variations over the previous model. Using the criteria for the evaluation of the nested models proposed by Cheung and Rensvold (2002), who suggest that if the calculation of the difference of the CFI of both nested models diminish in .01 or less, the restricted model is taken for granted therefore the compliance of the factorial invariance. The difference of the CFIs obtained (.002) allows to accept the metrical invariance model.

We can conclude up to this point that factorial charges are equivalent in the two samples.

Having demonstrated the metric invariance between the samples, we evaluate the equivalence between intercepts (strong factorial invariance). The Indices (Table 3) show a good adjustment of this model, evaluated independently as well as analyzed toward nesting with the metric invariance model. The difference between the two comparative indices of Bentler is zero; the general adjustment index is .985 and the root mean square error of approximation is .025. Accepted then the strong invariance, the two evaluated models are equivalent toward the factorial coefficients and the intercepts.

The promotion of the culture factor reaches values of internal consistency above .85 in both samples (men and women); demonstrating adequate internal consistency; while the Cultural Identity factor reaches values below .70 showing a low internal consistency (Table 4).

4.3 Contrasts of the means of the factors among women and men

Once proved the factorial invariance, the differences among the means of the factors from the two groups were estimated taking as a reference the men's sample, establishing 0 as the value of the means for this sample, considering freely the value of the means for the sample of women. Restrictions about regression coefficients and intercepts required for the contrast among the means made automatically through the software AMOS 21 (Arbuckle, 2012). The results of the comparisons between means indicated that the mean of the factors Promotion of the culture and Cultural Identity were significantly higher (0.520, $p < 0.001$ y 0.340, $p < 0.001$

respectively) in women.

Table 3 Goodness of fit indexes of each of the models tested in the factorial invariance.

Model	Fit Indexes						
	χ^2	gl	GFI	NFI	CFI	RMSEA	AIC
Model without restrictions	80.370*	44	.988	.987	.994	.023	172.370
Metric Invariance	99.379*	52	.986	.984	.992	.024	175.349
Strong factor invariance	106.500*	55	.985	.983	.992	.025	176.500

Note: * $p < .05$; GFI = goodness of fit index; NFI = normed fit index; CFI = comparative fit index; RMSEA = root mean square error of approximation; AIC = Akaike information criterion

Table 4 Coefficient omega and alpha for the factors obtained

Factor	Women		Men	
	Ω	α	Ω	α
1. Promotion of the culture	.869	.880	.872	.884
2. Cultural Identity	.602	.616	.600	.640

V. Conclusion

From the results, analysis and discussion shown and taking in consideration that the main objective of this study was to examine the factorial structure and the measure of the invariance of this structure in university students, we can conclude the following:

1)The Confirmatory Factorial Analysis, in both samples, indicated that the adjustment of the data to the theoretical model of 9 items grouped in two factors is optimal. At the same time that the two factors obtained, in general, adequate standardized factorial saturations. Also, the factors correlate among themselves in a positive way and statistically significant, which shows that, as Self-Efficacy perceived increases in some of the factors, the other one increased as well.

2)The factor promotion of the culture showed adequate internal consistency, while the internal consistency of Cultural Identity factor was below the acceptable; this probably due to the small number of items of the factor.

3)Along with all the above, the results of the analysis of the factorial invariance between samples; indicate a high congruence between pairs of factors. Suggesting the existence of strong evidence of cross-validation of the measure and therefore the stability of the structure, until the contrary is proved.

4)The comparisons between the groups reflect significant differences in favor to women, in the means of the factor promotion of the culture and Cultural Identity. Suggesting that women perceive themselves a little more self-efficient than men in relation to those factors.

In summary, the analysis of the psychometric properties has shown that a two-factor structure is viable and appropriate in accordance with established psychometric requirements when informants are the students themselves. The structure of two factors, based on statistical and substantive criteria, has shown adequate indicators of adjustment, reliability and validity. However, we believe that further studies are necessary in order to corroborate or refute the data obtained in this investigation.

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The Fundamental Movement Skill of Male Students with Intellectual Disabilities in Korea

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Abstract

This study was conducted to examine the Fundamental Movement Skills (FMS) levels of male students with intellectual disabilities between the ages of 10 and 18 years old. A total of 126 students with intellectual disabilities (IQ < 50), who were attending special education schools in South Korea, participated in the study. FMS were assessed using the Test of Gross Motor Development 2nd edition (TGMD- 2), which evaluates locomotor skills (running, hopping, leaping, sliding and jumping) and object control skills (overhand throwing, catching, kicking, hitting, striking and dribbling). Data were analyzed using descriptive statistics and ANOVA with 95% confidence intervals, and the level of significance set at $p < .05$. The results showed that the older students had significantly better scores on all locomotor and object control skills except kicking. Higher proportions of students demonstrated mastery of performance criteria for the subset of locomotor and object control skills that involved only leg or arm movement, than for the subset that required coordinated body and arm movement.

Keywords: Fundamental movement skills, Intellectual disability, TGMD-2, Special education school

1. Introduction

The reason to assess and measure Fundamental Movement Skills (FMS) is to evaluate the development of gross motor skills, in terms of FMS mastery. Such evaluation provides information about which sports and activities students should practice or avoid, and which specific skills and coordinated movements they need to develop (Oakley and Booth 2004). FMS proficiency in childhood has been shown to influence participation in physical activities, heighten physical activity (PA) in childhood has also been associated with positive health outcomes (Ekelund et al 2004; Strong et al. 2005).

FMS association with PA has caused teacher and coach of sports or specialist to actively recommend the inclusion of FMS training in physical activity program plan (Haywood and Gerchell 2005; Bailey 2006). Generally, children have FMS mastery by about age 12, but children with intellectual disabilities might exhibit low levels of FMS. For this reason, they have lower participation in regular sports activities and get less exercise, which can lead to a “negative spiral of engagement” in children with low levels of FMS (Capiro and Rotor 2010; Gallahue and Ozmun 2002; Hardy et al. 2010; Williams et al. 2008). It is important for children to participate in physical activity for their enjoyment, wellbeing, physical fitness, health, and social development;

children who exercise have a lower likelihood of becoming obese, and a reduced risk of cardiovascular disease(Capio et al. 2014; Piek et al. 2012). The acquisition of FMS is a consecutive process that is influenced by various internal and external factors including biological, psychological, social, motivational, and cognitive factors, and FMS can be acquired through a range of active play experiences and structured programs(Hardy et al. 2010; Oakley et al. 2001; Sun et al 2011).

Children with intellectual disabilities show delayed development compared to children of the same age without disabilities(Staples and Reid 2010). Movement developmental delay in children with intellectual disabilities is associated with poor movement control ability, lack of comprehension, and low concentration(Piek et al. 2012). FMS mastery may be negatively affected by low IQ, low cognitive ability, and low perceptual ability. Delay in movement development may cause children with intellectual disabilities to have fewer opportunities to participate in physical and sports activities, leading to lack of self-confidence and motivation (Westendorp et al. 2011; Vandorpe et al. 2012; Capio and Rotor 2010). Furthermore, isolation from physical activities hinders children's physical, psychological, and social development and can have a negative influence on their sports participation or physical activity in the future(Westendorp et al. 2011; Fisher et al 2005; Frey et al 2006; Ulrich 2000).

The Test of Gross Motor Development 2nd edition (TGMD-2), a common and frequently used method of assessing FMS (Ulrich 2000) has been validated for children aged 3–10 years old. A Korean version of the TGMD-2, created by Park(2008) has been demonstrated to be valid and reliable for elementary school students from the first to the sixth grade. Several studies have evaluated FMS in children from the ages of 3 to 12 years old, and reported that the acquisition of FMS is nearly completed by the age of 12(Ulrich 2000; Park, 2008; Bakhtiari et al. 2011; Choi and Roh 2011; Lee et al. 2011) . Previous studies have reported that children with intellectual disabilities lag developmentally by 4 - 5 years on average(Kang and Kim 2009). However, little research has been conducted on the FMS levels and patterns of children with intellectual disabilities or who are older than 12 years old. Therefore, research is needed to accurately understand the FMS level-s of children with intellectual disabilities, who show low levels of skills in several areas of physical activities and extracurricular activities including locomotor skill and object manipulation. It is necessary to collect preliminary data to develop physical education programs special education schools that will improve the students' FMS. The purpose of this study is to evaluate the FMS levels of male students, with intellectual disabilities who are 10 to 18 years old, attending special education schools.

2. Methods

2.1.Participants

Four special education schools in the Seoul metropolitan area in South Korea participated in the study. Participants were 126 male students with intellectual disabilities between the ages of 10 to 18. They attended education classes two to three days (1 hour/day) per week. All participants lived in the Seoul metropolitan area, and all of their parents were Korean. We collected basic information on the children such as gender, birth date, physical activity participation, and IQ from a questionnaire we administered to their parents or guardians (Table 1).

Table 1. Demographic Characteristics of the Participants (N = 126)

Group	Age	n	Weight (kg)	Height (cm)	IQ
I	10	6	30.98 ± 10.9	135.31 ± 14.5	39.8 ± 11.03
	11	12	39.91 ± 21.6	144.55 ± 17.7	37.8 ± 11.9
	12	11	52.95 ± 19.2	153.6 ± 11.4	46.2 ± 11.2
	Total	29	43.01 ± 20.2	146.07 ± 16.0	45.8 ± 15.2
II	13	12	61.8 ± 21.9	160.16 ± 13.0	34.7 ± 9.1
	14	16	56.73 ± 15.6	157.1 ± 7.4	41.9 ± 11.6
	15	15	59.32 ± 16.0	165.81 ± 9.2	37.9 ± 8.3
	Total	43	59.02 ± 17.0	161.37 ± 10.2	38.46 ± 10.4
III	16	12	63.92 ± 15.5	168.13 ± 7.8	39.6 ± 12.9
	17	21	60.39 ± 22.2	163.42 ± 9.4	32.17 ± 5.06
	18	21	64.61 ± 17.2	167.21 ± 11.1	39.9 ± 10.6
	Total	54	62.82 ± 18.8	165.94 ± 9.89	37.2 ± 10.26

2.2. Testing procedure and Instrument

The TGMD-2 (Test of Gross Motor Development) was used to measure FMS. This instrument was developed by Ulrich(2000) and reconstructed by Park, Choe, and Kim(2009). The TGMD-2 tests locomotor and object control skills. The test assigns 30 points to five locomotor movement skills: running (6 points), hopping (6 points), leaping (6 points), sliding (6 points), and jumping (6 points) and 38 points to five object control skills: overhand throwing (5 points), catching (4 points), kicking (4 points), striking (6 points), and dribbling (5 points). The content validity and reliability of this FMS assessment has been previously demonstrated with a high alignment of assessments at 85% (Park, 2008).

The study participants performed the five locomotor movements and the five object control movements two to three times. They were recorded by a video camera placed 6 - 7 m away. Three researchers scored each participant on each TGMD-2 item and average scores were calculated. The statistical analysis was performed with SPSS for Windows version.21 (IBM SPSS Inc., Chicago, IL, USA). Data were analyzed by three separate age groups: 10 - 12 years old (elementary school), 13 - 15 years old (middle school), and 16 - 18 years old (high school). Descriptive statistics, including proportions and means based on the raw scores, were used to describe the participants' skill mastery. Analysis of variance was used to calculate the average values, the standard error, 95% confidence intervals (CIs), and standard deviation for each item. Linear regression was used as a post- hoc test. Descriptive statistics including proportion and the mean based on the raw score were used to describe the mastery of FMS for separate age groups. Statistical significance was set at $p < 0.05$.

3. Results

They have participated in physical education classes 2-3 days (1 hour/day) a week. We analyzed the data based on the age group (10-12 years old: elementary school, 13-15years old: middle school, 16-18years old: high school). Table 2 presents the participants mean scores and standard deviations, and the prevalence (as percentages 95% CI) of mastery of the 10 skills by age group (10-12 years; 13-15 years; 16-18years).

Table 2. Fundamental Movement Skills among Students with Intellectual Disabilities

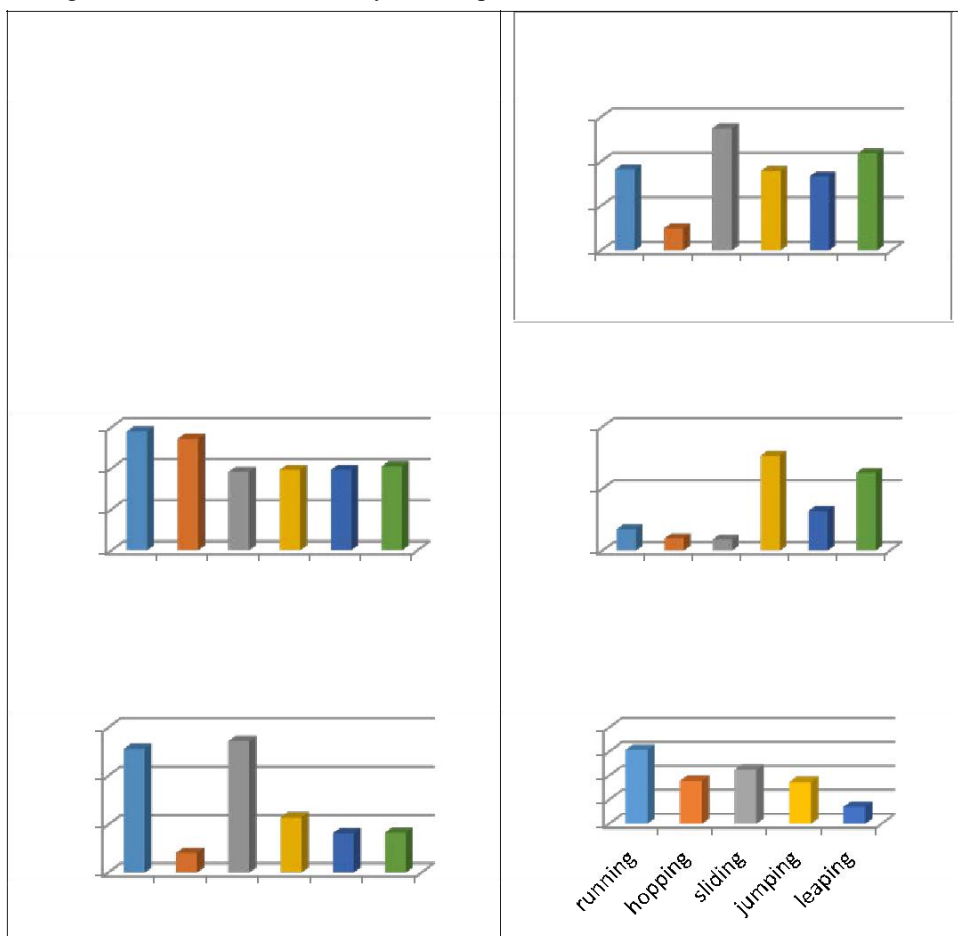
Fundamental Movement Skills	Score, Mean \pm SD (95%CI)			p-value
	10-12aged (n=29)	13-15aged (n=43)	6-18aged (n=54)	
Locomotor skills	6.85 \pm 5.7 (3.9-9.7)	10.72 \pm 6.2 (8.5-12.9)	13.32 \pm 7.3 (11.3-15.3)	.000 ^{***}
Running	2.39 \pm 1.4 (1.8-2.9)	2.66 \pm 1.4 (2.2-3.0)	3.33 \pm .95 (2.9-3.7)	.005 ^{**}
Hopping	.95 \pm 1.4 (.08-1.8)	2.53 \pm 2.1 (1.8-3.2)	2.88 \pm 2.3 (2.2-3.5)	.001 ^{***}
Sliding	1.30 \pm 2.0 (.4-2.2)	2.33 \pm 2.2 (1.6-3.0)	2.97 \pm 2.2 (2.3-3.6)	.006 ^{**}
Jumping	1.39 \pm 1.2 (.73-2.0)	2.23 \pm 1.6 (1.7-2.7)	2.4 \pm 1.7 (2.0-2.9)	.020 [†]
Leaping	.60 \pm 1.5 (-.04-1.2)	.48 \pm 1.1 (-.01-.98)	1.33 \pm 2.0 (.86-1.7)	.043 [†]
Object control skills	6.85 \pm 5.05 (4.5-9.1)	10.51 \pm 5.3 (8.7-12.2)	12.43 \pm 5.1 (10.8-14)	.001 ^{***}
Striking a stationary ball	2.42 \pm 1.6 (1.7-3.1)	3.01 \pm 1.5 (2.4-3.5)	3.52 \pm 1.4 (3.0-3.9)	.010 ^{**}
Stationary dribbling	.72 \pm 1.18 (-.11-1.5)	1.73 \pm 1.9 (1.1-2.3)	2.19 \pm 2.0 (1.6-2.7)	.003 ^{**}
Catching	1.40 \pm 1.2 (.8-2.0)	2.41 \pm 1.4 (1.9-2.8)	2.69 \pm 1.3 (2.2-3.1)	.001 ^{***}
Kicking	1.45 \pm 1.2 (.88-2.0)	1.86 \pm 1.2 (1.4-2.2)	2.32 \pm 1.3 (1.9-2.7)	.147
Overhand throwing	.85 \pm 1.03 (.35-1.3)	1.48 \pm 1.2 (1.11-1.8)	1.68 \pm 1.04 (1.3-2.0)	.009 ^{**}

Significance levels: $p < 0.001$ ^{***}, $p < 0.01$ ^{**}, $p < 0.05$ [†]

The older students' mean FMS scores were significantly higher than those of the younger students for all skills except for kicking. The overall scores for mastery of locomotor skills were 47.57% for 10-12 years old, 38.28% for 13-15 years old, and 24.46% for 16-18 years old. The prevalence of mastery differed across FMS. All age groups had the highest scores for mastery of running (66.6% for 10-12 years old, 53.2% for 13-15 years old, and 47.8% for 16-18 years old), Scores were lower for sliding (59.4%, 46.6%, 26.6% respectively), hopping (59.4%, 42.2%, 15.8% respectively), jumping (40%, 37.2%, 2.3% respectively), and leaping (22.2%, 8.0%, 10.0% respectively). Overall scores for mastery of object control skill was 51.79% for 10-12 years old, 43.79% for 13-15 years old, and 28.5% for 16-18 years old. Scores for mastery of catching were 67.3%, 60.3%, and 35% respectively; striking 58.7%, 50.2%, and 40.3% respectively; dribbling 54.8%, 43.3%, and 18% respectively; kicking 46.4%, 37.2%, and 29% respectively; throwing 33.6%, 29.6%, and 17% respectively. These results show that the proportion of students with mastery of object control skills was higher than the proportion of students with mastery of locomotor skills.

Figures 1 and 2 showed that leaping and hopping performance mastery scores were lower than running, jumping, sliding in locomotor skill. There were showed that the most lower score performance is arms swing to forward and backward movement in running criteria, and upper body slant forward movement in leaping, arms swing can make thrust movement in hoping, arms extension forcefully forward and upward reaching full extension and, arms are thrust downward during landing movement in jumping, step sideways with lead foot followed by a slide of the trailing foot to point next to the lead foot in sliding. Also, In Objective control skill, kicking criteria was the most lower score than others criteria. There were showed movements of the most lower score is caught by hands only movement in catching, in throwing was backward and upward of throwing hand, transfers body weight to front foot in striking, bounce level is regularly when control of ball movement in dribbling, an elongated stride or leap immediately prior to ball contact in kicking. Although high performance was shown in locomotor skills, namely jumping and landing movements with two feet together, as well as horizontal movements such as sliding, low performance was shown in movements that require propulsion using arms and feet, as well as movements that require arm and foot coordination.

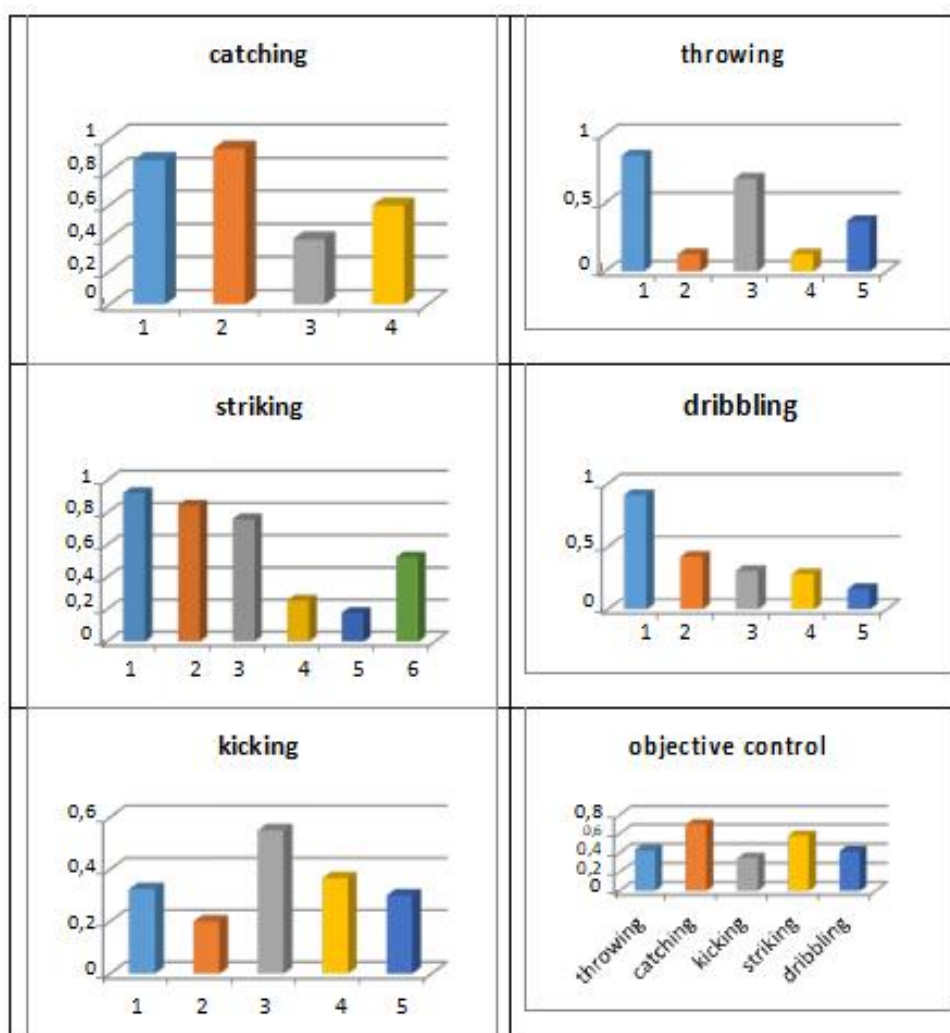
Figure 1. Demonstrated mastery of each performance criteria for the locomotor skills



running	<ol style="list-style-type: none"> 1. arms move in opposing direction to legs, elbows bent 2. arms swing forward and backward 3. upper body slants forward 4. narrow foot placement landing on heel or toe 5. Non-supported leg bent approximately 90 degree
hoping	<ol style="list-style-type: none"> 1. arms move in opposing direction to leg and elbow 2. arms swing can make thrust 3. upper body slant forward 4. non-support leg swings rhythmically forward and backward 5. arms flexed and swing forward to produce force 6. take off & lands 3 consecutive times on preferred.
jumping	<ol style="list-style-type: none"> 1. preparatory movement includes arms back swing 2. arms extension forcefully forward and upward reaching full extension 3. arms are thrust downward during landing 4. take off both feet simultaneously 5. forcefully forward and knee movement bent more than 90degree 6. land on both feet simultaneously

leaping	<ol style="list-style-type: none"> 1. arm move in opposing to leg 2. upper body slant forward 3. a period where both feet are off the ground longer than running 4. forward reach with the arm opposite the lead foot 5. maintains a rhythmic pattern for four consecutive leaping
sliding	<ol style="list-style-type: none"> 1. arms bent and lifted above more than waist 2. body turned sideways to shoulders are aligned with the line on the floor 3. a step sideways with lead foot followed by a slide of the trailing foot to point next to the lead foot 4. showed fly phase 5. a minimum of four continuous step-slide cycles

Figure 2. Demonstrated mastery of each performance criteria for the objective control skills



dribbling	<ol style="list-style-type: none"> 1. contact ball with one hand at about belt level 2. knee bent when <u>dribbling</u> 3. ball contacts surface in front or to the outside of foot on the preferred side 4. maintains control of ball for five consecutive bounces 5. bounce level is regularly when control of ball
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striking	<ol style="list-style-type: none"> 1. dominant hand grips bat above non-dominant hand 2. non-preferred side of body faces the imaginary tosser with feet parallel 3. bat swing showed diagonal (above- dawn-horizontal) 4. hip and shoulder rotation during swing 5. transfers body weight to front foot 6. bat contacts ball
catching	<ol style="list-style-type: none"> 1. preparation phase where hands are in front of the body and elbows are flexed 2. arms extend while reaching for the ball as it arrives 3. ball is caught by hands only 4. can catch well
kicking	<ol style="list-style-type: none"> 1. rapid continuous approach to the ball 2. an elongated stride or leap immediately prior to ball contact 3. non-kicking foot placed even with or slightly in back of the ball 4. kick ball with in step of preferred foot(shoelaces) or toe 5. hip and kicking foot rotation
throwing	<ol style="list-style-type: none"> 1. windup is initiated with downward movement of hand/arm 2. backward and upward of throwing hand 3. rotates hip and shoulder to a point where the <u>nonthrowing</u> side faces the wall 3. weight is transferred by stepping with the foot opposite the throwing hand 4. follow- through beyond ball release diagonally across the body toward the <u>nonpreferred</u> side

In particular, a lower performance was shown in leaping movements, relative to other movements. Although high performance was shown in object control skills, namely throwing movements with the hands, low performance was shown in movements that use the lower body or require arm and foot coordination. In terms of kicking, low performance was shown in running-start movement or step movement, but high performance was shown in the simple movement of touching a ball with the toe. In terms of striking, high performance was shown in simple movement of grabbing a bat, but low performance was shown in the coordination of movements that use the arms and waist.

4. Discussion

This study demonstrates that age influences the FMS performance capability of male students with intellectual disabilities ($IQ < 50$); the older students showed higher mastery of skills involving simple movements that use the arms and legs, compared to movements that require coordination of the arms, legs, and torso. In other words, they showed lower levels of the locomotor skills, of hopping and leaping, compared to running, jumping, and sliding. Moreover, in terms of the object control skills, they showed the highest level of mastery for striking movements but lower mastery of movements that require coordination of the arms, legs, and lower body, such as dribbling and throwing. These results may indicate that as intellectually disabled children pass through puberty and become teenagers through puberty, physical changes in length of arms and legs, body composition, and muscle strength, influence their FMS.

Furthermore, the results may indicate that FMS is positively influenced by performing repeated exercises through continuous participation in physical education or physical activities beginning in the lower grades as by the higher grade students better FMS performance, compared to the lower grade students. Many previous studies have reported that FMS are related to cognitive ability and physical activities(Westendorp 2011; Kim and Lee

2013; Bastik et al. 2011).

The results of this study, in which only students with IQ's of 50 were analyzed, show that FMS scores increases with age despite intellectual disabilities, and this pattern positively correlates to physical growth and development, as well as to repeated participation in physical activities. Repeated participation in physical activities is thought to be a particularly important factor in the development and acquisition of FMS in students with intellectual disabilities. In this study, the level of FMS acquisition in elementary students with intellectual disabilities (10–12 years old) was quite low, with scores of 24.46% for locomotor and 28.5% for object control skills; middle- school students (13–15 years old) showed 41.03% mastery of object control skills, and high-school students showed 49.68% mastery of object control skills. These levels are all below the levels of normal preschool students. The FMS movement acquisition level of middle-school students with intellectual disabilities who have an IQ below 50 is comparable to the 42% mastery of 4-year-old normal preschool students reported by Hardly et al (2010). Even after entering middle or high school, students with intellectual disabilities who have an IQ below 50, have a much lower FMS acquisition level than normal students, and experience difficulties in organized sports activities or physical activity programs. Therefore, the development of exercise programs to improve FMS in students with intellectual disabilities who have an IQ below 50, is necessary. This study's results suggest that in developing an exercise program that takes into account the developmental delay of movements in students with intellectual disabilities, the addition of movement exercises that require the coordination of many body parts, as well as exercises that promote chest and limb movements must be considered.

5. Conclusion

This study demonstrated that while students with intellectual disabilities who have an IQ below 50 displays lower FMS performance levels relative to normal students, their FMS improves with age. Therefore, when planning a physical activity program for students with intellectual disabilities and low FMS, it is necessary to include active and repetitive exercises, to improve their skill performance capability. Such exercise programs should start from the lower grades, because continued participation in such activities over time is thought to further improve FMS performance capability with age. In addition, it is important to note that lower performance capability was observed in complex movements requiring coordination of the arms, legs and torso, compared to simple movements using only arms or legs. Therefore, in considering education to improve the fundamental movement performance capability of students with intellectual disabilities, the addition of complex performance movements and exercises that require the coordination of multiple body parts should be considered. Appropriate exercise programs may help improve the levels of FMS necessary in the daily lives of students with intellectual disabilities, in addition to the contributing to the maintenance of their health, and quality of life.

There were several limitations in this study. First, the study relied solely on IQ to distinguish the degree of intellectual disability of the participants, but did not consider the psychosocial factors, or the interest levels of the participants in certain exercises. The study's IQ range of 30 to 50 limited the diversity of degree of intellectual disability of the participants. Despite these limitations, the study's design had several. First, the study used as a measuring device a version of the TGMD-2 that had been restructured to evaluate nationally

representative data. In addition, this study was the first with a large-scale participation of Korean students with intellectual disabilities. Another advantage of this study may be that the measurements included detailed items for evaluating the FMS performance capability of students with intellectual disabilities. Additional studies that consider other factors that may influence the FMS of students with intellectual disabilities are necessary to more accurately understand their FMS development.

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Regional Integration Processes at the High Education System of Kazakhstan

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Abstract

National systems of the higher education are considerably transformed, gain the increasing similarity, but it occurs taking into account specifics of the social device, economy, policy, pedagogical traditions of this or that country. In the organization and the maintenance of the higher education components of supranational universal property arise and develop. As indicators of this process similar changes in structure, the contents and methods of the higher education. Factors and the purposes of internationalization of the higher education can be distributed on four main groups: economic, political, cultural and pedagogical.

Keywords: Region, Internationalization, Integration, Cooperation, Education

1. An overview of systemic functional linguistics

Basis of development of market economy is division, specialization of managing subjects on production of separate types of the benefits (products, services and works) and coordination integration (cooperation, collaboration) economic activity on achievement of the joint collective purposes.

Division of labor and specialization demands an appropriate level of integration and cooperation. Specialization and integration is the two parties of one phenomenon. Between them exist dialectic reasonable-investigative interconnection and inter conditionality. Progress in division of labor promotes development of integration processes.

Integration, write P.-F.Gonidek and R. Sharven is at the same time process and the state including a tendency to replacement of the shattered international relations, consisting of the independent units, the new more or less broad associations allocated with the minimum powers to make decisions in one or several areas, or in all areas which enter competence of basic units. At the level of individual consciousness integration is urged to generate loyalty and commitment to new association, and at structural level-participation of everyone in its support and development (Bukin L.2002, p.23).

2. Main Text

The objective economic basis for broad development of specialization and integration is created by scientific and technical progress. They take various forms: international, regional, intersectional, intra-branch. Integration increases efficiency of work thanks to that at addition of forces of participants of cooperation there is qualitatively new collective productive force. There is an effect whole (synergetic effect) from interaction and cooperation. Thanks to it becomes possible to provide production of the public benefits, that is the benefits

satisfying public, collective needs of people. In economic science on nationality the concept of treatment of integration as public benefits (international and regional) acquires in recent years the right. So fundamental knowledge and monuments of world culture, environmental protection on a planet (prevention of expansion of ozone gaps in the terrestrial atmosphere), maintenance of the uniform world market and uniform world trade economic space, a preservation of peace and safety on the earth, a satellite communication system, the Internet and so on are examples of the international public benefits.

It is possible to carry to the international public benefit and the international cooperation in the field of education through the relevant international institutes (UNESCO, IOM, WHO) and their educational programs, through the international programs of the European Union and via the mechanism of implementation of bilateral contracts on cooperation in the field of science and education at the level of the countries and separate universities.

Existence of any state always assumes interaction with others. This interaction – the fundamental principle of the international relations. Spheres and the directions of the international cooperation are as though diverse were and is as though great there was their value, the central and most important point of the international cooperation remains political. The solution of problems of interaction in many respects depends on its efficiency in other spheres.

Integration processes can be limited to national and regional (local) scales. In this case it is a question about national and the regional public benefits. Integration examples in the sphere of the higher education as the public benefit consumed in national scale, are nation-wide guarantees of receiving by citizens of education, a uniform state policy in the field of education the state educational standard, a uniform state order of social support of teachers and students of the higher school, a uniform order of the state accreditation and licensing of higher education institutions, the central government bodies of management of education, republican standards of financing of the higher education, the state control of quality of education, financing of training of students at the expense of the state grants.

At the same time there are the regional public benefits caused by integration processes at the higher school in scales of the region. It is a question of a regional component of the state educational standard and of financing within this component and training of specialists from means of regional and local budgets, of regional state and public governing bodies of education. As a rule, localization of benefits from the public benefit gains territorial character.

Among the most obvious manifestations of the main regularities of the international relations most the importance at the present stage was got by the integration and disintegration factor, observed today everywhere. The tendency of integration represents higher level of interaction between the states when participants of this process alienate part of the sovereignty in favor of supranational bodies. Both that and another, opposite to the first tendency reflect an objective condition of world system in this stage, uncertain nature of its development.

National systems of the higher education are considerably transformed, gain the increasing similarity, but it occurs taking into account specifics of the social device, economy, policy, pedagogical traditions of this or that country. In the organization and the maintenance of the higher education components of supranational universal property arise and develop. As indicators of this process similar changes in structure, the contents and methods of the higher education (open education, distance learning and etc.) act.

Factors and the purposes of internationalization of the higher education can be distributed on four main groups: economic, political, cultural and pedagogical. The first are closely connected with sure financial gains, for example, thanks to a tuition fee of foreign students. Even more important indirect economic benefits as high quality of training of graduates of the higher school appears one of conditions of economic progress. Political factors are generated by geopolitical interests of each country. Cultural follow first of all from intentions of promoting of national culture and familiarizing with foreign-language cultures. And, at last, pedagogical factors are concerned with requirements of modernization of the higher education.

The specific situation develops in the countries where appearing shortage of specialists for the higher school (Australia, Canada) is felt. Here mass recruitment moves to the forefront from abroad cases of teachers. For example, in Canada foreigners make to 25% of teachers of higher educational institutions.

All listed factors are developing. At the beginning they were concerned first of all with policy of strengthening of mutual understanding between the people, preservations of cultural influence in developing countries. Then economic priorities become more important. It was reflected, in particular, by the Memorandum of the higher education, accepted by participants of the European Union (1992). The political, pedagogical and cultural goals which follow from intentions to improve preparation of human resources for the successful competition on the international economic scene are subordinated to the specified priorities.

The integration of the higher education appears means of strengthening of economic competitiveness in the world market. Strengthening of the importance of economic factor causes creation of rather mass systems of the higher education and at the same time relative reduction of their financing. Internationalization of the higher education helps with this situation to the solution of economic problems of higher education institutions.

The main directions of internationalization of the higher education are focused on: association of pedagogical efforts and resources; promoting of ideals of mutual respect; education improvement due to the international experience; employment of experts with the higher education on the international labor market; formation at graduates of higher educational institutions of qualities and the knowledge necessary for functioning outside own country. Mobility of students and teachers is encouraged, scales of learning of foreign languages and cultures extend, training programs and diplomas approach.

Thanks to achievements of technological revolution direct contacts, trips of students and teachers are supplemented or replaced with virtual mobility by means of the latest technical means [Galagan A., 1994, p.14]. Communicative technologies, distance learning allows to make the international cooperation of universities more different formatively and intensive.

In Kazakhstan in the period of market economy at the higher school interaction of two tendencies – on the one hand, a tendency of integration, centralization and preservation of uniform educational space, and on the other hand, a tendency to regionalization and decentralization was observed.

The progressive tendency of development of a fundamentalization of the higher education was shown at the Kazakhstan higher school in various forms of integration. I passed process of streamlining of the nomenclature of specialties and the direction of training of specialists. University education gained priority development. Work on optimization of a network of higher education institutions, integration of existing higher education institutions and to creation of regional high school complexes was carried out.

Cooperation process between the leading high school centers and regional higher education institutions on the basis of coordination and mutual coordination of curricula and programs amplified. There is also an expansion of availability of the high school centers for citizens from regions with insufficiently developed network of educational institutions. It is promoted by development of target preparation and creation of social guarantees for non-residents in realization of the rights to the higher education (preferential journey, preferential terms of accommodation in a hostel and using other objects of high school infrastructure). Extending participation in support and development of public sector of the higher school of authorities of various levels. Increased a role of system of preparation and professional development of scientific and pedagogical shots, and also scientific and methodical providing in the high school centers for peripheral higher education institutions. The effect of integration is provided, on the one hand, due to use of scientific and personnel potential and scientific and experimental base of academic institutions for the purpose of improvement of quality of educational process in higher education institutions, and on the other hand – by creation of branches of chairs of the academic institutes, formation of scientific parks of the higher school. Deepening of integration processes expansion of independence of higher education institutions in the field of the international and university scientific and technical cooperation promotes in no small measure and removal of former regulatory restrictions in the field of combining jobs of scientific and pedagogical shots, and also.

The integration processes at regional and international level in the higher education are the public benefit, but the ratio of benefits and expenses by their granting in many respects depends on a concrete socio-political and economic situation in the respective country. Therefore the analysis both positive, and negative sides of development of various forms of integration in the higher education of Kazakhstan in modern conditions on the example of the concrete region and concrete higher education institution is extremely important. It will give the chance to generalize more deeply positive experience of the solution of problems of integration in the higher school and to make reasonable recommendations about further improvement of cooperative communications in the higher education.

The research of a regional role of the higher school has to be based on definition of the concept "region", its borders of rather physical space and system of interconnections between the economic subjects located in its limits.

The processes of territorial differentiation of production happen in interrelation with integration tendencies in economy. Specialization causes the necessity of strengthening of communications between them as all set of the necessary products, goods, services it is possible to provide with only cumulative activity of many regions. At the same time, separate branches and territorial educations are included in a uniform economic complex as its component with specific functions peculiar to them. Along with functional specifics they possess also reproduction features. Therefore it is expedient to consider regions from positions of the general methodological approach to understanding of territorial development and development separate administrative and territorial units.

The region as territorial unit can be characterized by unity of two of its parties: a certain territorial and branch set and organic part of the uniform economic complex including branches of industrial production, services sector, their infrastructure.

As the region we can observe large economic regions, territorial-industrial complexes, administrative and territorial units, etc. The region objectively possesses some relative independence within uniform process of reproduction. Each territorial complex has to in every possible way and develop comprehensively own economy, the social sphere and form infrastructure corresponding to them.

The concept of regionalization of education has semantic “wash- out” as it is analyzed on separate various aspects, including economic, pedagogical, national and cultural. Complete understanding as independent part of a component of a uniform social and economic regional complex it isn't developed yet, significant regional internal communications of education aren't allocated. The variety of a tendency of development of regions complicates the solution of problems of determination of properties of education as a part of regional complexes.

The mean of regional educational systems consists that those can be in the presence of the following main signs:

Sufficient level of development of the educational system, allowing satisfying the corresponding requirements of the population and economy for a mode of differentiation of educational services;

Abilities of educational system to reflect specifics of local requirements for multidimensional social and pedagogical space in the functioning;

The presence of the subject of management by education creating round branched system and providing the center of regional educational space.

The understanding regional education systems is expressed that at all levels of its functioning priority there are the tasks directly connected with satisfaction of educational needs of this region. The regional education system also has to be closely connected with all-social, world interests and development tendencies that are the most important conditions of preservation of integrity, stability and continuity of an education system and the prerequisite to its entry into world educational system.

The importance of regional aspect of an education system seems that the region acts as the guarantor of steady political resolution of conflicts of development in the state and personality relations, giving the chance to citizens on the basis of the uniform principles in a favorable, available mode to use material, intellectual, educational, social values. Thus the resource financial security of expenses guaranteed by the state on the standardized education level remains.

Regionalization of an education system acts as a condition of its self-determination and self-sufficiency. On this background education system interaction with various parties of activity of the region giving, on the basis of feedback, an education system individual and personal and social sense is carried out. Individual and personal interest of subjects of the region is shown in creation material a condition for satisfaction of humanistic, educational, cultural inquiries of subjects of the region; a variety, within the region, opportunities of a regional labor market; formation social relation.

The public importance of education including the professional is defined by that circumstance that if in regional economic system the emphasis on development of any specific branch of economy is placed, it doesn't mean that all specialization in educational system has to be interfaced to economic specialization. The educational system assumes replaceable function of completion and expansion of knowledge of variety of economic structures, communications and the relations, creating conditions for versatile development of the

social sphere as a whole and education systems in particular. Impact of a regional education system on development of society is shown by means of the social order to educational system which in turn develops a social environment, forming its information base, stimulating economic transformations, developing prerequisites of free development of subjects of the region. Socialization of the personality in the conditions of the region becomes result of this process.

Promoting development of individual and personal creative abilities there is an education by an indispensable condition of accumulation of professional potential in the region. Education acts as the prerequisite of social development of society by means of self-development of his individuals.

The education system as a systematizing component of social system as training creates economic prerequisites of social transformations and promoting development of the personality in the course of finding of knowledge. The personality in process of growth and development of creative opportunities realizes sense of education not only as means, but also in the form of the purpose. High level of intellectual and spiritual development of societies is a continuation of a tendency of perception of education as practical usefulness and economic category.

Deepening and expanding knowledge level, the personality not only requests, but also builds under the inquiry elements of a social environment. Education in the conditions of the region, acting as objective requirement of social and scientific and technical development becomes a factor of regional development.

However professional education can't be expelled from system economic categories. It forms a basis of development of abilities of the person to work that conducts to need of consideration it with economic positions.

3. Conclusion

Consideration of essence of a regionalism of education leads to a conclusion that process of regionalization includes consecutive orientation of activity of educational institutions of various profile and level to needs of the region with their subsequent inclusion in social and economic system of the region. As backbone elements of regionalization of education act orientation to the needs of the personality realized in the concrete social environment: formation of uniform educational space of the region; the accounting of concrete features of the region at the organization of activity of an education system; development of spheres and directions of vigorous activity of an education system; development of structure of training programs and the courses focused on studying of natural, geographical, cultural, national, industrial, historical, ethnic features of the region.

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Anxiety and Academic Performance in University Students

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Abstract

The purpose of this research is to identify the factors associated with anxiety and their correlation with academic performance in university students at the Universidad Autónoma de Baja California. The study was carried out in two stages. The first stage was descriptive, and it measured the prevalence and anxiety levels of the students using the Adult Manifest Anxiety Scale A version (AMAS-A), as well as the academic performance perceived by the students in four academic activities: written evaluation, oral presentation, course complexity, and class overcrowding. The population selected for this research consists of first-semester students, both men and women (n=294) enrolled in the 2015/2016 school year. Stratified sampling was used to select an equivalent number of the different academic levels considering the gender variable. The results highlight the positive relationship of anxiety and two of the activities performed by the students: a written evaluation and an oral presentation. In conclusion, the results obtained in this study will allow re-focusing the strategies implemented by the institution to address the mental health of its students.

Keywords: Anxiety, Academic Performance, Higher Education, Mental Health

I. Introduction

Common mental disorders are increasing all over the world. Between 1990 and 2013, the number of people with depression or anxiety has increased by nearly 50%, from 416 million to 615 million. About 10% of the world's population is affected, and mental disorders account for 30% of non-fatal diseases worldwide (World Health Organization, 2019).

Anxiety is a factor associated with school dropout and underachievement in university students. Thirty percent of students show symptoms of anxiety in the first semesters of school since they face several challenges, such as choosing a program, learning new concepts, adapting to groups, passing exams, or planning their activities within the university (Arco Tirado, López, Heilborn Díaz, and Fernández Martín, 2005).

Among the different reports on change processes in new university students, it was found that for most of them, changes represent a positive effect on stress, as they perceive them as stimulating and motivating; however, stress puts some of them in a vulnerable situation both physically and mentally (Arco Tirado, López, Heilborn Díaz, y Fernández Martín, 2005).

The challenge of dealing with change and adaptation causes academic performance issues in some students, leading in many cases to learning difficulties or even forcing some to drop out of university. In 2018, Mexico was the number one country in university dropout rates amongst 21 countries. The report stated that five out of ten young people were at risk of dropping out of school (Organization for Economic Co-operation and Development, 2019). Anxiety can change and increase inside the school, since students may perceive an evaluation of their level of competence as threatening, especially if they expect negative consequences in case of

poor performance. It is estimated that 25% of university students in other countries register high levels of test anxiety with a high tendency to fail (Esacalona y Miguel-Tobal, 1996; Ramos y Pérez, 2009).

The study of anxiety in the academic field has increased, particularly around anxiety and its treatment. In the case of education, it is an issue that has become extremely important, as it is associated with performance, failure, and school dropout (López, 2001).

II. Literature Review

Anxiety is an emotional state, a mix of feelings, behaviors, and physiological reactions or sensations. On the subjective side, anxiety is a unique feeling or emotion that is qualitatively different from any other emotional states such as sadness, depression, anger, or grief (Huertas, 1997; Khoshlessan y Pial, 2017). It is distinguished by various degrees of feelings of apprehension, fear, terror, or nervousness. On the more objective or behavioral side, anxiety manifests itself in the form of increased activity of the autonomic nervous system and symptoms such as heart palpitations, sweating, respiratory disturbances, and muscle tension (Huertas, 1997).

Anxiety is also considered a psychological state, whose effects interfere with the performance of tasks that require focus and long periods of concentration, affecting individuals of any class, race, gender, and religion (Sandín y Chorot, 1995). It also involves a feeling of fear and apprehension that is confusing, vague, and quite unpleasant. The anxious person worries a lot, especially about unknown dangers.

Furthermore, people with anxiety show a combination of the following symptoms: heart palpitations, shortness of breath, diarrhea, loss of appetite, fainting, dizziness, sweating, insomnia, frequent urination, and shaking. All these physical symptoms occur in both fear and anxiety, although with fear, people easily identify what they are afraid of, while with anxiety, people are not aware of their reasons for concern (Sarason, 1996).

Anxiety can be considered as an alert and activation system for situations perceived as threatening. It is a phenomenon that occurs in all people and that, under normal conditions, improves performance and adaptation to the social, work, or academic environment. It has the vital purpose of mobilizing us under threatening or worrying situations, thus enabling us to do what is necessary to avoid the risk, neutralize it, assume it, or face it adequately (Birennaum y Pinku, 1997).

When anxiety levels are higher than the established parameters and the response is inappropriate, anxiety ceases to be functional. In other words, the person invests time and effort into the manifestation of the symptoms, taking away dedication to other activities of daily life, which in turn creates more anxiety. Because of this, the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) (American Psychiatric Association, 2013) considers the following behaviors for the diagnosis of generalized Anxiety Disorders (AD): excessive and persistent worry and difficulty to control different events or activities of daily life, in conjunction with three or more symptoms of physiological overactivation. Besides, such anxiety or worry must be present most days for at least six months.

III. Anxiety and Academic Performance

Within the framework of education, particularly higher education, there has been a significant interest in understanding the cognitive and behavioral elements or factors that contribute or affect the performance of students in school activities. Since the 1960s, there have been reports of studies on the cognitive process through which anxiety produces deterioration in academic performance. These studies focus on explaining the students' difficulty in concentrating on self-assessing thoughts, which tend to devalue their skills rather than evaluating the task. In general terms, anxious students concentrate more on the difficulty of the task than on academic mastery and frequently focus more on their lack of personal and emotional abilities and the failures they have experienced in previous exams (Contreras et al., 2005; Morales, 1999; Miguel, 2006).

Academic performance depends on the combination of the individual's anxiety and the nature or difficulty of the task. According to research reports, a high degree of anxiety facilitates mechanical learning but inhibits more complex knowledge, which is less known or depends on improvisation skills. Thus, anxiety can facilitate learning of complex tasks such as mathematics when the student's self-esteem is not threatened, or the task is challenging. In this sense, moderate anxiety in mathematics facilitates learning, while high levels inhibit it by affecting cognitive and motivational processes. Furthermore, it can be said that complex tasks in more anxious students tend to yield the worst results (Contreras, et al., 2005).

It has been found that learning-focused people handle anxiety differently from those who are motivated by positive opinions or the fear of failure. Students who focus on learning goals (intrinsically), set themselves objectives related to the search of knowledge and the acquisition and improvement of specific skills. Mistakes are accepted as an inherent part of learning and as learning opportunities without showing states of anxiety that block the process. On the contrary, students who are motivated by the search of positive opinions (extrinsically) see mistakes as failures, and any situation of uncertainty is considered a threat, which results in states of higher anxiety (Huertas, 1997)

Twenge (2000) developed research where the anxiety scores of 170 American university students (representing 4,0192 students) were measured. The levels of anxiety were measured using the Taylor Manifest Anxiety Scale (TMAS), the Eysenck Personality Inventory (EPI), the Eysenck Personality Questionnaire (EPQ), and the State-Trait Anxiety Inventory (STAI). The results derived from the scores showed a correlation between time passed and the constant, significant increase in anxiety among university students. Moreover, it was found that anxiety levels are associated with social skills deficits in the individuals and the perception of environmental threats in the classroom and around the task.

The academic performance of university students is affected by a complicated context influenced by a series of daily factors (effort, work capacity, the intensity of study, competencies, aptitude, personality, attention, motivation, memory, relational environment), as well as a set of academic activities (studying, reading, taking notes, doing homework and spending time preparing for exams) that constitute a significant source of stress and anxiety for students and can influence their physical and psychological well-being (Aranceli, 2006; Morales, 1999).

According to the above, anxiety is a factor related to academic performance. For this reason, it is essential to know the prevalence of anxiety levels and establish said levels to allow promoting intervention strategies that attend to the mental health of university students.

III. Methodology

The purpose of this research is to identify the factors associated with anxiety and their correlation with academic performance in university students at Universidad Autónoma de Baja California. Specifically, two objectives were established: a) to measure the levels of anxiety in first semester students and, b) to establish a relationship between anxiety and academic performance in university students of the School of Political Science and the School of Pedagogy and Educational Innovation.

The research was carried out in two stages. The first stage was descriptive, and it measured the prevalence and anxiety levels of the students at both schools considered for the study. The second stage consisted of an analysis of the relationship between anxiety levels and the academic performance perceived by the students.

IV. Participants

The population selected for this research consists of first-semester students, both men and women (N=1532) enrolled in the 2015/2016 school year. Stratified sampling was used to select an equivalent number of the

different academic levels considering the gender variable. Table 1 describes the sample of the study comprised of 294 students, where 55% (n=162) were women, and 45% (n=132) were men. The sample consisted of 52% (n=153) morning shift students and 48% (n=141) afternoon shift students.

Table 1. Distribution of students enrolled in the common core by program (n=294).

	Morning Shift		Afternoon Shift		Total	
	n	%	n	%	n	%
Women	54	18	108	37	162	55
Men	99	34	33	11	132	45
Total	153	52	141	48	294	100

V. Instrument

Two instruments were used to achieve the purpose of this study. The first instrument was a version of the Adult Manifest Anxiety Scale Version A (AMAS-A) to measure the level of manifest anxiety of university students, excluding manifest anxiety due to exams. In addition to the standardized instrument, the second instrument used required the following information: gender, program, semester, age, marital status, employment status, and type of work. Participants were also asked for information about their high school studies: type of institution, grade point average, toughest courses, year of graduation, and whether they failed any courses. Four academic situations were also evaluated: written evaluation, oral presentation, course complexity, and class overcrowding.

VI. Results

The population studied consisted of 294 students with an average age of 20 years. Participants come from public schools 84% (n=80), and private schools 16% (n=15). It was identified that 57% (n=167) of the students, had greater difficulty in mathematical logic activities and 22% (n=65) in natural sciences.

Regarding high school course failure, 48% (n=141) mentioned they had failed a course and had to take it a second time. From this percentage, 57% (n=80) were women, and 42% (n=59) were men. Upon entering university, the failure rate decreased to 14% (n=41).

According to the AMAS test results (Adult Manifest Anxiety Scale), based on the score obtained, the results can be classified as low level, "normal" expected level, slightly elevated level, clinically significant level, and extreme level. It is worth mentioning that in this research, no participants showed an extreme level.

When analyzing the general anxiety shown by the students, 32% (n=95) showed a low level of anxiety, 40% (n=118) an expected level, 20% (n=60) showed a slightly elevated level, and 7% (n=21) has a clinically significant level of anxiety. Concerning the slightly elevated level of anxiety, it is worth noting that 68% (n=41) were women, and 32% (n=19) were men. This means that men had a proportionately low level of anxiety (see Table 2).

Table 2. Distribution of students to total anxiety experienced by gender (N=294).

Total Anxiety Experienced	Gender				Total	
	Male		Female			
	n	% ¹	n	%	n	%
Low Level	24	58	71	75	95	32
Expected Level	40	55	78	66	118	40
Slightly Elevated Level,	19	32	41	68	60	21
Clinically Significant Level	5	23	16	76	21	7

¹ Percentage calculated based on the total by line,

Pearson's correlation was used to assess the relationship between academic situations (written evaluation, oral presentation, course complexity, and class overcrowding), and anxiety in university students. Table 3 shows the analysis of the correlation between indicators of the written evaluation, oral presentation, course complexity, and class overcrowding, with the AMAS-A anxiety test. As expected, a significant and positive correlation was found between most of the indicators.

The results confirm that the written evaluation to which the students are exposed is associated with slightly elevated levels of anxiety ($r=.780^{**}$), followed by oral presentations ($r=.670^{**}$). There is also a positive relationship between clinically significant levels and the written evaluation ($r=.320^{**}$) and oral presentation ($r=.350^*$). It is concerning that anxiety affects the performance of these two competencies of students in the school environment (see Table 3).

Table 3. Correlation coefficient for the academic situation indicators and the AMAS-A anxiety test(n=294)

Indicator	AMAS-A		
	Expected Level	Slightly Elevated Level	Clinically Significant Level
Written Evaluation	.300**	.780**	.320**
Oral Presentation	.360*	.670**	.350*
Course complexity	.480**	.500*	.221*
Class overcrowding	.450*	.532**	.120*

* $p < 0.05$, ** $p < 0.01$,

Additionally, there is a positive correlation between the physiological anxiety scale measured by the test (AMAS-A) and the academic situation indicators, especially written evaluation ($r=.800^{**}$), oral presentation ($r=.750^*$), and class overcrowding with slightly elevated levels. It is relevant to highlight the negative effect of clinically significant levels and their correlation with oral presentations ($r=.345^{**}$).

The results describe the substantial relationship between the academic performance of university students and anxiety in a complex context, influenced by a series of daily aspects that are a significant source of stress and anxiety for students. This can affect their physical and psychological well-being as established by Aranceli, 2006, and Morales in 1999 (see Table 4).

Table 4. The correlation coefficient between academic situation indicators and the AMAS-A anxiety test (n=294).

	AMAS- A Physiological Anxiety		
	Expected Level	Slightly Elevated Level	Clinically Significant Level
	.200**	.800**	.321*
	.260*	.750**	.345**
	.380**	.620*	.320*
	.150*	.700**	.200*

VII. Conclusion

The results show that students from both schools show moderate levels of anxiety. The most significant sources of anxiety for the students were worrying about the consequences of their grades on the written evaluation and the oral presentation. The study also found that the professor's personality and behavior, teaching methods, and teaching practices were also sources of anxiety in the classroom.

Gender did not have a substantial impact on anxiety in relation to the measured indicators. However, women showed higher levels of anxiety than men. No difference was observed between the morning and afternoon shift students either. These results highlight a common problem in the life of university students. Also, the results of this study will allow re-focusing the strategies implemented by the institution to address the mental health of its students.

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The Effect of Transformational Leadership on Middle School Students' Intrinsic Motivation and Expectancy-Value in Physical Education

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Abstract

The leadership practices exhibited by physical education teachers have been found to have a significant impact on promoting students' learning. The main purpose of this study was to explore the relationship between physical education teachers' transformational leadership and middle school students' expectancy-value and intrinsic motivation. To conduct this study, a total of 295 middle school students participated in this study through a convenience sampling technique, and 262 questionnaires were used for the data analyses. Data collected were analyzed by descriptive, and multiple regression. According to regression analyses, transformational leadership had a positive impact on students' expectancy-value and intrinsic motivation. Additionally, based on multiple regression, intellectual stimulation was a common factor that positively affected students' expectancy-value and intrinsic motivation. The results of the study supported the importance of transformational leadership that affects middle school students' intrinsic motivation and expectancy-value in physical education. It is recommended that physical education teachers be able to understand and display appropriate leadership, in particular transformational leadership.

Keywords: Transformational leadership, Intrinsic motivation, Expectancy-value

1. Introduction

Leadership is important in many venues, including business, the military, the sports world and school systems, and has the potential to enhance the effectiveness of an organization greatly. The concept of leadership also has drawn attention as an important concept to enhance the quality of education. Katzenmeyer and Moller (2001) defined teacher leadership as "teachers who are leaders lead within and beyond the classroom, identify with and contribute to a community of teacher learners and leaders, and influence others toward improved educational practice" (p.5). Great teachers are ones who know how to teach, as well as to lead students because the holistic approach of education is not only to transcend academic knowledge, but also to help students seek meaning and purpose of life.

Traditionally, in leadership in physical education more likely displayed an authoritarian style than in any other subject areas (Templin, Woodford & Mullin, 1982). In addition, as most physical education teachers experience a role conflict as both teacher and coach, it is difficult for them to display effective leadership and teaching styles accordingly (Kwon, Pyun & Kim, 2010). Thus, the importance of leadership should be

recognized in physical education as teachers are considered leaders in their own classrooms (Peterson & Cooke, 1983).

The leadership practices exhibited by physical education teachers have been found to have a significant impact on promoting students' learning (Chelladurai & Saleh, 1980). More importantly, as the current teaching practices of physical education trends are no longer focusing on simple sports training (Sallis & McKenzie, 1991), the role of physical education is to not only means of education related to teach general knowledge and skills in sports and physical activities, but also a holistic approach of quality of learning health benefits of physical activity, social behavior management and enjoyment (Wersch, Trew, & Turner, 1992). As a consequence of the educational changes in physical education, the leadership capacity of each physical education teacher has become more important. Understanding of how to be leaders enables teachers to employ various teaching styles to reach goals and objectives, as well as to motivate students and to enhance classroom management.

2. Transformational Leadership

Transformational leadership initially was proposed by Burns (1978). Daft (2008) defined transformational leadership as "characterized by the ability to bring about significant change in followers and the organization" (p. 356). Transformational leadership is conceptualized as involving a series of behaviors designed to inspire, empower, and motivate others to transcend and achieve higher levels of goals and missions (Avolio & Bass, 2004; Hunt, 1999).

The efficiency and benefits of transformational leadership have been documents extensively, in particular as applied to education (Kirkbride, 2006). According to Burns (1978), transformational leadership can allow leaders as well as followers to elevate their morality and motivation. Specifically, transformational leadership can be carried out by providing clear and compelling goals (Kim, 2010), displaying as a role model and motivating followers to accomplish the goals. Bass (1985) introduced four dimensions of transformation leadership: idealized influence, inspirational motivation, intellectual stimulation, and individual consideration. The description below provides more in-depth information about each dimension.

Idealized influence. Idealized influence implies that followers consider their leaders as role models who practice ethical conduct that inspires respect and trust (Barling, Christie, & Hopton, 2010). Transformational leaders resist pressures of immoral and unethical behaviors, by demonstrating highly ethical behavior and extensive personal rapport such as respect, trust, honesty, dignity, enthusiasm, responsibility and influencing positive behaviors, the transformational leader is able to instill critical life virtues into followers.

Inspirational motivation. Inspirational motivation takes place when leaders share a vision and goal with the organization and followers (Pounder, 2003). Transformational leaders identify and set clear visions and realistic goals as they relate to followers' goals and enthusiasm (Bass & Avolio, 1994). This can be done by communicating clearly with followers, and encouraging and supporting them.

Intellectual stimulation. Intellectual stimulation involves promoting followers' curiosity, problem-solving, and novel ways of thinking by stimulating followers' intelligence. According to Daft (2014), "people admire leaders who awaken their curiosity, challenge them to think and learn, and encourage openness to new, inspiring ideas and alternatives" (p. 142). Transformational leaders recognize all types of issues and problems and help followers to solve problems in creative and innovative ways.

Individualized consideration. Individualized consideration takes place when leaders seek and respond to followers' specific needs and capabilities (Bass & Avolio, 1994). By listening and caring about followers' concerns and issues, transformational leaders should be able to help and support properly (Avolio & Bass, 1998). Being effective communicators implies multiple important aspects, such as skill in building an intimate relationship, and listening and providing proper reinforcement.

3. Research Methodology

3.1. Purpose of the Study

The purpose of this study is to investigate the impact of transformational leadership on students' intrinsic motivation and expectancy value in physical education among middle school students. This research will examine the relationship between each transformational component as it relates to motivation and the expectancy value. These two variables were chosen because they represent students' success in physical education (Goodboy & Myers, 2008). Furthermore, this study also will investigate the four components of transformational leadership (idealized influence, inspirational motivation, intellectual stimulation, individual consideration) in relation to middle school students' motivation and expectancy value toward physical education.

3.2. Research Design and Procedures

The study was conducted as quantitative research by participating middle school students. Due to constraints of time and accessibility, a convenience sampling method was applied in this study (Lohr, 1999). Copies of the survey and consent form were prepared and distributed to the students during school visitations. To ensure the confidentiality of the survey, anonymous setting was created by allowing enough space between students, and the physical education teacher was out of the classroom during the survey. Answers from students reflected their individual experiences and opinions of their physical education class and were not be judged as right or wrong. After the physical education teacher left the classroom, the researchers distributed a survey package to the students. The survey package included a cover letter and the four questionnaires. The survey took approximately 15-20 minutes to complete. After the students complete their answers, they returned the survey package to the researcher

3.3. Population and Sample

The population for the study was in a large school district (District-5) in Albuquerque, New Mexico in the United States. The sampling frame for this study was 295 middle school students from two private middle schools located in Albuquerque.

4. Results

4.1. Description of Subjects

Two local private middle schools were selected in this study. A total of 295 students participated in this study. Of the surveys collected, 33 surveys with missing or duplicate surveys were excluded in this study, which resulting in yielding 262 usable surveys for the data analysis. Demographic description of the sample follows: Subjects consisted of 122 male (46.6%) and 140 female (53.4%). There were 76 sixth grade students (29%), 106 seventh grade students (40.5%), and 80 eighth grade students (30.5%). In regard to ethnicity, there were 75 Hispanic (28.6%), 155 Caucasian (59.2%), 12 African American (4.6%), 10 Asian (3.8%), and 10 other (3.8%).

Table 1 shows the demographic information.

Table 1. Descriptive Statistics for Demographic Variables

Variable	Category	Frequency	Percent (%)
Gender	Male	122	46.6
	Female	140	53.4
Grade	6 th	76	29.0
	7 th	106	40.5
	8 th	80	30.5
Ethnicity	Hispanic	75	28.6
	Caucasian	155	59.2
	African American	12	4.6
	Asian	10	3.8
	Other	10	3.8

In order to explore the effects of transformational leadership on middle school students’ intrinsic motivation and expectancy-value in physical education, and multiple regression analyses were employed.

According to Table 2, four transformational leadership behaviors, including idealized influence, had a statistically significant effect on middle school students’ expectancy-value. Specifically, the results of regression analysis showed: individualized consideration ($\beta = .36, p < .001$), inspirational motivation ($\beta = .35, p < .001$), intellectual stimulation ($\beta = .41, p < .001$), and individual consideration ($\beta = .32, p < .001$) had significant positive effects on expectancy-value.

Table 2. The Regression Analysis for Transformational Leadership on Expectancy-Value

Dependent Variable	Predictor	β	<i>T</i>	<i>p</i>
Expectancy-Value	II	.36	6.27	.000
	IM	.35	6.98	.000
	IS	.41	7.22	.000
	IC	.32	5.55	.000

Note. II=Idealized Influence, IM=Inspirational Motivation, IS=Intellectual Stimulation, IC=Individual Consideration

In addition, multiple regression analysis was employed, the results of this analysis provided that intellectual stimulation accounted for 19% of the variance in middle school students’ expectancy-value levels ($R^2 = .19, F(2, 257) = 14.77, p < .01$) (see Table 3).

As seen Table 4, four transformational leadership behaviors, including idealized influence, had statistically significant effect on middle school students’ intrinsic motivation. The results of multiple regression indicated that individualized consideration ($\beta = .40, p < .001$), inspirational motivation ($\beta = .39, p < .001$), intellectual stimulation ($\beta = .44, p < .001$), and individual consideration ($\beta = .39, p < .001$) had significant positive effects on expectancy-value.

Table 3. Multiple Regression Analysis for Middle School Students’ Expectancy-Value According to Teachers’ Transformational Leadership

Dependent Variable	Predictor	SE	β	<i>t</i>	<i>p</i>	VIF
Expectancy-Value	(Constant)	.23		10.87	0.00	
	II	.08	.14	6.27	.16	3.08
	IM	.08	.08	6.98	.41	3.14
	IS	.06	.29	7.22	.01*	1.91
	IC	-.09	.09	5.55	.76	3.16

D-W=1.886, $R^2=0.19, F=14.77, *p < .01$

Note. II=Idealized Influence, IM=Inspirational Motivation, IS=Intellectual Stimulation, IC=Individual Consideration

Table 4. The Multiple Regression Analysis for Transformational Leadership on Intrinsic Motivation

Dependent Variable	Predictor	B	t	p
Intrinsic Motivation	II	.40	7.12	.000
	IM	.39	6.90	.000
	IS	.44	7.91	.000
	IC	.39	6.81	.000

Note. II=Idealized Influence, IM=Inspirational Motivation, IS=Intellectual Stimulation, IC=Individual Consideration

Furthermore, multiple regression analysis showed that intellectual stimulation accounted for 29% of the variance in middle school students' expectancy-value levels ($R^2 = .27$, $F(4, 257) = 24.06$, $p < .01$) (see Table 5).

Table 5. Multiple Regression Analysis for Middle School Students' Intrinsic Motivation According to Teachers' Transformational Leadership

Dependent Variable	Predictor	SE	β	T	P
Intrinsic Motivation	(Constant)	.32		8.51	0.00
	II	.13	.15	6.27	.19
	IM	.08	.10	6.98	.39
	IS	.28	.29	7.22	.01*
	IC	.05	.07	5.55	.59

D-W=1.814, $R^2=0.27$, $F=24.06$, $*p < .01$

Note. II=Idealized Influence, IM=Inspirational Motivation, IS=Intellectual Stimulation, IC=Individual Consideration

5. Discussion

This study attempted to examine the effects of physical education teachers' transformational leadership on middle school students' expectancy-value and intrinsic motivation. The results indicated that four components in transformational leadership positively influenced middle students' expectancy-value and intrinsic motivation. This finding is consistent with the past study that there transformational leadership had a positive impact on students' perceptions regardless of age, gender, and skill level in physical education (Yang, 2007). Particularly, it was revealed that out of four transformational components, intellectual stimulation was one of the powerful common components that affects middle school students' expectancy-value and intrinsic motivation.

In fact, the result of this study is somewhat different from a previous study. According to Jung, Pyo, and Kim (2008), idealized influence and individual consideration were shown to be strong factors that enhance middle school students' motivation. However, this study posited that intellectual stimulation was one of the most important factors. The result of the current study demonstrates the importance of providing interesting, age and developmentally appropriate class activities. Based on the results of this study, it is important to meet both genders' interest and physical skill levels as female students' physical competence and intrinsic motivation showed fairly lower than male students. In fact, according to Fernandez-Balboa (1993), physical education remains a male-dominated terrain where gender biases are reproduced and typically unchallenged. For example, curriculum and equipment is mostly provided to accommodate male students. In addition, oftentimes, the physical education class environment is too competitive for girls, which prevents them from participating in activities. Thus, it is necessary for middle school physical teachers to understand various physical activities that can embrace both genders and promote their interest and participation.

By seeking and providing new perspectives of positive teaching methods and strategies, middle school physical education teachers can maximize their teaching and boost students' learning and motivation. Furthermore, the curriculum is one of the major factors that influence students' learning in physical education. In this regard, providing appropriate curricula has strong impact on middle school students' learning and participation. In particular, since middle school students' skill levels are highly associated with their motivation, curricula should incorporate all skill levels by providing age and developmentally appropriate framework. Effective curricula entail comprehensive, inclusive, progressive activities and guide developmentally appropriate physical education. Additionally, since there is a variety of ability and interest among middle school students, it is absolutely essential to provide varied activities. These activities are derived from areas such as team and individual activities, gymnastics, rhythm and dance, outdoor challenge and pursuits, aquatics, and cooperative activities (Metzler, 2000).

6. Conclusion

The main role of physical education teachers is to educate students about various physical movements and physical activities. Beyond good teaching, providing effective leadership has positive impacts on student outcomes (Day et al., 2010). The results of the study support the importance of transformational leadership that affects middle school students' intrinsic motivation and expectancy-value in physical education. Thus, it is recommended that physical education teachers be able to understand and display appropriate leadership, in particular transformational leadership. The future of physical education classes may depend upon teachers' effective leadership. Physical education teachers should continuously strive toward effective leadership.

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Using Feminist Theory as a Lens in Educational Research

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Abstract

This article is a blueprint for using feminist theory as a lens in educational research. Feminist theory explores how systems of power and oppression interact. The theory highlights social issues overlooked or misidentified by society because they appear natural and reasonable to the dominant perspective. The feminist theory can be used to analyze women's social experiences with gender subordination, oppression, and gender inequality and to identify remedies to these gender-specific discrimination issues. The paper provides an in-depth literature review of the feminist theory while applying the theory to a contemporary research topic. The article explores the origin of feminism, how the feminist movements birthed the feminist theory, and how the feminist theory can be considered feminism extending into philosophical or theoretical fields. The paper further explores how the gender constructs of the feminist theory (gender inequality, gender oppression, gender roles, gender objectification, and gender division of labor) can be used to explore the experiences of women leaders in the contemporary organizational setting.

Keywords: Educational research, Feminism, Feminist theory, Theoretical framework

1. Introduction

Feminism, over the years, has been used to describe a movement that may be cultural, economic, or political and advocates for women's equal rights and protection (Harrison & Boyd, 2018; Jones & Budig, 2007; Khan, 2014). However, feminism extends to include sociological theories that focus on gender differences in addition to the advocacy for gender equality and protection of women's rights and interests (Khan, 2014; Lorber, 2005). Prominent feminists such as Rebecca Walker and Maggie Humm argued that the evolution of feminism can be divided into three waves or movements (Harrison & Boyd, 2018; Jones & Budig, 2007; Lorber, 2005). These waves throughout history have made significant strides toward achieving gender equality, protection, and justice for women in society (Gordon, 2019; Lorber, 2005; Lumen, n.d.). From these movements emerged the feminist theory, which has manifested in multiple disciplines including sociology, geography, history, and literary criticism.

Feminist theory explores how systems of power and oppression interact (Crossman, 2018; Khan, 2014). The theory highlights social trends, problems, and issues that appear natural and reasonable and therefore are overlooked or misidentified by a society historically based on the dominant male perspective (Crossman, 2018; Tong, 1998). Thus, the theory analyzes women's social experiences with gender subordination, oppression, and gender inequality and identifies remedies for some gender-specific discrimination issues.

This article provides a blueprint for using feminist theory as a lens in educational research. The paper presents an in-depth literature review of feminist theory and uses the theory as a lens to explore a contemporary educational research topic. This paper begins with a discussion of feminism, the background, proponents, and core tenets of feminist theory. Next, the paper reviews five peer-reviewed journal articles that demonstrate how scholars in the literature have used feminist theory. Additionally, the paper addresses the critiques of feminist theory by some scholars. The paper further explores the aspects of the feminist theory that have been applied to the proposed research study and provides the rationale for using the theory in this contemporary setting.

2. Implications for Academic Scholarship and Research

This paper can guide researchers using feminist theory as a theoretical framework or foundation for educational research. Grant and Osanloo (2014) advocated defining a clear path and structure for investigating a research problem. However, understanding and integrating the theoretical framework into research can be laborious, especially for novice researchers. This paper assists with examining the relationships between theoretical constructs. Eisenhart (1991) explained a theoretical framework as “a structure that guides research by relying on a formal theory” (p. 205). A theoretical framework creates a clear vision for the successful execution of research. Theory-driven research requires carefully aligning the topic, problem, purpose, research questions, literature review, strategies for data collection, and data analysis techniques with the selected theory. This paper outlines the steps for implementing feminist theory as a theoretical framework in academic research.

In academic scholarship and research, theoretical frameworks are usually necessary. Lester (2005) discussed that articles for journal submissions are sometimes rejected because they do not include a theory or are atheoretical. Therefore, identifying and understanding the steps for integrating a theoretical framework is a recipe for sound research.

3. Literature Review

3.1. Feminism

Feminism explains women speaking, acting, and writing on issues related to women’s rights and protection, women identifying social injustice within the status quo, and women exhibiting their unique perspectives on issues related to their social experience (Khan, 2014; Singh, 1997; Tandon, 2008). Singh (1997) asserted that feminism is derived from the Latin word *femina*, which means woman. *Femina*, in other words, means possessing feminine qualities (Singh, 1997). Singh (1997) defined feminism as “a state of being feminine or womanly ... a position favorable to the rights of women” (p. 21). The term feminism and the history of the feminist movement emerged in the late 19th century (Tandon, 2008). Some feminists, however, argued that feminism and the feminist movements began as a systematic ideology and self-conscious in the late 18th century (Singh, 1997; Tandon, 2008). Feminism first appeared in France in the 1880s, then in Great Britain in the 1890s, and eventually in the United States in the early 1900s (Singh, 1997; Tandon, 2008).

In the United States, the term feminist first existed in public parlance in the 1940s (Jones & Budig, 2007; Lorber, 2005). An example of the term’s use was by Katharine Hepburn, a progressively minded political journalist, in the 1942 motion picture titled *Woman of the Year* (Jones & Budig, 2007; Khan, 2014; Lorber, 2005). However, the term feminist did not gain wide recognition and usage until the 1970s (Jones & Budig, 2007). Feminists, such as Rebecca Walker and Maggie Humm, have argued that the evolution of feminism can be divided into three waves (Khan, 2014; Lorber, 2005; Tong, 1998). According to these feminists, these waves throughout history made significant strides toward achieving gender equality, protection, and justice for women in society (Gordon, 2019; Lorber, 2005; Lumen, n.d.).

3.1.1. First-Wave Feminism

The term “first wave of feminism” was coined in retrospect after a newer feminist movement began in the early 1960s that focused on fighting cultural and social inequalities as it did on political inequalities (Harrison & Boyd, 2018; Jones & Budig, 2007; Tong, 1998). The first feminist wave was in the 19th and early 20th centuries (Gordon, 2019; Lorber, 2005). This period saw many feminist activities in both the United States and the United Kingdom (Jones & Budig, 2007; Lorber, 2005). The first wave started initially to promote the equal property and contract rights in favor of women and oppose the treatment of married women as personal possessions of their husbands (Jones & Budig, 2007; Lorber, 2005). However, by the late 19th century, the focus had shifted to gaining political power and fighting for women’s right to vote (Gordon, 2019; Tong, 1998). The right of

women's suffrage campaign began with the Seneca Falls Convention in 1848, during which 300 people, both men and women, assembled in Seneca Falls, New York, to rally (Khan, 2014; Lumen, n.d.).

One of the leading activists of the time, Elizabeth Cady Stanton, drafted the Seneca Falls Declaration, which outlined the feminist movement (Lumen, n.d.; Tong, 1998). Other movement leaders included Lucy Stone, Lucretia Mott, and Susan B. Anthony (Jones & Budig, 2007; Lorber, 2005). The focus of activism was achieved; the Representation of the People Act was passed in 1918 to grant women 30 years and above and owned houses the right to vote (Jones & Budig, 2007; Lorber, 2005). Later in 1928, the Representation of the People Act was extended to include all women over 21 years (Gordon, 2019; Tong, 1998). The first wave of feminism in America was considered to have officially ended with the passage of the 19th Amendment to the U.S. Constitution in 1919 (Gordon, 2019; Lorber, 2005). The Amendment granted women in all states the right to vote (Lorber, 2005; Tong, 1998).

The first wave was focused primarily on campaigning for the right of women's suffrage. However, feminist activists, including Margaret Sanger and Voltairine de Cleyre, continued to advocate actively for women's sexual, economic, and reproductive rights (Gordon, 2019; Tong, 1998). An iconic landmark during the first wave was the establishment of female nurses as aides to the military by Florence Nightingale in 1854 (Gordon, 2019; Lorber, 2005). The first wave of feminism was, however, not inclusive and focused mainly on rights for middle or upper-class White women (Gordon, 2019). Sojourner Truth was one of the very few African American women's rights activists of the time (Lumen, n.d.).

3.1.2. Second-Wave Feminism

The second feminist wave was in the 1960s and 1980s (Gordon, 2019). The second wave beginning in the early 1960s describes the actions and ideas of the women's liberation movement, which campaigned for women's social and legal rights (Harrison & Boyd, 2018; Jones & Budig, 2007). The second wave of feminism, in addition to the equal rights amendment, also focused on inclusion issues (Gordon, 2019; Jones & Budig, 2007).

Thus, the wave became more inclusive of other races and classes, like women of color and women of different economic classes (Lumen, n.d.). The second wave was born out of the Civil Rights Movement and focused on sexuality and reproductive rights issues (Jones & Budig, 2007; Tong, 1998). Second-wave feminism demonstrated the relationship between race, class, and gender oppression issues (Gordon, 2019). The second-wave feminists valued sisterhood and had "women's struggle is class struggle" as their proclamation (Gordon, 2019).

Additionally, the second wave of feminism established a difference between sex and gender (Khan, 2014; Lumen, n.d.). Second-wave feminists defined sex as biological and gender as a social construct that varies from culture to culture and changes over time (Jones & Budig, 2007; Khan, 2014; Lumen, n.d.). A prominent second-wave feminist was Dorothy Smith, whose work focused on developing a "woman's standpoint" (Chafetz, 1997, p. 100). Other wave feminists included Betty Friedman, Alice Walker, and Andrea Dworkin (Khan, 2014; Lumen, n.d.; Tong, 1998).

A second-wave feminist, Imelda Whelehan, argued that the second wave of feminism continued the first-wave campaigns, including the suffragettes in the United States and the United Kingdom (Jones & Budig, 2007; Lorber, 2005). Specific second-wave feminism campaigns continue to coexist within what is now known as third-wave feminism (Gordon, 2019; Tong, 1998). According to another feminist of the time, Estelle Freedman, first-wave feminism was focused on the right to vote, while second-wave feminism prioritized issues of equality and discrimination (Khan, 2014; Lorber, 2005).

Second-wave feminism became synonymous with the slogan "the personal is political," which was coined by the feminist Carol Hanisch (Lorber, 2005; Tong, 1998). The feminists of this wave perceived women's

political and cultural inequalities as indistinguishably linked (Gordon, 2019; Lorber, 2005). Thus, the leaders encouraged women to recognize the aspects of their lives that were deeply politicized and, as such, reflected sexist power structures (Gordon, 2019; Tong, 1998). In 1964, the phrase “Women’s Liberation” was used for the first time in the United States. However, the phrase did not appear in print until 1966 (Gordon, 2019; Lorber, 2005).

The African American feminist, Gloria Jean Watkins, is considered one of the vocal Women’s Liberation Movement critics (Jones & Budig, 2007; Lorber, 2005). The feminist, who is also known by the pseudonym “bell hooks,” argued that the second wave glossed over class and race and failed to address the issues causing division among women (Gordon, 2019; Jones & Budig, 2007; Tong, 1998). In her book *Feminist Theory From Margin to Center*, bell hooks (1984) emphasized the lack of minority voices in second-wave feminism.

3.1.3. Third-Wave Feminism

The third feminist wave extends from the 1990s to the present day (Gordon, 2019; Harrison & Boyd, 2018). The third wave began to respond to the seeming failures of the second wave and address some of the second-wave criticisms (Gordon, 2019; Jones & Budig, 2007). Thus, third-wave feminism, in addition to continuing the campaigns of the second wave, also responded to its apparent failures (Jones & Budig, 2007; Lumen, n.d.; Tong, 1998). For instance, the third wave sought to challenge the second wave’s essentialist perspective of femininity (Khan, 2014; Tong, 1998). According to the feminists of this period, femininity during the second wave was defined based on the experiences of upper-middle-class White women (Gordon, 2019; Jones & Budig, 2007; Tong, 1998).

The third-wave feminists argued that women do not need to give up their femininity to be treated equally by society (Jones & Budig, 2007; Khan, 2014; Lorber, 2005). The feminists believed that every woman should define her femininity for herself (Jones & Budig, 2007; Khan, 2014; Lumen, n.d.). Feminists of the third wave focused on diversity and change while exploring concepts such as globalization, poststructuralism, postcolonialism, and postmodernism (Khan, 2014; Lumen, n.d.; Tong, 1998). The feminists of the third wave tended to focus on micro-politics in addition to challenging the second wave’s perspective of what is right or wrong for women (Khan, 2014; Lorber, 2005; Tong, 1998). A prominent third-wave feminist is Patricia Hill Collins and her Afrocentric feminist standpoint epistemology (Chafetz, 1997; Khan, 2014; Tong, 1998). Other third-wave feminists include Audre Lourde, whose work focused on the importance of unity among people of different races, genders, sexual orientations, classes, and abilities (Khan, 2014; Lumen, n.d.). Another prominent figure is Rebecca Walker, who is acknowledged for using “third-wave feminism” for the first time (Jones & Budig, 2007; Khan, 2014; Lumen, n.d.).

3.2. Feminist Theory

Feminist theory is a key perspective within sociology that shifts its lens, assumptions, and topical focus toward the experience and viewpoint of women (Crossman, 2018; Gordon, 2019; Khan, 2014). As such, the theory highlights social trends, problems, and issues that appear natural and reasonable and therefore overlooked or misidentified by a society that is historically based on the dominant male perspective (Crossman, 2018; Tong, 1998). Feminist theorists have created more inclusive and creative social theories that oppose the assumption that ‘man’ should always be the social actor (Gordon, 2019). The theory also considers how systems of power and oppression interact (Crossman, 2018). Thus, the feminist theory focuses not only on gendered power and oppression but also on how gender relations intersect with racism, class system, and sexuality (Crossman, 2018; Gordon, 2019).

Feminist theory manifests in multiple disciplines including sociology, geography, history, and literary criticism (Jones & Budig, 2007; Khan, 2014). The theory has no single form or meaning due to the rich diversity and interpretation by this variety of disciplines (Chafetz, 1997; Crossman, 2018; Gordon, 2019). With

many interdisciplinary insights and no consensus on the definition of feminist theory, Chafetz (1997) explained the theory using the following four common characteristic criteria:

- gender comprises a central focus or subject matter of the theory,
- gender relations are viewed as a problem—feminist theory seeks to understand how gender is related to social inequities, strains, and contradictions,
- gender relations are not viewed as immutable, feminist theory can be used to challenge, counteract, or change a status quo that disadvantages or devalues women. (p. 98)

With these boundaries in mind, feminist theory is defined as a critique of mainstream sociology that explores “the relationship between gender and various social, cultural, economic, psychological, and political structures and processes” (Chafetz, 1997, pp. 97–98). Thus, feminist theory explores the inequality in gender relations as well as the constitution of gender (Chafetz, 1997; Khan, 2014; Lumen, n.d.).

3.2.1. Feminist Theory Constructs

Three primary constructs can be identified in feminist theory, namely, class, gender, and race (Chafetz, 1997; Tong, 1998). Class refers to oppression in the social structure based on social and economic inequality (Gordon, 2019; Jones & Budig, 2007). Race refers to the social grouping of individuals based on shared qualities that society defines as distinct or unique (Gordon, 2019; Tong, 1998). Gender refers to the social characteristics that define an individual as either feminine or masculine (Crossman, 2018; Jones & Budig, 2007; Tong, 1998).

Gender has several subconstructs, namely, gender inequality, gender oppression, gender roles, gender objectification, and gender division of labor (Chafetz, 1997; Jones & Budig, 2007; Lorber, 2005). Gender inequality explains how women’s experiences and location in social situations differ not only from that of men but also unequal (Crossman, 2018; Gordon, 2019; Tong, 1998). Gender oppression describes how women are oppressed, subordinated, and sometimes abused by men (Crossman, 2018; Gordon, 2019). Gender roles refer to the different roles that society assigns to men and women based on the values associated with womanhood and femininity, manhood and masculinity (Gordon, 2019; Tong, 1998). Gender objectification describes the treatment an individual receives based on their sexual attributes (Crossman, 2018; Tong, 1998). Gender division of labor refers to the manner in which work is divided between men and women based on their gender roles (Crossman, 2018; Gordon, 2019; Tong, 1998).

3.2.2. Feminist Theory Application in the Literature

Many contemporary scholars have argued for the significance of feminist theory in the social and political discourse of gender relations and the constitution of gender in mainstream society (Begum & Sarmin, 2016; McCormick & Bunting, 2002; Rosser, 1998; Sharma, 2019; The Symposium Team, 2000). Sharma (2019) conducted a study on applying feminist theory to medical education. According to the researcher, medical education needs to be reviewed in order to properly address gender-related issues like wage gaps, sexual harassment, and leadership inequalities. Sharma (2019) argued that feminist theory could help with these dynamics in both the classroom and the field. The researcher concluded that feminist theory possesses the potential to move medical professionals and educators from theory to practice while building bridges of solidarity between the medical profession and the community to whom they render service (Sharma, 2019).

A study by Begum and Sarmin (2016) used feminist theory to empower women by protecting their rights and interests. The researchers argued that by empowering women, several other people benefit including families, intimate partners, and the communities in which these women live (Begum & Sarmin, 2016). Empowering women means emphasizing their participation in all aspects of life, whether social, economic, political, cultural, psychological, or legal (Begum & Sarmin, 2016). The researchers examined ready-made

garment companies and how the garment industry impacted women's empowerment in Bangladesh (Begum & Sarmin, 2016). Data analysis indicated that the garment industry had a strong positive impact on the empowerment of women. The researchers identified that working in garment companies has elevated the social status of women (Begum & Sarmin, 2016).

Additionally, the women workers in the garment companies were not only capable of performing their duties, but their performance was at par with that of their male coworkers (Begum & Sarmin, 2016). Thus, the researchers concluded that there was a strong presence of feminism in the garment industry of Bangladesh (Begum & Sarmin, 2016). By participating in the social experiences and acting on their social interests, the female workers in the garment industry have achieved benefits in the form of affordable childcare, affordable healthcare, voting right, reduced sexual harassment, equal pay for equal work, education, and reduced domestic violence (Begum & Sarmin, 2016).

Another research by McCormick and Bunting (2002) applied feminist theory to the study of women and cardiovascular diseases. According to the researchers, the recovery of women from heart-related diseases and how they live with these diseases is different from that of men (McCormick & Bunting, 2002). McCormick and Bunting (2002) saw the need to deliberate on women in a way for their differences to emerge without hindrance. Thus, by using a feminist theoretical perspective, the researchers were able to avoid any confrontation with the inferiority of women to men (McCormick & Bunting, 2002). McCormick and Bunting (2002) concluded that cardiovascular research from a feminist perspective would advance the recognition and knowledge about women's health.

The Symposium Team (2000) conducted a study and applied feminist theory to changing organizational climate and culture. The team, made up of seven female researchers, argued from the standpoint that for years, feminist researchers had used diverse feminist perspectives to conduct research (The Symposium Team, 2000). However, not much has been achieved in terms of making contributions to the understanding and change of organizations (The Symposium Team, 2000). This empirical study had the research site in an organization where the researchers, while holding on to their stands on gender, encountered many challenges with the organization's climate and culture (The Symposium Team, 2000). This study served as a response to some of the critiques of feminist research by generating visions and strategies that will make organizational changes to incorporate gender consciousness a reality (The Symposium Team, 2000).

A study conducted by Rosser (1998) used feminist theory to examine women in science intervention programs and identified a gap between these programs and the theory. The researcher argued that the reason for the gap was the lack of scientists in women's studies programs (Rosser, 1998). The federal government and other foundations are funding the development of enhanced programs for women in science (Rosser, 1998). However, the scientists in charge of designing the intervention programs are purely science-oriented and thus possess sufficient knowledge about neither gender studies nor feminist theory (Rosser, 1998). Thus, limited programs end up serving the purpose of eliminating barriers women face and ending gender-based discrimination so that women can enjoy the science field on the same level as men (Rosser, 1998). Rosser (1998) concluded that for the success of the intervention programs, feminist theory should be applied to how women in science programs are designed and developed.

3.2.3. Feminist Theory Criticisms

Many scholars have criticized the insights of feminist perspectives (Lay & Daley, 2007; Pearson, 2007; Skelton & Francis, 2005; Szymanski, 2006). Skelton and Francis (2005) and Szymanski (2006) argued that oppression is not always gender-specific because it can occur in supervisory positions regardless of gender. Also, several women do not identify as feminists, although they advocate for feminist principles (Szymanski, 2006). The scholars cited an example of certain women of color who do not embrace feminist ideals as essential and

yet focus on addressing issues related to power and dominance struggles (Pearson, 2007; Skelton & Francis, 2005; Szymanski, 2006).

Some scholars, including Lay and Daley (2007), criticized the dearth of research that focuses on the refinement of feminist theory. According to the researchers, the theory is not applied to expanding theory development (Lay & Daley, 2007). Feminist theory primarily serves as a lens for other issues, such as advocacy and philosophical views, which overshadow the refinement and development of the theory (Lay & Daley, 2007).

4. Discussions and Conclusions

4.1. Feminist Theory Application to a Contemporary Research Topic

As indicated in the Literature Review section of this paper, feminist theory can serve as a theoretical lens to explore research studies related to several women's issues. The discussions below focus on how the gender constructs of the feminist theory (gender inequality, gender oppression, gender roles, gender objectification, and gender division of labor) can be used to explore the experiences of women leaders in the contemporary organizational setting.

4.1.1. Problem Statement

Women's experiences and location or position in social situations differ from those of men (Crossman, 2018; Wollstonecraft, 1997). Society assigns different roles to men and women based on the values associated with womanhood and femininity, manhood and masculinity (Gordon, 2019). These gender divisions of labor become naturalized and begin to appear reasonable because of the societal values and beliefs that are historically based on the dominant male perspective (Crossman, 2018). Thus, women have no choice but to live in a society that is governed by patriarchal standards (Ajayi-Hackworth, 2017; Crossman, 2018).

The experiences of women and their location in social situations are different and unequal to that of men (Crossman, 2018; Gordon, 2019). This reality of women comes with socially acceptable expectations of how women need to live and behave. Women from infancy are socialized differently and are told repetitively that they are inferior and therefore have no place in a 'man's world' (Ajayi-Hackworth, 2017; Crossman, 2018). Thus, to be accepted by society, women are expected to make modifications to their lives in order to meet these patriarchal ideals (Ajayi-Hackworth, 2017; Wollstonecraft, 1997).

Research has indicated that women's capacity for agency and moral reasoning is the same as men's (Crossman, 2018). However, patriarchy and its sexist division of labor continue to deny women the opportunity to practice and express agency and reasoning (Ajayi-Hackworth, 2017; Crossman, 2018). In addition to different and unequal social experiences from that of men, women are also oppressed, subordinated, and sometimes abused by men (Crossman, 2018; Gordon, 2019). Thus, social dynamics relegate women to the private domain of the household, dismissed from participating fully in social situations (Crossman, 2018; Wollstonecraft, 1997).

It is therefore considered an enormous achievement when women break through the mold of patriarchy and sexism and become leaders despite being told repetitively that they have no place in a 'man's world' (Ajayi-Hackworth, 2017; Wollstonecraft, 1997). Very few women have been able to break these traditional barriers to occupy prominent leadership positions in society (Ajayi-Hackworth, 2017; Crossman, 2018). Exploring the experiences of women who have been able to break these barriers is worth studying. These women leaders have a story to tell, and their social experiences will shed light and inform discourses and decisions on gender equality and justice. By exploring and acknowledging the lived experiences of these women, this study will provide answers to questions such as what it means to be a woman leader.

4.1.2. Application of the Feminist Theory

The gender constructs of the feminist theory (gender inequality, gender oppression, gender roles, gender

objectification, and gender division of labor) can be used to develop the study's research questions. A typical research question can be framed as "How do women leaders experience gender inequality?" or "What are women leaders' experiences with gender inequality?" depending on the chosen research methodology and approach.

4.1.3. Justification for Using Feminist Theory to Explore This Topic

The constructs of feminist theory can be used to explore the lived experiences of women in leadership positions. The feminist theory advocates that men and women should have equal rights and opportunities (Crossman, 2018; Gordon, 2019; Jones & Budig, 2007; Khan, 2014; Lorber, 2005). However, for ages, women have been oppressed in a dominant patriarchal culture (Ajayi-Hackworth, 2017; Gordon, 2019). Society's cultural beliefs naturalize gender divisions so much that they are no longer recognizable. Thus, the cultural beliefs perverse so much into social experiences that when men and women are objectively performing the same way in the workforce, the performance of women is still seen as lower compared to that of men (Ajayi-Hackworth, 2017; Crossman, 2018; Gordon, 2019; Jones & Budig, 2007; Khan, 2014; Lorber, 2005). There should, therefore, be advocacy for women's rights on the ground of the equality of the sexes (Ajayi-Hackworth, 2017; Crossman, 2018; Jones & Budig, 2007; Khan, 2014; Lorber, 2005).

5. Summary

The feminist movements gave birth to the feminist theory (Crossman, 2018; Gordon, 2019; Khan, 2014). Thus, feminist theory can be considered feminism extending into philosophical or theoretical fields (Crossman, 2018; Gordon, 2019; Khan, 2014). Feminist theory incorporates perspectives from a variety of disciplines such as sociology, anthropology, women's studies, economics, philosophy, art history, and literary criticism (Jones & Budig, 2007; Khan, 2014; Lorber, 2005). The feminist perspective, no matter the discipline, focuses on problematic issues of women including women's oppression in a patriarchal society, women's marginalization due to sexual politics, sexual colonialism, women's identity loss, women's freedom, and the suppression of women's voice or opinion (Gordon, 2019; Jones & Budig, 2007; Khan, 2014; Lorber, 2005).

The sociological perspective of feminist theory, for instance, views society in a manner that illuminates the social forces, problems, and relations that create and support injustice, inequality, and oppression, and thereby promotes the pursuit of equality and justice (Crossman, 2018; Gordon, 2019; Jones & Budig, 2007; Khan, 2014; Lorber, 2005). Although the theory is famous for its gender-related insights across several disciplines (Begum & Sarmin, 2016; McCormick & Bunting, 2002; Rosser, 1998; Sharma, 2019; The Symposium Team, 2000), some scholars have criticized the dearth of research focused on the refinement of feminist theory (Lay & Daley, 2007; Pearson, 2007). Feminist theory is an appropriate theoretical lens for exploring the experiences of women leaders because the theory advocates for equal rights and opportunities for both men and women.

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Lifetime Learning in Artisanal Making

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Abstract

The present research analyzes the productive work, acquisition of knowledge, beliefs, feelings, and social reproduction in the making of artisanal bread in the rural community of San Miguel Emenguaro, located in southeast Guanajuato, Mexico. For the process of information analysis, we took the approach of phenomenology through a qualitative methodology of family memory and trade in the form of a semi-structured interview with a woman who owns an artisanal bread production unit. The results show that over the years in this family business, values such as human education have held sway, so their work has not been reduced to the sole purpose of earning profits, but rather aspects such as the origin of the family, the recognition of people, the life history of those who collaborate in the making of bread, respect for nature, and humility in learning have been important.

Keywords: Family business, Nonformal education, Food, Local identity

1. Introduction

The southeast region of Guanajuato is adjacent to the state of Michoacán in the physiographic province of the Nonvolcanic Axis, within the sub-province called Sierras and Bajíos Michoacanos, forming part of the Sierra de los Agustinos (COPLADEM, 2004). It was first inhabited by hunters and fruit gatherers, who over time settled down more regularly in the sedentary life of Guanajuato with the development of the *Chupícuaro* culture (SEP, 1994), and was a border territory between civilizations that was fought over by the *Mexica* and Purépecha empires, during which the colony was the reason for the first royal assignments in favor of Spaniards and indigenous chiefs. In addition, this area was a provider of labor for the operation of the larger towns and for colonization (Gobierno del Estado de Guanajuato, Consejo de Desarrollo Regional V Sur, 1999).

This area's agricultural cultural background, soil resources, and water, as well as the discoveries of mining deposits in Zacatecas in 1546 and in Guanajuato between 1552 and 1556, plus the expansion of Spanish properties, caused the indigenous-Spanish territorial conflict that led to the founding of intermediate villages and towns between the area's center and the Abajeño valleys, as a defense strategy and a guarantee of labor supply (Morin, 1979). These natural and human conditions drove the cultivation of wheat, and the establishment of mills in the area made this region an important and privileged agricultural center, extending between the mines and the nuclei of the center of the country (Florescano, 1993).

Additionally, at the end of the 18th century, there were important educational centers for subjects from the rudimentary knowledge of reading and writing and basic arithmetic to studies of higher philosophy (Arreguín, 1993). The revolution for the Independence of Mexico was not a chance, fortuitous event, but it had to happen here because in the *Abajeño* lands and Guanajuato mountains, the social, economic, and cultural conditions necessitated such an event (Arreguín, 1993).

Industrial production and artisanal production in the region are distinguished by the production of sugar products, such as syrups, preserves, regional sweets; products from milk, such as cheese and yogurt; from meat, such as chorizos and ham; and from wheat, such as bread and from corn, such as tortillas.

They represent not only economic and productive activity of many families but also knowledge and forms of life that have been empirically reproduced over decades or centuries.

The word Eménguaro is of Purépecha origin and means “place of early corn”. The inhabitants of Eménguarocome from the town of Urireo, who came to fish in this region of the Lerma River, whose waters were rich in carps, catfish, and charales (small fish). At the suggestion of a Franciscan missionary, they began to build their first huts with stones, juniper branches, and grass roofs (COPLADEM, 2004).

The learning of bread making in San Miguel Emenguaro is due, on the one hand, to the arrival of families from the town of Urireo, particularly families of Purépecha origin and skilled in the production of corn tortillas and wheat bread, especially in the neighborhood known as Coporo, and on the other hand, for reasons of evangelization, on top of the background of the ancient culture of Chupicuaro, who were excellent potters, continued to knead clay, and learned to knead wheat flour (Becerra, Alejo, Veloz, 2018).The present research analyzes the family education of rural women with indigenous backgrounds in a contemporary context of the new rurality characterized by emigration, urbanization, and the incorporation of new forms of family and productive life, the acquisition of knowledge, beliefs, feelings, and social reproduction in the making of artisanal bread in the rural community of San Miguel Emenguaro.

2. The Family Education of Indigenous Women

In the past, in many indigenous societies in Mexico, family education gave substantial value to the education of women. For this reason, they were subordinated to the authority of men within a sexual division of labor, and they learned from their mothers or other teachers. Their education generally consisted of household chores, spinning and weaving techniques, the care of siblings, and the foundations of worship. Zumárraga was a great promoter of Spanish female education since her arrival in Mexico in 1520. To her, women’s education had two purposes. The first was practicing Christianity and sharing these religious values with their husbands. The other was to protect girls and rescue them from imprisonment through doctrine. One of the main challenges was having adequate and competent teachers, since not being professed nuns gave them reason to act more freely and ignore the warnings of the evangelizers. On the other hand, for indigenous girls, teaching was limited to religious instruction and waiting for honesty, as well as some manual work typically done by women. As in Spanish families, in indigenous families there was an unwillingness to deliver the daughters to the doctrinal houses, due to the lack of recollection of the teachers and the unwillingness of these houses (Kazuhiro, 1992).

Indigenous girls learned in their homes as a group with their mother, focused on the handling of objects; there was no separation from their context, they knew through their fingers soft textures such as dough and rough textures such as corn tortillas, and they cooked with beans, the cup of atole, the chile molcajete, etc. These girls, always asking about the teachings received from their mother in a back-and-forth communication, sitting playing on the floor by the stove, developed the need to find and confirm their role through imitation and imagination. This space was a true school of creativity, love, and intelligence, impossible to replace naturally and spontaneously with the instructions of the school or the church.

The indigenous woman over time became the depository and guide of the spread of knowledge. From her home she served, if she was a sister, her brothers; if she was a wife, her husband; if she was a daughter, her father; and because she was a woman, her elders. We can say that there was no notable difference in service in terms of fulfilling a role for Spanish women, but in the case of indigenous women, it had to be very laborious and submissive.

Geronimo de Mendieta (1572) mentions the behavior and role of women attached to the space of their home, for reasons of the teachings of their parents where—you will take good care of the thread, the fabric, and the work, and you will be my dear and beloved, and you will deserve to have what you need to eat and dress (p. 45, in López, 1985). The author notes that one had to be worthy of the insurance of her life and earn her place

by working and caring for her parents in that spatial restriction of her house:—do not leave it easily or walk through the market or plaza, or the bathrooms, or where others wash themselves, or the roads (1572, p. 46, in López, 1985).

Thus, enrolling in school was not easy during this time. A decisive moment in the lives of people is when they leave home to start learning some craft or to go off to school. One author wonders, At what age did this separation occur? What were its consequences and how did school learning influence individual learning? (Gonzalo, 1992, p. 360).

The meeting of these worlds was very complicated, not mostly because of the neglect of the teachers or the limitations of the doctrinal houses but rather because of material and economic interests, since the parents clearly foresaw the dangerous effect that such an education would have on their own daughters. This could destroy all foundations of their economic life (Kazuhiro, 1992, p. 464).

It is important to note that this foresight is observed with decreasing frequency in some indigenous families in the region, as in the community of San Miguel Emenguaro and the community of Urireo, where young women who do not wish to continue the family tradition in the making of bread and corn tortillas work for companies or go to college with the hopeful resignation of their parents. This change in their activities is also influenced by the emigration of men to the United States, but these men are not exempt from the responsibility of serving and caring financially for their families.

Wheat came to New Spain with the conquistadors, and its sowing began when the young black and corpulent man took three wheat seeds from a sack of rice, sowed them in a plot in Tacubaya, and from one of them grew 47 ears of wheat, leaving the conquistador satisfied when he tasted the bread (Savage 2002, p. 1). Later, according to the Cámara Nacional de la Industria Panificadora y Similares (National Chamber of the Baking Industries and Similar), the production and transformation of creole wheat into bread beginning Spanish families in 1524. At first, the ovens and kneaders were familial, but later, they became companies that produced for consumption by the general population. Apart from selling in bakeries and pulperías (an early form of the corner store), indigenous women oversaw selling bread in squares and markets (CANAIMPA. S/f).

The origin of bread making in Mexico is a melting pot of mixed feelings marked by indigenous pain before the ruthless Spanish power; it is a contradiction between the exquisiteness of its flavor and the bitterness of its humiliation:—It seems ironic that something so soft and sweet would contribute to suffering then, and even now, but it did; the indigenous people worked as slaves in the bakeries (Savage, 2002, p. 1).

There were real slaves: Many workers in the bakeries were not free under the law, and the merchants took advantage of it. It was common for the kneaders to include inmates who served a sentence for crimes that sometimes were not even real, but they represented free labor (Savage, 2002). It is difficult to imagine the environment inside the bakeries. Many times, they would be true prisons without any guarantees. The owners of the bakeries, mostly Spanish, also used to tie them with shackles to stop them from leaving their workplace, and they generally had shifts of 12 or 14 hours of continuous work (Savage, 2002).

We can say that the foundations of the bakeries in New Spain bore the mark of Spanish domination in every corner, in every action, in heaven and on the earth;—as in the mills and in the lands where wheat was sown, which in the Colonization of the Americas were appropriated by the Spanish (Savage, 2002). The learning of bread making by the indigenous people took time. It was only consumed by Spaniards; later creoles and mestizos acceded to its delight (Savage, 2002). It started from the homes where the Spanish women made it and the indigenous women were slaves. Another source of learning was in the convents where its making was taught. Men learned from the businesses where they worked or served their punishment, but it was not the same bread even to this day.

Just as in the indigenous communities, beautiful pieces were made from different clays and adorned with paintings, and just as tamales were made in different colors and flavors, so it was with the incorporation of bread

in their lives.—It was not strange for the Indians to be able to replicate and improve with their creativity and experience the artistic making of the wheat doughs (Barros and Buenrostro, 2007, p. 39). However, not all social classes ate the same quality of bread, says Savage. For example, the flowered bread was what the rich ate, because it was more expensive and went through various refining processes, while the people ate a much more economical bread that was of lower quality, known as pambazol (Savage, 2002, p. 2).

The art of breadmaking spread through the indigenous people thanks to the exchange of knowledge between groups and communities within economic and cultural activities. For example, breadmaking has been taught in San Miguel Emenguaro and its neighborhoods, including San Antonio, Las Canoas, La Palma, and La Virgen, since its very founding, when the indigenous people of a very populated community who were of Purépecha origin, called Uireo, and who lived 5 kilometers north of the Lerma River went to that river to fish, where they instructed the locals in the working of wheat and chickpea bread (COPLADEM, 2004). The vocation in the cultivation of wheat and its milling originated in the city of Salvatierra. The current chronicler of the city of Salvatierra Miguel Alejo explains that the coat of arms of the city shows—three bundles or bunches of wheat that represent the three wheat mills (for bread) that existed in the city: the mill of El Mayorazgo La Marquise, the mill of La Esperanza, and the mill of La Ciudad (Alejo, 2010, p.1).

The process of culinary commingling was already underway, partly because the family education in indigenous households was a form of informal education creating the most genuine means for the acquisition, generation, and reproduction of the culture of a human group. This type of education, according to Coombs and Ahmed (1974), consists of a process that lasts a lifetime and in which people acquire and accumulate knowledge, skills, attitudes, and ways of discernment through daily experiences and their relationship with their environment (In Trilla, 1996). In this context, the learning of breadmaking in indigenous families was without didactic sequences, organized from the family culture itself and with high human quality; it was done in a rustic way that imprinted the diverse and rich indigenous identity onto the learner, as also occurred in the learning of their mother tongue along with Spanish.

In the kitchen, over time, the making and eating of bread came to be incorporated in a natural way. Then the bakery workshops were created, and they did not remain stuck in the past. Some evolved. For example, centuries later, in 1880, there were 78 bakeries and pastry shops in Mexico City and an endless number of indigenous people who continued making their products in calabacero ovens, in the church, and in markets (CANAIMPA s/f).

However, in the late nineteenth century, there were complaints about the practices of the bakeries in Mexico City. According to the newspaper *El Popular* (July 4, 1897), "the Spaniards were accused of leading the 'poor Mexican bakers' to misery with ruinous competition" (Díaz, 2008, p.75). Additionally, in the newspaper *El Hijo del Ahuizote* (October 23, 1898), it was said that "the Spanish have monopolized bakeries (all), flour mills (all), and cake shops (all). They NEVER use Mexican names in their negotiations, factories, or farms. They suppress the indigenous name and invariably give it the name of a saint or that of a bullfighter or that of a pelotari (Díaz, 2008, p.75).

Particularly in the south of the state of Guanajuato, at the beginning of the 20th century, there were shops and small factories serving a very specific market. Many years ago, in the municipalities of the southern region, there were soap, rebozo, cigar, brandy, and candle factories, as well as pottery stores, pulquerías, tanneries, "noodles", saddleries, silversmiths, and hat shops (González, 2000). Today, they have nearly or completely disappeared, and usually they were transformed. For example, the pawnshops became banks; the pantries, grocery stores; the apothecaries, pharmacies; the pulquerías, breweries; the butchers, delis, etc. Food products that were once important in the family diet and are now almost extinct, such as lump sugar, lard, grain salt, piloncillo (brown sugar), pinole, chinguere (cane brandy), molasses, etc. Now there are deep-rooted products

such as bread in Acámbaro, peron, apple and guava sweets in Salvatierra, chorizo in Moroleón and Uriangato, and barbeque and pulque in Coroneo.

3. Food Crafts and the Role of Indigenous Women

To define the concept of handicrafts, it is necessary to apply a context of rural origin with specific ways of life, in which historical processes are involved in conflict that places indigenous peoples in conditions of inequality and subordination. In this sense, and under the view of the study of indigenous peoples, crafts are a producer and consumer activity that, more than a commodity located in the dynamics of the marketplace, transports different contents with an identity spirit of the group and the society to which it belongs, playing an important role in the daily life of artisans (Cardini, 2006).

The handicraft of an object is not separate from the artisan or from man as a user, since this object is shown as the creation by the mind of man as artisan (*Homo faber*). When the object is recognized by its function, man is represented in it as a user, and when it is identified in abstraction from its function and use, then he is dealing with objects of consumption, and thus he speaks to us of human consumers and humans consumed by objects (García and García 2015, p. 24).

Craft can be seen as a material product generated by man; in turn, man can be shown as an object of the same craft. Then, craftsmanship stops being a product and becomes a task of intelligence because it seeks to create. García and García speak from a perspective of cultural activity as a biological profession, mentioning that it is an artisanal process of raising humans that involves, as in many other species, guardianship and care; however, to carry them out, we have a system of special skills, which predispose us to these communicative actions and humanitarian cooperation (García and García, 2015, p. 15).

The conception of culture from a craft perspective is cruel because it is understood as an opposition to civilization, making its history invisible, excluding the symbolic production of economically and socially disadvantaged peoples who were subjected to capitalist models of exploitation. In the case of culture in artisanal production,—we must analyze the partial disintegration of indigenous cultures, their reworking when combined with modern and urban forms as a result of the unfavorable position of crafts within the capitalist technological expansion (García, 1984, p.10).

The Western view of handicrafts cannot be taken as the only or universal dimension of handicrafts, nor is it applicable in all times and places. However, the hegemonic character of this Europeanizing culture in our country must be noted by considering it far from the true crafts, as it is the cause of multiple problems that "range from the omission and contempt of the activity in the political projection, to the undervaluation of artisanal creation, generally seen as an accessory production without social impact" (Benítez, 2017, p.8). This view addresses permanent crafts over time thanks to their lack of beauty and radically negative work to achieve beauty because of its usefulness and its instinctive limitation, according to Hegel, as "bees build their cells" (Hegel, 1993, p. 249).

Craft, according to the Convention on the Protection and Promotion of the Diversity of Cultural Expressions held in Paris (2005), is considered a set of cultural goods and services that are both economic and cultural in nature because they are bearers of identities, values and meanings, and therefore should not be treated as if they only had a commercial value (UNESCO, 2005, p.1).

In this situation, a craft is not only a material object but also a cultural good, which means it is an input and a cultural process in action. That is, its concept is not a finished and invariable substance but a form beyond that which strictly individually and personally expresses the duration of that action.

Therefore, the conceptualization of craftsmanship from the perspective of indigenous peoples is only partially understood from the perspective of the Industrial Revolution at the end of the 18th century in England, which had a strong impact on agriculture and over time led to the merging of small workshops and their

integration into other, larger ones, causing a concentration of industries characterized by the specialization of labor and the domination of the science industry. On the other hand, artisans are aging, and generational gaps arise that condition this work due to such factors as the lack of participation of young family members, due either to disinterest or to emigration. Currently, in Mexico, approximately 80% of craftsmen are 40 to 80 years old, another 15% are between 25 and 40 years old, and only 5% are aged 5 to 20 (Cisneros, 2013).

Food crafts are the result of creative and cultural work, contributed mainly by women, who from the kitchen space not only create food but also defend their meanings from their material and mystical contributions. Indigenous women make the mixing of culinary cultures and practices common by learning, sharing, and reproducing their culinary skills and knowledge. This type of craft consists of the transformation of agricultural raw materials for direct human consumption, distributed in formal and informal establishments, regardless of technological level, of the size of the company, and its link with the market. In the baking process, firewood was replaced by gas and manual kneading by the mechanical mixer; in the artisanal production of tortillas, the press was replaced by manual making, criollo corn by hybrid corn, etc.

The relationship of crafts with agriculture is a thing of the past: Just as the current rurality is no longer explained from an opposition to and distancing from urban life, food crafts are not linked to agriculture in a complementary way. At present, it is not possible to speak of food crafts as a consequence of agriculture, since unfortunately these crafts have been lagging for a long time and are identified with the decadent and marginalized rural environment due to, among other things, what Moctezuma refers to as — the agricultural crises, the search for income through migration, the greater educational and labor supply among young descendants of artisan families, and the greater openness of people to other lifestyles and consumption patterns (Moctezuma, 2012, p. 136).

The development of the new rurality is formed by social, economic, and cultural patterns arising from globalization. These patterns are mainly characterized by the priority put on tertiary activities in the communities, migration from the countryside to nearby urban centers and to the United States, the proliferation of communication devices and virtual technologies, the impoverishment of primary activities, and the lack of government support. In this sense, processes of exclusion are accentuated in peasant organizations, particularly in those involving indigenous women, and — rural spaces cease to be discredited and excluded from public development strategies and have the opportunity to become laboratories‘ for the emergence of new patterns of inclusive growth (Gaudín, 2019, p. 50).

It has been up to women to make the main efforts to rescue and preserve these crafts. In addition, the harmonious relationship that crafts have with the environment is due mostly to the role of women in transiting nature with a familiarity that the man cannot match in terms of factors such as its elaboration and transformation, respect for nature, work diversification, and horizontal integration. Women have been forced to work very hard to make room for themselves, especially in the rural environment, where they have an extraordinary capacity for sacrifice but do not have the same opportunity to choose between the different options of cultural heritage since there is an understood inequality in the context of food crafts, not as a conflict of diversity but as a conflict of hierarchy. In this sense, the bread made in the center of the domestic unit is made by the woman. When she handles her work tools and uses techniques and materials that respect the environment, she does so as part of a family and over a long time; her work is not governed by market whims.

4. Methodology

The methodology applied here is qualitative. It is based around phenomenology, recovering family memories (customs and important stages in life) and the memory of the trade (learning processes, transmission of the trade, meaning, and satisfaction), through a semi-structured interview conducted with a rural woman who makes artisanal bread in the community of San Miguel Emenguaro in Guanajuato. Phenomenology provides a

view of things beyond sensitive perceptions, reaches knowledge of reality through the interpretation of the experiences lived by the subject in its context, and aims to obtain a broader knowledge of the meaning of our daily experiences to obtain insightful and stark descriptions of the way in which we experience the world, without classifying or summarizing it (Van Manem, 2003). In this sense, a methodology such as family memory refers to notions, that is, general ideas or elementary knowledge of a thing, event, or person, for example, customs, important stages in life, characters in a story, mutual relations, etc. Family memory is composed of notions, notions of people and notions of facts, singular and historical in that sense, but which also have all the characteristics of common thoughts of a whole group, and even more (Halbwachs, 2004, p.210).

The character in this study is Carmela (not her real name), a 43-year-old woman with indigenous roots who owns an artisanal bread business in the rural community of San Miguel Emenguaro. The family memory begins with a dialogue about her childhood and her ancestors. It then moves to the events that led to her dedication to her craft of breadmaking and concludes with the summary of her learning of the craft.

The memory of the trade is a derivation of family memory and refers to the processes of learning, transmission of the trade, meaning, and satisfaction achieved. Particularly important are the notions about the crucial and conjunctural events of learning and the production process. The artisanal activity is understood as a cultural incorporation of literacy (a fundamental human right) where there is empowerment through participation in a historical and group context. The artisan is considered a reflective whole (body subject), within a practice that constitutes the process as something significant, in addition to a context in which the ethical commitment to life is witnessed (García and García, 2015).

5. Results and Discussion

Generally, women in rural areas learn to prepare food in the family from an early age. In poor families, they know how to load firewood and feed the hens and pigs. A girl's perceptions together are willing to absorb completely the affection and skills of her mother cooking beans with eggs and preparing chili, onions, and cilantro sauce to eat with her siblings, her parents, and often also with her grandparents. This girl does not give importance to the profession of making food to sell or to consume; it is a game, and that means joy, curiosity, and love. For the social education of youths, "they [joy, curiosity, and love] are as objective as natural phenomena" and the "positions adopted within the game are not entirely freely acquired" but are predetermined to a certain degree "by the specific social group (López, 2012, p. 5).

Carmela's grandmother began to make chickpea bread in 1941 due to the economic needs of the family. They sold it only on Saturdays and Sundays. It was made in a stone oven that her husband built inside their house. This was the case for approximately 10 years, until the woman stopped doing it and left it to her daughter Ana. In 1951, Ana began to make it with the help of her daughters on Saturdays at home. In addition to making chickpea bread, they made milk bread for almost 50 years, until Ana became seriously ill and stopped making bread for a year. Then, one of her daughters decided, with the help of her sisters and nephews, to continue with the small bakery to pay for her mother's medications and her treatment, and they did this for 5 years until Ana passed away. The daughters continued the tradition, particularly Carmela, who attended to the breadmaking during the month of December due to the increase in sales to those arriving from the United States. Later, they made cream bread along with milk bread and chickpea bread.

Doña Carmela mentions talking about her ancestors and their role since childhood: Before, my great-grandmother told me that she ground the wheat in the metate and they began to make their buns on the skillet, they did it to eat them and then my grandmother was taught with my mother Gracia and my father Cruz. My grandmother did sell. Among those who were taught was my uncle José from CONASUPO. He began to sell for a while then my mother María told my mother to start selling bread to help my father out of need, because there were 11 of us children of the family. My mom sold it since we were little girls, and after she got

sick, I started selling it, and now I have been doing it for 17 years.

The trade in the production of handicrafts is born out of necessity, and from this originates imagination and creativity. In her story, the artisan speaks of the material object that is the production of wheat bread. Incorporating into her history her own beliefs, she emphasizes this need and the uncertainty of taking the risk of starting a business:

Well, it truly is not who taught it, or if they also started with the need and how they had the corn, the wheat, and everything. I think they started as well as I imagine that people started out of curiosity, to see what comes out.

The genealogical context and the composition of the family are mentioned. This artisan speaks of the problem that she faces of having to feed many mouths. She learns more because of the state of illness of her mother and the economic need; on the other hand, when they are little, they learn through the need for knowledge through play. However, in both cases, this activity consists of learning about the same thing, since in their statements on the object, they are different in form, dispersed in time, they constitute a set if they refer to one and the same object (Foucault, 1969, p.27). The interpretation of the making of the craft goes through all the statements that qualify it, explain it, and tell it, and its correlations are not restricted to an invariable object, but rather the interpretation is modified in time and space, through which different objects are continually transformed.

In the case of the learning of the craft by children, other correlated things were also learned as objects, such as help and care in a framework of obedience to adults. For example, in Europe, in the workshops of the Industrial Revolution, learning was not very different: — The child could observe the various processes and offer their help soon, first in the form of play and imitation, then almost as learning, in all classes of activities and social services || (Abbagnano and Visalberghi, 1992, p. 432). Indeed, as these authors point out, children learn many things in this way, such as the value of serving others, being ready to help and care, and enjoying obeying their parents. Carmela mentions:

Well, look, Uncle Manuel is already 100 years old, so I remember my great-grandfather because I was a little girl, I helped him cross the street and I even saw him as the Pope. He was a little old man with colored eyes, so pretty, and I helped him to cross the street when my mother told me: There comes your grandfather, go grab his hand, and then I would run to grab his hand or help him cross the street or whatever. He went with his cane, and I remember when I was a child, and then more than 140 years have passed.

In this fragment of the conversation where the artisan narrates so much, the apparent repetition of phrases about — crossing || or — passing the street || stands out, but it is not so; the artisan first stands outside the story as a spectator and as a producer and then includes herself, as actor and consumer, and she finally concludes by referring to the long time it has taken to move, to position herself in her role as an artisan, and to go through to her own history of learning, but not in a linear and immediate way. Her story is well imbued with the prevailing circumstance that is the mother's disease, which will go on to engender the need to dedicate herself to making bread:

Well, when my mom got sick, since she was the only one who knew how to do it, I told the girls, out of necessity because my mom needed it, the doctor observed her every day, and it was 50 pesos to the doctor for just coming by to say that she was fine because I wanted it that way. I told the doctor, It doesn't matter, come see me daily; — Ceci, I can come, I don't know, Monday and Friday; — No, I want you to come daily, if you know what I mean.

6. The Memory of the Trade

In the story of Carmela, men do not appear, either as a brother or as a father, unless she is there to serve them. The same is true of her elders. She experiences a duality of serving to learn and learning to serve by

caring for others. This will lead her to be the moral and material support of the home, in a loneliness very similar to abandonment by or separation from men:

I started when my mother was already sick, my mother did not speak again, she spent 5 years 8 months in bed, and she could not speak since she got sick, she did not speak anymore, so I alone, so it was what I helped her with, because I said to her, I weigh it and I put it and now how much water will I put in it and here, what is added, it was just asking and watching, and then I told them we'll see if it will sell.

The contents of learning are identified within popular culture and are embodied in collective representations and customs that are transmitted from one generation to another, as is the case for conceptions about death and life. In the artisanal production of food, very deep learning is characterized by monetary limitations and the decision to survive, all shared first with the sisters (girls); the figure of the husband does not appear in these decisions about Carmela's mother's illness or the entrepreneurship of the business:

It was needed, and yes, they sent me, but it was not enough, and I told the girls, Then I will start making bread to see if it comes out and see if they buy it. We will continue selling it, and if not, then we will stop, and today, well, there I still am. I did not start from scratch, I already had a little time that I had started with my mother, of How do I place it, I'll wet it for you, what else will I add? || and so on. Well, as I say, I already had some experience, and when I did it alone. What I did not know was how to cook it, only two, three times I helped her cook it.

The craft analyzed from the perspective of the social process of its production that ranges from the supply of raw materials through the processes of transformation, distribution, and consumption, is linked to different problems, such as the lack of young labor and changes in the roles of some family members, high competitiveness in the increasingly demanding and voracious market of the food industry, in addition to the depletion of natural resources, peasant migration, tourism, etc. All these problems impact the processes of product production and the relationships of artisans with their craft. In this sense, the artisan is responsible for the process of production and sale, as well as maintaining a family identity in her product. She relies on her confidence in her ability and seeks the flavor, color, texture, weight, and size of the object produced:

I do not change the flavor because people tell me they taste the bread, so long without tasting this bread and they do not tell me it tastes different, if it suddenly fails there are times that it has to do with the flour because there is a flour that is not the cheapest, but it is a brand of flour that does not help the bread to rise, and there are some that I already have well known and almost always buy from those two brands.

Food crafts are made with rustic equipment and utensils, mostly conditioned by the artisan's own family, although a few instruments are used for quantity and quality control, such as scales, thermometers, watches, etc. Rather, this craft is distinguished by the hand of the artisan, who gives her products a characteristic of originality. In this sense, they do not separate the technical process from the product of the cultural process of life and the use of natural technologies.

Responding quickly and briefly, Doña Carmela mentions that this process consists of — weighing and putting the ingredients that each one takes, then kneading, then rolling, and we tell them to flatten, start flattening the bread, with the rolling pin to put it on boards and in sheets, and then cook, clean, and sell || . However, after she pauses, she asks herself: Why do you clean up, you say? and as if she herself responded, she anticipates possible doubts on our part recognizing that her explanation is lacking:

Because since it has flour, imagine that the baldocita, they are like that of the partitions, the losetita, I put the firewood to burn on top of the baldocitas, and once it is ember, I put it in everything so that everything is hot. I put plenty of firewood to reach the top so that it catches the sky and the ground, that is, so it covers both and heats it evenly, and then with the jaras the embers are moved to the side, and I put the gord it as in the sheets and then the bread, and then when I feel that the oven is less hot, I put it directly on the baldocitas with a wooden shovel, it fits 6 or 7 loaves, depending on how the bread is, I put 6 or 7 loaves, and I put them in and take them

out. I put another 7 loaves, approximately 3 boards with bread fit in. My oven fits approximately 90 loaves, so I put the 90 loaves together and they are cooking, and with a hook I turn them around and take them out, and since those need a little flour under them, because if you put them in without flour they stick, and when it is time to grab them with the hook, they fall apart, that is, they have to have flour on the bottom of the boards so that they do not stick.

The terms — *losetitas* and — *baldositas* refer to pieces of clay inside the stone oven on which they place sheet trays holding raw bread for cooking. The term — *jaras* refers to branches of a bush for moving aside the embers when the required heat is reached. While the making is done, when there are new workers, the teaching is done and supervised by reproducing knowledge and skills.

When they make the bread, I teach them. In fact, I must be there with them, I tell them these balls are not well done, make them like this, the fact that you grab a ball of dough and want to make it a ball, it is not just grabbing it and making it. Instead, you must press it to make it look right because if not, when you do it underneath the ball, it remains all stuck together, and then you get like where the dough comes together, and so it has to be even, and so I designate to each one what they have to do. Doña Paty arrives to gather firewood to put in the oven. Chelo arrives and cleans the leaves for the *gorditas* and the bread.

When artisans talk about conserving their crafts, there is again an intention to establish a correlation between the objects of the statements of the artisan, where she resorts to the remembrance of the family and its subjects as actors in the statement itself. It is not a question of establishing a limitation restricted to the immediate and tangible nature of the craft or its organizational structure, where they must be addressed as a process and as products in which social relations intervene and resonate (García, 1982). Carmela explains the preservation of crafts from the ways in which her ancestors did it: The old women from before were very curious old women. They used jugs and they did not complicate themselves. They put another pot in the jugs, that is, they put the bread in the jugs. My mother Gracia made *gorditas* in the skillet. Subsequently, the artisan is placed in the reality of the present and explains through a common thread what is one of the most valued characteristics in food crafts, that is, the respect for sustainability and the environment. They travel in a coming and going at an incredible speed thanks to the imagination and narrative capacity.

We do not add any preservatives to bread. In fact, I do not know if the yeast is what preserves it or if it is butter. I do not know, but the bread lasts for a long time. If the bread comes out hot and you put it in bags, it will get mold. This bread that I sell, we let it cool, it must get slightly hard, it cools down completely, and then it can be put in the bag. And when we put it in the bag, it softens, and many people say they put it in the freezer. My niece Rosalba says—I send her up to 60 loaves—and she says, — Oh, aunt, I put everything in my icebox, and when she wants it, she just takes it out and heats it up, and it tastes the same.

The commercialization of food crafts in rural areas has a very limited scope, and its products are made only to satisfy the needs of individual or family self-consumption. Its distribution channels are precarious and indefinite, as well as very seasonal. For example, artisanal bread sells well in the rainy season and in the winter, but it also does so during the summer, so they keep a good part of their merchandise. Carmela comments:

When I have bread left, we soak it for the chickens and pigs if we get tired of eating bread. Right now, we have almost none left when it rains. I must make more bread, in times of rain, I sell a lot of bread, and they are already waiting for it to come out. Sometimes I am even seeing if I will have enough, and this batch is already out. I already know how much bread I must make according to the season so that I do not get stuck with any. This bread is sold to neighbors, people from right here, and people from outside. The people from outside buy it because it was recommended. It also went to the presidency, now there are policemen with this Chon. In the presidency, there was a girl working who was the daughter of a teacher who later ordered bread from me, and through recommendations, because one day she took a bread and then, — Bring me this bread, they recommend it. || When the children of Justo come, those from Querétaro say that their neighbors, friends, or relatives... —

Yes, you are going to Emenguaro, bring me bread, bring me bread. I have clients from Obrajuelo who go to the United States and come to buy bread.

They knew from people from here who recommended it to them. When it is December, I make bread almost all week because there are people who leave, then the day after New Year 's Day or since the 24th, there are people who, as soon as Christmas passes, start to leave, and there are people who ask me, — Are you going to make on Monday, are you going to make on Tuesday?

There are no government mechanisms of financial assistance, support, organization, or training for this type of artisan, nor, as Benítez says, are there — clear and precise policies, guidelines and definitions, nor comprehensive development programs that cover anthropological or ethnographic aspects to the most pragmatic areas of production, distribution, and marketing of artisanal products (Benítez, 2017, p.16). The artisans, in order to grow in their workshop or production unit, turn to their own friends and family for advice, but the lack of synchrony in family interests restricts such growth.

Well, if everything is good, you know that on one occasion a lady from Carmen told me, uh, Ceci, if you were to go sell this bread at Carmen, you would run out of bread because there are almost no people from La Palma, and when they go, they do sell very well. I know that, if there are opportunities to sell elsewhere, I know that in Obrajuelo, if I bring the bread, it gets sold, because from there I have many clients. That you think that one has, maybe for the time — If your uncle Rigo would dedicate himself to the business with me, if he would be a support for your projects because things were fine because between the two, but he has a business, I have another, and like, well, we have not come to an agreement, because if we both had the same vision, the business arrangement would have been set. If I had his support, the business could be done. If he were a support that he told me, — If you know that we are going to dedicate a day to go to sell, perhaps something that does sell could be extended, and well, he is the support, I am a housewife, he is the father of a family, if you understand what I mean, that is, one cannot do it alone and that is that.

7. Conclusions

The Spanish Colonization of the Americas did not end with the defeat of the indigenous armed forces, but rather such conquest was the beginning of other battles, such as religious, educational, technological, economic, public, and private ones, including in the world of food. These battles were successive encounters and disagreements that consolidated a whole monopolistic baggage of Spanish handicrafts, which marginalized and excluded the different ways of production of the indigenous peoples, as well as subjecting them as slaves in their production workshops. These battles led to various forms of cultural diffusion, which, according to Novelo (2004), made it so that the indigenous form of production did not disappear but rather took refuge in domestic units of the subjected peoples and as apprentice labor, which generated a unique wealth of creations with other techniques and other esthetic and symbolic patterns, all with the help of time, submission, and discrimination.

To reflect on the family education of indigenous women in Mexico is to talk about inequality, both educational and gendered. In the first aspect, family education lacks the titles on which formal education is based, and its power is mostly in the culture and economy of society. Second, being a woman in rural areas leads to great disadvantages due to the authoritarian role of men, the heavy work in the fields, and the artisanal production of their products. The contents of the learning are based on a set of knowledge embedded in a history of material and cultural objects embedded in a social system.

The trade of the artisan baker takes care of everything that is done in the bakery. She is the owner, makes the bread, takes care of the raw material, makes the payments, and sells the bread. Unlike the way in which male bakers learn as helpers at an early age and with time and experience acquire the status of master baker, in the case of the female artisan and in a rural environment, this craft is learned as a way of life, a culture that is passed down through the family, and is attached to her condition as a woman. For example, in the making of bread in

Mexico, there is a forced cultural syncretism, where the role of women, even against the tide, enriches, through their contributions and creativities, the production of bread as a food and as a culture that continues to be transformed today.

The relationship of education with crafts comes from the internal motives that the artisan seeks through his work. It is not only the instrumental part and material consumption, but it also aims to educate, that is, seeks to communicate to make people think. The craft has an important formative weight. This education coincides with the objective of learning while living and living while learning and is a substantive question of human subjectivity that aims for the reconstruction of culture, understood as the footprint par excellence of human endeavor and therefore distinct in its meaning to every society in the world. In this sense, an important goal to which a conception of craftsmanship-through-education should aspire should be the creation of culture through a reflection of man himself and his reality based on praxis, that is, to go creatively from thinking to action and from action to thinking.

Artisanal family businesses are threatened by different factors, such as socioeconomic and cultural influences from other places; emigration to the United States and the adoption of new forms of commercialization of food products by large markets; the lack of interest of young people in continuing with these activities; and high production costs, the lack of financial support and government training, etc.

Above all, what is at risk is a set of traditional knowledge in the making of these basic foods of the Mexican diet, as well as a whole system of identity values that are generated and propagated. This situation of economic devaluation has over time yielded the loss of knowledge, creativity, innovation, and the entrepreneurial nature not only of production processes but also of the sociocultural values of food.

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Education as a Strategy for Sustainability in the 21st Century: Teachers as Creators of Educational Change

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Abstract

We are part of a globalized world that is reflected in problems associated with the development of the various dimensions of human endeavor. Intellectuals and scientists, who explain the complexity of the 21st century, emphasized on the fact that human beings swing between a strong consumer tendency and the capture of immediacy. There is a need for an ideal interconnected to values and ongoing actions tending towards sustainability. This is with the aim of legitimizing the various dimensions of human development where education forms a determining part. Taking into account the mentioned context, this work reflects on the work of the teacher, a key piece in the formation of students and institutional view. The literature will be reviewed and practical strategies will be proposed and focused on strengthening human understanding in global complexity. This is because teachers are expected to become the strategists that avert the great challenges faced by education in the 21st century global society.

Keywords: Education, Sustainability, Teaching practice, Social transitions

1. Introduction

In a look that is positioned beyond the first group of socialization such as the family, this proposal reflects on teaching practice. However, this is because teachers are the ones who have the power to influence, on a daily basis and for hours, the knowledge and the reactions of the school community, against the daily context, and inside and outside the educational institution.

In the last decades, they have focused on bringing to the stage of dialogue and citizen debate issues such as exclusion, harassment, and discrimination. Issues that are installed under the name of “bullying”, reflect actions of rejection against the "other" and its consequence has a negative impact on classroom environment.

For this reason, it is worth analyzing, when reflecting on education, what are the concrete strategies which work to achieve a view towards sustainability - understood as welfare and quality of life - and are they sufficient to cover the long term? Or will it simply depend on the particular and individual look of each teacher in the classroom?

Since it is beyond general policies and regulations regarding the rights that each human being possesses, there are conditions that do not allow the coexistence with inclusion and respect that each human being needs to develop fully. Consequently, educational policy strategies require a concrete and real intervention practice that model the particularities and guide towards the solidarity and the well-being of students. This therefore is aimed at making learning to be integral and sustainable. However, while the time comes for institutions to establish the policies that are urgent today, teachers should be ahead of the times because the work day requires it.

Education is a strategy that goes beyond knowledge in school subjects. Therefore, it is fundamental to maintain the updated professional development of teachers in the different dimensions of human development.

Focusing on broadening the circle of action aimed at dialogue about one's own teaching practice and the context in which it develops, it is a debate that requires contexts that recover it for its update based on the benefit of our globalized educational community.

The greatest challenge is faced by teachers and professors as they are the ones who deal directly with students in the classrooms. These students have different mindset and perception based on how they grew up. Teachers are the ones who interact from Monday to Friday for several hours, with an average of 30 students which is equivalent to 30 families with different backgrounds and problems.

Even when it is difficult to break the siege of the first group of socialization which is the family, the teacher plays a significant role in bringing transformation in the society beginning from his or her own classroom.

2. Literature Review

2.1. What is Quality in Education?

In the 21st century, competencies refers to the need to cover all areas of human development in terms of social, family, personal and in the case of higher education, insertion into the labor world. Therefore, in addition to reading-writing and logic-mathematics, skills such as critical thinking, creativity, collaboration, computer thinking, and problem solving stand out.

Under the main premise of continuous and lifelong learning, the aim is to achieve equitable and inclusive education. This is both in terms of intercultural dialogue and gender perspective, as well as the relationship with minorities generated by race, religion, migration, and sexual preference.

When there is a perception that there are "others", embodied in different cultures and customs associated with unique processes of historical construction, at least two are the paths to take: understanding or rejection, both with their nuances. If a respectful interaction is achieved in the school environment, a fact as basic as respect for human rights will have regained its initial vision.

The daily work in the teaching of values, attitudes, and aptitudes towards sustainability will be reflected in the classroom and, above all, during recess time which is a symbol of freedom and interaction between peers with absence of constant adult supervision.

Preparing for the transitions that happen in these times is the ideal. However, in school practice, there will always be winding and paved paths to go through.

2.2. Every Day towards Sustainability

In 1987, the United Nations Organization presented the report of the World Commission on Environment and Development, entitled "Our Common Future". Consequently, this is now known as the "Brundtland Report" in honor of its president, Gro Harlem Brundtland. It gives the world the definition of sustainable development for which "humanity has the ability to make sure that it meets the needs of the present without compromising the ability of future generations to meet their own needs" (UN, 1987). The document highlights the close relationship between poverty and its consequences: "Poverty is not only an evil in itself, but sustainable development requires meeting the basic needs of all and extending to the opportunity to fulfill their aspirations for a better life. The world in which poverty is endemic will always be prone to ecological and other catastrophes" (UN, 1987: 16).

The initial look at the need for sustainability applicable to development was initially associated with ecological issues as well as the control of world hunger and poverty. This is in addition to economic growth between first world countries and the rest of the world.

Over the years, the concept has expanded its horizons. Currently and based on the Sustainable Development Objectives promoted by the UN from 2015, and in the face of Agenda 2030, sustainability must be a priority in everyday life and in different areas of social work, whether in health, education, labor market,

industrial world, institutional spaces, economy, and issues such as gender equality, reduction of inequalities, terrestrial ecosystems and underwater life, climate change, and drinking water for all.

Peace, justice, and well-being in planetary life are terms of an irrevocable negotiation towards the next years. Hence, they should at least be reflected in the statements signed by the so-called member countries.

Furthermore, there are 17 Sustainable Development Goals (SDGs). The SDG related to Education aims to “ensure inclusive and quality education for all and promote lifelong learning” (UN, 2015).

Inclusion and equality are the dominant concepts in policies that should guide the educational dimension. Minorities, including people with disabilities, indigenous peoples, refugees, and migrants as well as rural communities, are the cornerstone on which to base strategies for sustainability.

One of the goals by 2030 is to ensure that all learners acquire the knowledge and skills needed to promote sustainable development. Through education, students will be able to think about sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity, and appreciation of the contribution of culture towards sustainable development (UN, 2015).

According to this SDG, a key point is that the daily purpose in the classroom will consist of generating strategies that will turn students into representatives and promoters of actions tending towards sustainability, in a school and family environment. As a result, it is essential to look into the concrete meaning of a culture of peace, non-violence, appreciation of diversity and the culture of “No bullying inside and outside of the classroom” .

Therefore, what steps could be taken in the face of a situation in which, according to social scientists, immediate violence, insecurity, and difficulty in dialogue prevails?

2.3. 21st Century Societies

Edgar Morin, Zigmunt Bauman, Noam Chomsky and Boaventura De Sousa Santos, each from different contexts, agree that the impact of actions and policies has a direct or indirect impact on the global order.

Zigmunt Bauman, Polish sociologist and father of the paradigm of "Liquid Modernity", raises the need to learn to live in a world saturated with information. However, any delay is a stigma of inferiority, and success depends on achieving instant gratifications without any delay. He stated that, in liquid societies, the prospect of thinking about something that lasts a lifetime is disdained, since things and bonds are expected to last for a time and then be discarded. So, at the end, everything is scheduled, even obsolescence (2007).

As for the tendency of education, the objectives are placed in the achievement of products and not as an ongoing process of learning, for which "we must learn the even more difficult art of preparing the new generations to live in such a world" (Bauman, 2007: 41).

Chomsky (2001) points out that, even in the 21st century, the school, as an institution, exercises a control system that gives prevalence of obedience towards power structures. Hence, a reason for (un) education arises as it does not strengthen the critical and democratic reflection of students.

Boaventura De Sousa Santos (2015) enunciates, through the "ecology of knowledge", an educational proposal that is associated with action research, as a way of deepening the social changes. This researcher highlights that teachers are trapped in a labyrinth between scientific knowledge and the discourses of everyday life.

Consequently, the crossroads meet between transiting dialogues or remains indifferent or even elusive to listen to complexity through their various sounds proposed by the ecology of knowledge. This is regarded as "a set of practices that promote a new active coexistence of knowledge with the assumption that all of them, including scientific knowledge, can be enriched in this dialogue"(Santos, 2015, p 129).

The complexity of the current situation must be worked together with the components that make up the universal whole, regardless of the human development dimension to be addressed. Therefore, in the case of education in particular, knowledge must be integrated to strengthen the comprehensive training of students from

the earliest age.

This active intervention in the classroom, based on the fulfillment of the Sustainable Development Goals, is the one that will allow the cultural encounters, the dialogue of knowledge, and tenacity in the continuous search for knowledge. This is because as a butterfly effect, a little initial change in any part of the world will have an unimaginable and unpredictable impact on the planetary system.

3. Theoretical Perspectives

3.1. Education in Complex Societies

Edgar Morin highlights that the figure of the teacher is decisive for the consolidation of an ideal model of education since the teacher "must be the orchestra director who observes the flow of knowledge and solves students' doubts" (2014). Teachers are the holders of a social mission since they are educators of public opinion and future citizens. They need to be aware of the mission. Therefore, it is vital that they articulate their basic academic knowledge with other disciplines to dialogue with other fields of knowledge and, thus, be able to reflect with the students about the complexity of the current world, its past, and the future that they should build.

In this context, educators require extensive general cultural training and knowledge of the major issues surrounding our century in terms of religious and racial conflicts, uncertainty and possible projections in the world of politics and economics. Under this perspective, their strategy will be to reflect on human understanding since "the great problem of humanity is that we are all identical and different and we need to deal with those two ideas that are not compatible" (Morin, 2014).

In the school curriculum in particular, fragmented education through the disciplines, which are presented by subjects, leads to a reductionism contrary to the understanding of the complexity of reality. This therefore is articulated in all dimensions of human events. The strategy is to combine reason and rational control with emotion and passion.

Edgar Morin argues that there is a disarticulation between the fragmented knowledge of disciplines and the multidimensional and transnational realities of the Planetary Age whose essential problems are "never fragmented and global problems are each more essential" (2002, 13).

The complexity of our lives as a species requires continuous analysis and reflective processes that must be carried out by teachers in order to be able to transmit them into the school environment. This is an ideal space to explain the processes by which the problems of life, environment, violence, migration or poverty are shared globally since "Every person who takes on educational responsibilities must be ready to go to the forward posts of uncertainty in our times" (Morin, 1999: 3).

It is crucial that each human member in the school community has the ability to achieve an individual look that responds to rules in particular societies and as a member of a larger species: human beings. Teachers are the strategists to become a citizen of the Earth, with ethics and defender of democratic ideals and with a permanent self-examination (Morin, 2011: 262). This would help them to become aware of their own attitudes and aptitudes to understand others, respect and function positively as supportive members of a school community since "Ethics must take shape in people's minds through awareness that a human being is at one and the same time an individual, a member of a society, a member of a species (⋯) All truly human development must include joint development of individual autonomy, community participation, and awareness of belonging to the human species" (Morin, 1999:4).

Ethics and sustainability are concepts closely linked to the theory of complexity which is completed when the theory is applied in a concrete project in solidarity and visible benefit of a community or social group for which work is based on "action research" .

Another concept that is articulated in order to give priority to dialogue and human understanding is that of

moral culture. In the same definition, it was pointed out that it focuses on the integral analysis of the contexts and the consequent practical application of the decisions taken.

Therefore, in terms of education, moral culture should be emphasized as a process aimed at sustainability. Schools are currently too busy with standardized testing and in preparing students to meet the standards that they overlook, and also the moral culture that children need to strive in life.

According to Puig (2011), “Moral culture is what is done in the institution. It is the set of educational practices that forms the complex system of dispositions, actions, and activities of the educational institution. We will argue that moral culture is a global quality of complex institutions resulting from its system of educational practices and the world of values it creates”(p.6).

When moral culture does not hold up, external social problems filter into educational institutions and produce turmoil in teaching-learning strategies and processes. Moreover, it deepens the problem associated with the hidden curriculum of each teacher.

In traditional pedagogy, moral culture was based on discipline. At present, these set of practices that supports moral culture, produces a synthesis effect that is constructed on the citizen culture with affection, reflection, and action are the three major vectors used by teachers to operate the practices to produce transformations in apprentices. All of these practices are done through dialogues and by listening to each other.

Probably one of the best ways of acquiring virtues is by participating with peers and with the help of an adult in a practice that expresses values. When a class works for projects, what they do in common, the “experiences of reflection and the emotions that live are recording virtuous habits in the character of each participant student” (p.9).

One of the issues that many times schools and classroom teachers fail to acknowledge is bullying among children. Many teachers believe that bullying is a normal part of childhood and they do not do anything about it.

However, the notion children have is that it is acceptable to step on each other, and the targets of bullies learn a helpless attitude towards those in power. Consequently, it is important that schools acknowledge the effects of bullying and do something about it. At the same time, teachers have to deal with this issue as well as any other issues that empower a student to feel superior over others.

Self-esteem should be encouraged in the classroom every day, to let students know that school is a pleasant place, where they can find people that care for them and respect them for who they are. Children learn their prejudices from their families and take them to school. In school, their prejudices are reinforced by teachers, classmates, staff, and the society in general.

Therefore, it should be the school’s responsibility to teach students moral culture to break the cycle of intolerant behavior and injustice. Activities that call for multiculturalism in which students can learn from each other and value each other’s differences and similarities should be promoted every day.

By creating an equitable classroom, teachers would be teaching students to stand up for themselves whenever they face injustice and to join those who share the same beliefs to take action. Children would then grow up to be good human beings that care for the needs of others and would become the good citizens that every nation needs.

3.2. Strategies for Creating an Equitable Classroom

Teachers can use affective activities in the classroom. Affective activities will help students reduce anxiety and feel more comfortable in class interactions. According to Amato (2003), affective activities in the classroom “help students reach an understanding of those beliefs and behaviors that give meaning to their lives” (p. 295). Furthermore, these activities provide interactions in the target language and, at the same time, bring students closer together.

Those who feel less assertive, embarrassed, or intimidated in class can gain confidence with these activities

and feel free to participate and share with the whole class.

It is important that at the beginning of the course, students and teachers should get to know each other. It is scary to participate in a class with members that you know nothing about. One activity that can be implemented at the beginning of the course is “find someone who.” In this activity, students mingle around the room to find a person who meets the criteria specified in the handout and ask the person to sign his or her name. This helps break the ice and, at the same time, students get to know more about each other.

Another activity for the first class is learning each other’s names by having the second student repeat the first student’s name and have a third repeat the first and second student’s name and so on. Later, students can interview one another before introducing the new friend to the class. If this type of activities continues as the course progresses, students will feel more comfortable in sharing their values and cultures. Therefore, this will be seen as a learning experience for everybody as they will learn to respect and value each other’s differences and similarities. By carrying out these activities on a regular basis, it will allow dialogue on common themes that have a significant impact on the reality of the classroom as well as on the extracurricular space, whether at the family level or that are reflected in the media.

In addition, to foster multiculturalism, the “culture bag” or “me bag” can be implemented on a daily basis. Here, every class one student brings a paper bag decorated to represent what students like or consider important in their lives and cultures. Inside the bag, students place five objects that symbolize who they are, what they value, what they like, and what defines them as a person. This requires a lot of self-reflection and creativity in order to represent identity with small concrete objects that can be placed inside a bag. One student begins the class by showing and talking about each object. This activity fosters an attitude of pride in oneself and respect for others as they get to know each other, find shared similarities, and value the differences that make them unique.

It is the teacher’s job to create a comfortable and non-threatening learning environment where all students feel safe to share their views. Furthermore, the teacher has to ensure that everybody is represented in the classroom. The classroom must display the work of all students. Students can bring pictures of the things they value and have their own spot on a wall or bulletin board where everybody can see. Students can then discuss why they chose to display that particular object.

Teaching by tapping on multiple intelligences is also beneficial to create a positive classroom environment. Using this strategy will promote more participation in the classroom since the lesson may be aimed to someone with a different learning style. Adding music, games, puzzles, role play, drama, and debates can trigger the excitement and motivation of students to participate more in class.

Different grouping arrangements must take place during instruction to give learners the opportunity to feel more comfortable and speak freely. Christison (1995) describes classroom grouping arrangements as: restructuring/mixers, one centered, unified centered, dyad, small group and large group.

Subsequently, these six strategies for seating arrangements must take place on a regular basis to give all students an opportunity to learn from each other and to stay away from the traditional teacher center classroom. Classroom interaction can be enriched by using different collaborative groups that allow for cooperative learning.

Error correction needs to take place subtly in language classes. Many fear being interrupted and if the interruption is to let them know about their errors in the target language, students will feel anxious, intimidated, and will eventually refrain from participating. Richard Amato (2003) cites research done in the area of error correction that shows that “increased direct error correction does not lead to greater accuracy in the target language” (pp. 56-57). Therefore, if error correction is to take place in the classroom, it should be done in the

form of negative evidence and recast.

Teachers need to make an effort in making sure that all students have an opportunity to participate. In a whole class grouping, this can be achieved by the use of wooden popsicle sticks with the names of students in the class. Even shy students will participate when their name is called. The attention span of students increases when they know they might be asked to participate. This assures everybody a fair chance to participate.

Teachers also need to be aware of their action zone. The action zone, according to Richards and Lockhart (1994), is the teachers' interaction with only a few students in the class. "An action zone is indicated by: those students with whom the teacher regularly enters into eye contact; those students to whom the teacher addresses questions, and those students who are nominated to take an active part in the lesson" (p. 139).

Once teachers are aware of their action zone, they can move around the room or have different areas in the room where they deliver instruction as opposed to the traditional teacher controlled classroom.

It is important to provide a silent period before students are ready to answer questions. One activity that can be implemented in large and small groups is having a talking piece. Here, students sit in a circle facing each other and can speak only when they hold the talking piece.

Implementing these ideas leads to greater participation from all students and a positive and respectful environment where everyone is welcome and valued because we need to learn how to live together in the 21st century.

4. Conclusion

We live in a system that swings between what is fragmented and unchanging. This displacement is also perceived in education, between the disciplinary and a contextual reality interconnected worldwide.

We are guided by the indications that govern international treaties and the counterpoint of the weight of the media and the dominant economic emporiums. This fact makes it difficult to articulate an educational work towards sustainability. Even so, the path is linked to essential meanings that emphasize the inherent value of teaching and its mission for educating with quality according to the needs of each time period.

In the XXI century, acting in favor of inclusion is found in the platforms of mission and vision of institutions, as well as in curriculum objectives. It is well known that one should not discriminate, harass, generate violence-symbolic or physical - to make fun of others; at least, that is what is proclaimed from school textbooks and at parent meetings.

In every country, community, and society, adults are the ones who must be informed about everyday events and the processes that have led to a period of time. This is in a bid to have a personal reading with answers to stand firmly in one's personal life and everyday work. Information and communication technologies (ICTs) can be valid tools in the process of being citizens of the world or social illiterates. Teachers are part of the social group that must educate in the complexity of the present, thinking about the future.

In order to talk about sustainability, it is imperative for institutions to carry out work with teachers to guide them, culturally, technologically and psychologically, towards a territory in which they can, by themselves, take an active look of respect for diversity. In the event that their first reaction is rejection, more tools to modify that perspective must be provided in order to face the challenges of the twenty-first century.

Thus, there is the need to implement a policy of responsibility in citizen education in each institution. This is done as a committed artificer with a work whose profile and strategies articulate sustainability, diversity, and interculturality. Furthermore, the teachers serve as helpers in the construction of a context of coexistence and real and verifiable inclusion, which is a lifelong learning for all.

Furthermore, it is a must to put into practice strategies for sustainability based on the complex reality worked qualitatively: tutoring, technical training, proximity to technologies, understanding of issues such as harassment, bullying, and school dropout.

We are part of a globalized world that is reflected in problems associated with the development of the various dimensions of human endeavor. Countries are classified, in terms of market values, in emerging, developed, and frontier. However, in educational matters, all have similar circumstances that can produce scenarios of discrimination, bullying or other types of aggressive practices. All this is confirmed by the intellectuals and scientists who explain the complexity of the 21st century.

As a result, it is crucial to generate educational practices based on moral culture. Ethics and understanding the complexity of human life is the ultimate goal. To this end, it is fundamental that the teacher as a helmsman should learn how to maneuver in turbulent waters, as well as understand that the best way to arrive at a good port is, first of all, to listen to all the participants in order to incorporate resources that strengthen values towards a sustainable way of living in this complex reality.

According to this proposal, it is imperative that teachers should become the strategists of education that lead to the great challenges of our 21st century global society. Work must be done to remember this affirmation as well as to provide practical strategies for school activities that work to transform the environment into pathways to a future in which sustainability is the reflection of human beings' awareness of their participation as responsible citizens of the Earth.

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Education and the Paradigm of Tolerance

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Abstract

Living alongside one another in a spirit of acceptance evokes the concept of tolerance that, from Erasmus da Rotterdam to Voltaire to Primo Mazzolari, calls upon us to understand that the only possible choice for mankind, from time immemorial, has been to educate towards coexistence within milieus that increasingly differ by culture, customs, ways of thinking and behaviours. Beliefs and concepts sometimes refer to values that may also be quite remote from and unlike ours and, as a result, our capacity to find points of contact with other persons becomes the condition, not only for survival, but for growth itself as a human person. To know how to interpret and yet keep one's own points of reference is a constant challenge to our intelligence guided by the will to do good. The concept of free will is based precisely on the strength of the human will, driven to dedicate itself to whatever safeguards, or to turn away from the search for salvation. Freedom cannot exist if we replace it with new absolutisms and mental blocks that hinder the realisation of that growing humanisation plan, founded on responsibility and care. This paper broaches the subject of the relevance of education to tolerance: on one hand, a plan for detecting the limits within us and, on the other, the need for creating a human community, with the purpose of defining a common interest to live for and commit ourselves. So, it is a matter of choosing whether to live through another cold war or shift towards much more promising horizons of encounter and solidarity.

Keywords: Tolerance, Humanism, Community, Values Education, Human rights, Citizenship and Multiculturalism

I. Introduction

Among the most enlightened minds, still recognised today as the progenitors of European humanism, Erasmus da Rotterdam is most assuredly to be remembered as he who raised his voice in support of freedom of intellect and a choice of peace, already in the sixteenth century, an era of great religious conflicts. As Henry Kamen (1967, p. 24) recalls, Erasmus (in 1523) maintained the inescapable choice of man, the choice of peace and harmony, overstepping any and every intolerance for religious reasons, in the expression *Summa nostrae religionis pax est et unanimitas*. During his lifetime, this great humanist showed how cultivation of the humanities was the true source of purification of the Church, which should doubtlessly be freed from the dogmas that were forcing it into confines of superstition and fanaticism. Disputes could not be acknowledged, even if they were the work of princes and, as he usually proclaimed, instead of war, one should learn to use the pen. War was a lack of search for fraternity and ideologies intensified the differences to the point where even those who talked about following the teachings of the Gospel, like the reformists, were open to behaviours that were anything but motivated towards agreement.

Nonetheless, although recognising the limitations of Luther, Erasmus did not believe he was to be persecuted and treated with force. The cities engaged in fighting should not destroy each other, but rather, and preferably, each group should stay within its own territory until there was a meeting of the minds in a healthy compromise for living without killing each other. Hence, overcoming dogmas and converging around essential truths could be the prerequisites for a peaceful life, in which religion was not the cause of hostility and

intolerance. Allowing for free and open discussion amounted to permitting everyone to express positions that might enable a path towards agreement, assuming this was the common objective.

What often happens is that, when a difference of views occurs, one opts for the view that the majority deems fairer and also true. As concerns free will, Erasmus led the discussion about this subject-matter, with respect to which it is good to confirm or deny fundamental truths. He asked the reader to evaluate the topics he proposed, either in favour or not of some theories, hereby taking into account that some thoughts came from judgements expressed by scientists, saints and theologians, while others represented judgements expressed by “any person or two” (Erasmus, 1989, p. 12). One might also wonder if it is the quantity or, rather, the quality that should guide our judgement and, thus, our decision. We question ourselves about the weight of the ideas and examine whether it is commensurate with the number of votes, or if it is founded on the correctness of what such ideas express or convey. The object of the choice is frequently neglected and we let ourselves be guided by the stance of some people who, if they are eloquent and captivating, with a certain dose of demagoguery, could persuade us towards affirmations that our reason, when calm and free, would never accept. If numbers should prevail over quality, this would not automatically mean that the better choice has been made. For convenience sake, the majority may approve something that does not correspond to the search for truth; for this reason, persons, such as teachers and educators, are required to assure an action of revelation and prophecy. If we were all informed at birth, there would be no reason to live together, meet and reach common views that allow for interpretations with meanings that may approach the plan for eternal salvation. On the other hand, if everything were so clear and easy to understand, there would be no need for discussion and education to tolerance.

II. Risks of Superstition

In his treaty on tolerance, Voltaire (1763) showed how a single voice thrown into an angry crowd can instigate situations of negligence, even by those in authority whose task it is to dispense justice, as divine as it is human. How can one leave a majority that condemns the innocent and even governs those who should guarantee the respect for civil, human and social rights? Knowing how to distinguish between superstition and being able to choose the direction of respect and fraternity is the capacity Erasmus was talking about from another perspective. Weakness of minds, lack of culture, ignorance and prejudice, non-preparation to judgement calculated on facts and documents, and fanaticism may lead to simply considering anyone who does not think along the same lines guilty of a misdeed.

The call made by Umberto Eco (2012, 1990) to negative realism likens to a new confirmation of what is defined as a healthy search for the truth, starting from the interpretation of a fact that could repudiate some of our interpretations, from which, most probably, we could never definitely separate ourselves. Being willing to rethink and steadily adjust becomes a relevant strategy for surpassing the risks of modern absolutism that go from the intolerance of tolerance to the invariable interpretation of tolerance. One might ask oneself if the search for truth is solely a matter of interpretation or if, rather, it also requires a capacity for non-prejudicial and non-superstitious reasoning. In truth, even in the novel *Il nome della rosa* (1980) we find Eco's choice to liberate a manuscript from obscurity and, with it, a bit of history, unquestionably marked by the horror of the inquisition, but also by the intellectual forces that opposed its manifestations. The story of Adso da Melk leads us by the hand in discovering truths that the wisdom of the teacher, William of Baskerville, reveals, as if they were quite obvious, but passed unobserved by minds and feelings frozen by the inquisition. An example of intolerance masked by religious belief and the conviction of being the sole, eternal guardians of knowledge meant for only a few. And so, while the Abbot explains the divine mission that consigns custody of the word of God to the monks, William ingenuously concludes with a pragmatic, simple question-phrase that makes one smile that can be summarised in the unexplainable prohibition to access culture in the name of faithfulness to the sacred.

“If God has now given our order a mission, it is to oppose this race to the abyss, by preserving, repeating and defending the treasure of wisdom our fathers entrusted to us. Divine Providence has ordered that the universal government, which at the beginning of the world was in the East, should gradually, as the time was nearing fulfilment, move westward, to warn us that the end of the world was approaching, because the course of events has already reached the confines of the universe. But until the millennium occurs definitely all, until the triumph, however brief, of the foul beast that is the Antichrist, it is up to us to defend the treasure of the Christian world and the very word of God, as he dictated it to the prophets and the apostles, as the fathers repeated it without changing a syllable, as schools have tried to gloss it, even if today, in the schools themselves the serpent of pride, envy, folly is nesting. In this sunset, we are still torches and light, high on the horizon. And as long as these walls shall stand, we shall be the custodians of the divine Word. Amen, said William, in a devout tone. But what does this have to do with the fact that the library may not be visited?” (Eco, 1980, pp. 44-45).

Going beyond the textual narration, what dominates the subject is the strong opposition between those who deem themselves guardians of great missions and impose them on others, scrupulously and violently, and those who humbly follow the will of God, choosing the path of poverty and doubt. We would not seem to be faced with a problem of interpretation, but rather, we sense the depth of that inner question that is attempting to understand what frees from fundamentalisms and what opens the mind to the truth that shapes the human person.

III. The Limits of Tolerance

Voices have been raised to defend the limits of tolerance. As Philippe Sassier observes (2000, pp. 166-169), the distinction between tolerate and leave it as is does not mean the same thing. Hunger and poverty are not to be tolerated; injustice and persecution are not to be tolerated; indifference and passiveness when faced with evil are not to be tolerated.

The path of man and philosophical thought indisputably leads to the principle of universal tolerance. However, rationality is not enough to understand many of the human problems and we regretfully note that, due to a lack of balance, feelings sometimes guide us more than reason, without neglecting that matters given over to reason do not always render choices of death or violence plausible. Tyrannies claim to act rationally and justify interventions that end in mass murder and the privation of human rights in the name of a faith, a belief or defence of identity. Actions and interventions that would not be allowed in other contexts. What has been happening in Nigeria since 2001, caused by local groups, such as the Islamic fundamentalist organisation Boko Haram, represents the decline of religion, used to justify violent actions that reduce the human person to a state of submission, obedience and slavery, by taking advantage of the weakness of defenceless young people, abducted and forcefully removed from the safety of their families and lifelong communities, if not actually killed.

For years, Shirin Ebadi (2006), awarded the Nobel Peace Prize for his commitment to defending human rights and supporting democracy, has been repeating the value of schools and education against ideologies that kill, such as what is also happening with Isis. In parallel, intolerance results in as many legal and criminal occurrences as violations of religious freedom and the dignity of being human, which reach possible reparations and even extreme consequences. There is evidence of this in both the experience of Meriam Yehya Ibrahim, accused of apostasy and then freed (2014), and the tragic end of the spouses Shama and Shahzad Masih (Pakistani Christian Association in Italy, 2014) burned alive on 4 November 2014 because they were Christians. Prior to this, the assassination of Shahbaz Bhatti, Minister of Minorities in Pakistan, on 2 March 2011, had raised indignation throughout the world (Bhatti, 2008; Milano, 2012) and made it clear that dialogue among religions was still delicate and fragile. The political use of religion for the purpose of asserting ethnic and

national identity is going through a new critical phase that challenges a much-discussed relationship between politics and religion. The law makes this relationship possible on a footing of social equality and non-discrimination, for both cultural and religious reasons. In his Letter Concerning Toleration, John Locke abundantly describes the risks of religion becoming a “pretext” for committing injustices:

“Nobody, therefore, in fine, neither single persons nor churches, nor even commonwealths, have any just title to invade the civil rights and worldly goods of each other upon pretense of religion. Those that are of another opinion would do well to consider with themselves how pernicious a seed of discord and war, how powerful a provocation to endless hatreds, rapines, and slaughters they thereby furnish unto mankind. No peace and security, no, not so much as common friendship, can ever be established or preserved amongst men so long as this opinion prevails, that dominion is founded in grace and that religion is to be propagated by force of arms” . (Locke, Translated from the Latin by William Popple, 1689, p. 15).

There is no shortage of signs of the international recognition of the need for encounter, as the exercise of a universally recognised right, if one thinks that, just now, in 2014, the Nobel Prize was awarded to Malala Yousafzai (2013) for peace and the defence of the rights of children, referring, in particular, to women’ s rights to education: a statement that tolerance is not exclusively a question of good sense, but also the sole reply to a civility that is vastly shared for our survival. It is an educational action for the formation of consciences towards a constitutional culture that democratic countries choose to pursue, as a preferred path of social responsibility and participation in the continuation of our existence.

3.1 For an alliance between law and culture

In schools, the study of the Constitution of the Republic of Italy (1948), on a theoretical level and its practical implications, constitutes a guarantee for the awareness and acquisition of the competences required for implementing those principles that represent the formalisation of national awareness and the joint focusing on common; worldwide goals of recognising the dignity of the human person (Corradini, 2014) . Referred to, more specifically, is Article 3 of the Constitution that states: “ All citizens have equal social dignity and are equal before the law, without distinction of sex, race, language, religion, political opinion, personal and social conditions. It is the duty of the Republic to remove those obstacles of an economic and social nature, which constrain the freedom and equality of citizens, thereby impeding the full development of the human person and the effective participation of all workers in the political, economic and social organisation of the country” , and Article 8 that emphasises how: “ All religious denominations are equally free before the law. Denominations other than Catholicism have the right to self-organisation, according to their own statutes, provided these do not conflict with Italian law. Their relations with the State are regulated by law based on agreements with their respective representatives” . On this subject, and from an international standpoint, we draw on three points in Article 26 of the Universal Declaration of Human Rights (1948), which reads: “ (1) Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory. Technical and professional education shall be made generally available and higher education shall be equally accessible to all on the basis of merit. (2) Education shall be directed to the full development of the human personality and to the strengthening of respect for human rights and fundamental freedoms. It shall promote understanding, tolerance and friendship among all nations, racial or religious groups, and shall further the activities of the United Nations for the maintenance of peace. (3) Parents have a prior right to choose the kind of education that shall be given to their children” (Centro diritti umani, 2008, p. 51).

It can definitely be said that as much the constitutional charter as international recommendations, indicate the horizon value to be followed to make tolerance a way of thinking, in which the right of education means knowledge and exercise of human rights. In describing the evolution of tolerance from Erasmus to John Stuart Mill, the academic David Merli (2003, pp. 389-391), reaches the conclusion that religions tend to increase with a parallel growth of diversification, rather than unification. The multiplication could be a sign of vitality, but it

could also forge a passage to new conflicts. From this point of view, the analysis is augmented by the universal message spread by the Church, which, particularly during the Second Vatican Council (1965), called for the tolerance of Catholics for everyone, even atheists, since everyone contributes to building the world in which we live and, for this purpose, dialogue is to be considered a plausible, shareable form, through which the right position for the fundamental rights of the human person can be found. It follows that the pledge to live the right to life, the right to education and the right to peace and justice can never be considered depleted, but, rather, is to be rendered vibrant in the closest and farthest human vicissitudes. According to Gianni Manzone (2004, pp. 7-16), multicultural societies are the ones that feel problems of tolerance the most, due to both the pluralism of values and the asymmetry of the distribution of power (Galeotti, 1994). The only possible path is that of dialogue, as much interpersonal as institutional, in which taking care of the person implies interpreting his or her past experience, not limited to the historical and social contingency, but aimed at a project of universal transcendence.

3.2 The condition for living together

At the end of the Second World War, Primo Mazzolari reflected on the need for tolerance that originated in the past in a Europe troubled by religious struggles. Whether due to scepticism or Christian charity, people felt that hate in the name of a creed and a profession of faith could not continue to be nurtured.

This issue was brought up again whenever the divisions caused a distancing from a common point of contact. In fact, if we were able to define a general interest around which we could all converge, without worrying about our particular passions and specific desires, the necessity to pursue and spread the culture of tolerance would drop away. Reality, however, is quite another matter.

We continue to fight wars and sign treaties. It seems hostilities divide us more than friendships bring us closer. The language is the same, and yet, what we feel inside carries us to raise borders and walls. As the divisions escalate, we perceive how indispensable it is to turn to what can unite and no longer separate us. This allows us to live in our essentiality, without feeling threatened by peremptory, devastating judgements. It is where the understanding of tolerance begins, as a *forma mentis* that prepares thinking towards the other as thinking aimed at good. Mazzolari wrote that tolerance, which “could also be called ‘the effort to think good thoughts’, as Pascal put it, is the condition for living together” (2013, p. 58). If freedom was missing before, what is now missing is tolerance, in which the principle of equality of all men is affirmed both before God and in interpersonal relations. We were created as equals, but unlike one another in personality; we are thus dissimilar. The profile of a tolerant person is a person who sees and accepts equality as much as dissimilarity. We are equal by dignity and respect, but different by emotions, feelings, thoughts and personalities. The profile of the intolerant person is a person who is devoid of a sense of equality and would like everyone to be modelled the same way, shaped with precision, making it possible to overcome the unpredictability and surprise that arise from dissimilarity.

From a political point of view, we can observe that a tolerant government recognises the equality and dissimilarity of its citizens, chooses respect for freedom, is the government of a population that actively participates in defining and observing the laws and is the government of democracy. Vice versa, an intolerant government is run by one, or a few persons, denies equality and suppresses dissimilarity, forcing everyone to conform, and abolishes creativity and spontaneity; it does not heed the authenticity of behaviours and the value of the uniqueness of each person. The tolerant government may also not be as ordered and disciplined as the intolerant one, but it is worth more, because it is founded on human respect; it is a vital government, in which peace springs from trust and does not fall to pieces due to the consumption of a rule and the intolerability of unshared impositions.

If the States require a philosophical project for eternal peace, as Kant hypothesised, we as people, need a natural agreement of tolerance, as Mazzolari foreshadowed (2013, p. 117). At this point in our thinking, we can

definitely say that, today, the subject, problem and choice of tolerance acquire an unbounded extension that cannot be confined to an option of resolution of religious, political and ideological conflicts. This is an option of vast proportions that entails both commonality and taking up a position against revived racisms and reiterated social injustices.

Tolerance is also what makes us compassionate with ourselves and others. It is feeling mercy and pain that makes us accept limitations so as to understand that to offer hand or ask for help are profoundly human actions in a host community. Such actions enable warding off the destruction of those who are often rejected, because they are weak and helpless, and have no say, and yet have a life to be expressed in full. Solidarity starts with a sense of charity that does not sustain situations in which persons must submit to a way of thinking that crushes them and does not free them. Mazzolari's message anticipates what the core of rebuilding the value of the person was, in a society subjected to destabilising forces, as well as human identity and the stability of being God's creature, during the years following the Second World War.

IV. Conclusion

The course of reflection followed in this essay has taken moves from the proposition of the subject of choice, understanding it as the ability to distinguish between the many paths of the mind and heart, having a preference for those oriented towards the realisation of what is congenial to human nature, since they are consistent with the path of civilisation to date and with the idea of tolerance on which our coexistence is based. If the authority of the texts written by well-known academics, as Erasmus sustained, has its reasons to be in the cultural heritage that accompanies us, it is true that within that limitless mass of knowledge we find traces of acceptance of those who do not think as we do and, because of this, cannot be treated as a person condemned to death by courts of men and laws they enact, as Voltaire sustained.

The truth has been revealed on a religious plane, but it is to resurface, day after day, as a wealth of the experience that resides in the inner life of others and that my interpretation, our interpretation, is manifested by continuous discoveries and not once and for all. Along this path, Eco leads through the labyrinths of the Middle Ages and post-modern times to show both the depth of knowledge and the risks of its limitations.

Culture is the name given to those forms of social living that become the roots of our national and cosmopolitan identity. An identity, not a dogma, subject to constant reformulations, always aided by more imagination and fertile creativity, the more the better as we learn to cultivate our humanity. Within this scenario, the call of Martha C. Nussbaum (1997) can be sustained, when she writes:

“People from diverse backgrounds sometimes have difficulty recognizing one another as fellow citizens in the community of reason. This is so, frequently, because actions and motives require, and do not always receive, a patient effort of interpretation. The task of world citizenship requires the would-be world citizen to become a sensitive and empathic interpreter. Education at all ages should cultivate the capacity for such interpreting” (p. 63).

Alongside the pedagogical meaning of education to tolerance, such as the acceptance of ideologies, faiths, systems of life different from one's own and recognition of their validity (Ricciardi Ruocco, 1962, p. 42), we must needs consider the problematic transition, which shifts the analysis from a religious plane to a secular plane. Thus, in noting the great variety of forms and expression of tolerance, we see how their vastness merges into new interpretive contexts that adopt, as binding, not so much the sharing of pluralism as the state of the multicultural society, a challenge to tolerance and promise of tolerance. This way, the subject of multiculturalism, examined by Michael Walzer (1997, pp. 147 -153), as a political arena of both economic and social equality, represents an opening for the debate, so as to recognise how many obstacles there still are prior to the realisation of a project, in which we can coexist in full respect of the human dignity of each and every

person. The nerve centre of this tolerance is the recognition of the differences of groups through the proposition of programmes for putting aside those possible new discriminations of an economic nature that, in the name of poverty, lead us to again give voice to our intellectual duty to choose the good and shun the bad.

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Discipline Strategies: Influence on Gender and Academic Level of Students: A Case of Rachuonyo North Sub-County, Homabay County, Kenya

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Abstract

This paper purposed to establish if there was a significant influence of discipline strategies on student academic performance based on the gender and academic level of students in Homabay County, Kenya. Over the years, students in Rachuonyo North Sub County have continued to perform poorly in Kenya Certificate of Secondary Education (K.C.S.E). The objective of this study is to determine the influence of discipline strategies on academic performance by gender and academic level. The research design used was causal comparative. The researcher used simple random sampling to select 23 schools. Purposive sampling was used to identify students at different academic levels who had received any of the three discipline strategies that is suspension, manual labour, and sending students home to call their parent. The quantitative data was analyzed using paired sample t-test and repeated measures ANOVA at .05 level of significance. The study findings indicated that girls performed poorly after discipline strategies had been used on them. However, there was no significant difference in the academic performance of boys after the discipline strategies. It emerged that these discipline strategies influenced students' academic performance differently depending on the academic level of the student with the form two and four students registering a decline and the form three students showing a slight improvement. The study recommends discipline strategies other than the three used in the study for girls. Further research is required to determine the influence of these discipline strategies in other counties.

Keywords: Discipline Strategies, Academic performance, Gender, Academic level, High school students, Kenya

1. Introduction

School discipline refers to all the strategies which are used to regulate, coordinate, and organize students and their activities in the school as well as put in place the provision and procedures necessary to establish and maintain a conducive environment in which teaching and learning can take place (Thornberg, 2008). In Kenya education system, the advancement of students is solely based on student academic performance in national examinations (Nyangaka & Odongo, 2013). For this reason, the national examinations were used above all to select those suitable to proceed to the next stage of education. Due to this emphasis on national examination, every single Kenyan in the education setup strives to attain a good grade in order to proceed to the next level. Also, any case of poor performance is taken seriously. While poor performance is applicable to most counties in

the country, other counties have a record of perennial mass failures in national examinations. This is especially so in Homabay County where students have continued to perform poorly in KCSE (Nyagaka & Odongo, 2013; Ogwen, Kathuri & Obara, 2014). Due to this poor performance, most stakeholders in the district including teachers, parents, and education officers are looking for answers to explain this phenomenon. Although there are several factors which have been documented to have influenced the academic performance of students in Rachuonyo North Sub County (Ogweno, Kathuri & Obara, 2014), discipline strategies as a factor has not been looked into. It is therefore important to have an in depth assessment of the influence of discipline strategies on academic performance of students in terms of gender and academic or class level of students. The discipline strategies included in this study are: suspension, manual labour, and sending students home to call their parents.

2. Purpose and Objectives of the Study

The purpose of this study is to determine the influence of discipline strategies on academic performance of girls and boys in Homabay County. In order to attain this purpose, the study was guided by the following objectives:

- 1.To determine the influence of discipline strategies on academic performance by gender.
- 2.To determine the influence of discipline strategies on academic performance by academic level.

3. Materials and Methods

The study was conducted in Rachuonyo North Sub County in Homabay County. The study employed causal comparative research design whose main purpose was to explore the interlink between variables (Mugenda & Mugenda, 1999). The population of the study comprised of 23 schools in Rachuonyo North Sub County, Homabay County. The accessible population were form 2, 3, and 4 students. The researcher used document analysis for the students. This involves analysis of documentary materials that are in print form (Kothari & Gaurav, 2014).

Simple random sampling was used to select 23 schools out of the 43 schools in the county. Purposive sampling was thereafter used to identify the form 2, 3, and 4 students who had received any of these discipline strategies with the help of the class teachers. The researcher went through the documents containing the students' results in order to find out the academic performance before and after receiving the discipline strategy. The researcher went through the academic results (in all subjects and obtained a mean score) of the identified student specifically in the exam which was done just before the discipline strategy was used on them. However, the results of the immediate exam which was done after the discipline strategy were used on them.

Data was analyzed with the help of the Statistical Package for Social Sciences (SPSS V20.0). The quantitative data was analyzed using paired sample t-test at .05 level of significance and repeated measures analysis of variance (ANOVA) to compare the academic performance of students before and after the discipline strategies had been given (Kothari, 2004).

4. Findings

In this study, two hypotheses were tested;

HO1: There is no significant difference in academic performance of students by gender.

HO2: There is no significant difference in academic performance of students by academic level.

4.1. Academic Performance of Students by Gender Before and After Discipline Strategies

In testing the first null hypothesis, a t-test for paired observations at .05 was computed in order to compare the means of girls and boys independently before and after discipline strategies were given. Table 1 show the results of the analysis for boys.

Table 1. Academic Performance of Boys Before and After the Discipline Strategy

Pair	Before	Paired Differences			t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean			
1	- After	1.00	9.50	1.16	.86	66	.39

Source: Survey Data (2016)

Table 1 indicates that the computed t-value is .86 with a df of 66. The critical t-value is 1.64 with a df of 66. This is an indication that the critical value is higher than the t-value ($t_{ob} = .86 < t_{crit} = 1.64$) which suggests that there is no significant difference in the academic performance of boys before and after they were given the discipline strategies. The academic performance of the boys did not show any major difference before and after the use of the discipline strategies.

Table 2. Academic Performance of Girls Before and After the Discipline Strategy

Pair	Before	Paired Differences			t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean			
1	- After	5.58	12.10	2.37	2.34	25	.02

Source: Survey Data (2016)

From the results in Table 2, the paired difference mean before and after the discipline strategies was 5.58 with a standard deviation score of 12.10 at 95% significance level. The computed t-value is 2.34 with a df of 25. The critical t-value is 2.06 with a df of 25. This implies that the t-value is more than the critical t-value which can also be represented as ($t_{ob} = 2.35 > t_{crit} = 2.06$). This suggests that there exist a significant difference in the academic performance of girls before and after the discipline strategies had been used on them. This implies that the academic performance of girls went down after they had received these discipline strategies. Also, this is an indication that the discipline strategies had a negative influence on the academic performance of girls in Rachuonyo North Sub County, Homabay County.

To test the first hypothesis (HO1) which state that there is no significant difference in academic performance of students by gender, the researcher used a paired sample t- test to compare the academic

performance of boys and girls before and after the discipline strategies were used on them at .05 significance level. Therefore, the descriptive statistics are given in Table 3.

Table 3. Academic Performance of Boys and Girls Before and After the Discipline Strategy

Gender		Performance Before	Performance After
Boys	Mean	36.71	35.71
	N	67	67
	Std. Deviation	17.37	15.78
Girls	Mean	35.73	30.15
	N	26	26
	Std. Deviation	19.12	13.26
Total	Mean	36.44	34.16
	N	93	93
	Std. Deviation	17.77	15.26

Source: Survey Data (2016)

The results on Table 3 indicate that the mean average performance of boys declined slightly by 1.00 after the discipline strategies were used on them. In addition, the mean average performance of girls declined by 5.58. This implies that girls declined to a greater extent after the discipline strategies had been used on them than boys. To test whether these differences were significant, a paired sample t-test at .05 level of significance was computed and the results are given in Table 4.

Table 4. Academic Performance of Students by Genders Before and After the Discipline Strategy

Pair	Before- After	Paired Differences				t	df	Sig. (2- tailed)	
		Mean	Std. Deviation	Std. Error	95% Confidence Interval				
				Mean	of the Difference				
1		2.27	10.43	1.08	.12	4.42	2.10	92	.038

Source: Survey Data (2016)

From Table 4, the paired difference mean before and after the discipline strategies was 2.27 with a standard deviation score of 10.43 at .05 significance level. The computed t- value is 2.11 with a df of 92. The critical t-value is 1.96 with a df of 92. This implies that the t-value is more than the critical value which can also be represented as ($t_{ob} = 2.11 > t_{crit} = 1.96$ at $p < .05$). This suggests that there exist significant difference in the academic performance of girls and boys before and after the discipline strategies had been used on them. This implies that the hypothesis HO1 which states there is no significant difference in academic performance of students by gender is rejected. These finding contradicts the finding of Kravovich, Slate, Kesley, Carmen, and Delgado (2010) who found that girls performed better than boys after these strategies had been used on them.

4.2. Academic Performance of Students by Academic Level Before and After the Discipline Strategies

In testing the second hypothesis (HO2) which states that there is no significant difference in academic performance of students by academic level, the researcher computed a t-test for paired observation to compare the means of form two, form three, and finally form four students independently. Repeated measures analysis of

variance (ANOVA) was thereafter computed to test the hypothesis. To begin with, a t-test for paired observation was computed to compare the academic performance of form two students before and after the discipline strategies and the results is shown in Table 5.

Table 5. Academic Performance of Form Two Students Before and After the Discipline Strategy

Pair	Before	Paired Differences			95% Confidence Interval of the Difference	t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean				
1	- After	5.71	14.25	3.81	-2.51 13.94	1.50	13	.15

Source: Survey Data (2016)

The results in Table 5 indicate that the paired difference mean before and after the discipline strategies was 5.72 at 95% confidence level. The computed t-value is 1.50 with a df of 13. This is less than the critical t-value which is 2.16 with a df of 13. This implies that the difference was not significant.

Table 6. Academic Performance of Form Three Students Before and After the Discipline Strategy

Pair	Before	-	After	Paired Differences			95% Confidence Interval of the Difference	t	df	Sig. (2-tailed)
				Mean	Std. Deviation	Std. Error Mean				
1				-.84	8.20	1.31	-3.50 1.81	-.64	38	.52

Source: Survey Data (2016)

From Table 6 above, the paired difference mean before and after the discipline strategies was .84 with a standard deviation of 8.20 at .05 significance level. The computed t-value was .64 with a df of 38. The critical t-value is 1.96 with a df of 38. This can also be represented as ($t_{ob} = 0.64 < t_{crit} = 1.96$). This suggests that there is no significant difference in the academic performance of the form three students before and after the discipline strategies.

Table 7. Academic Performance of Form Four Students Before and After the Discipline Strategy

Pair	Before	Paired Differences			95% Confidence Interval of the Difference	t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean				
1	- After	2.22	10.88	1.72	-1.25 5.70	1.29	39	.20

Source: Survey Data (2016)

Table 7 indicates that the paired difference mean before and after the discipline strategies was 2.22 with a standard deviation of 10.88 at 5% level of significance. The computed t-value is 1.29 with a df of 39. The table value is 1.96 with a df of 39. This implies that the t-value is less than the critical t-value. From these results, there is an indication that there is no significant difference in the academic performance of the form four students.

To test the second hypothesis (HO2) which states that there is no significant difference in academic performance of students by academic level, the researcher used repeated measure Analysis of Variance (ANOVA) to compare the academic performance of the form 2, 3, and 4 students at .05 level of significance.

Table 8. Repeated Measures Anova

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	231786.86	1	231786.86	468.64	.000
Within Groups	99.44	92	56.01		
Total	231886.30	93			

Source: Survey Data (2016)

From the repeated measures ANOVA, $F(1,92) = 468.64 \geq p = .000$. However, this means the null hypothesis HO2 which states that there is no significant difference in academic performance of students by academic level is rejected. Thus, there is a significant difference in academic performance of the students by academic level.

5. Discussions

The study aimed at examining the influence of the discipline strategies on academic performance based on gender and the academic level of the student. The results revealed that the academic performance of girls went down after they had received the discipline strategies with a mean difference of 5.58 and a t- value of 2.35 which was greater than the critical t- value of 2.06. This is an indication that the discipline strategies had a negative influence on the academic performance of girls in Rachuonyo North Sub County. This finding is in agreement with the findings of Perry (2015) and Dahir (2010) which revealed that suspension is harmful to the student' s academic performance. On the other hand, the study revealed that the academic performance of boys went down slightly with a mean difference of 1.00 which was not statistically significant. This was an indication that the discipline strategies had a negative influence on girls' academic performance more than it had on boys' academic performance. This is contrary to the study findings of Kravevich, Slate, Kelsey, Carmen, and Delgado (2010) which confirmed that girls who received suspension for example were performing well than boys who received the same discipline strategy. In regard to the first hypothesis which stated that there is no significant difference in academic performance of students by gender, the results confirmed that there was a significant difference in academic performance of students by gender since the t- value was greater than the critical t- value.

In response to the second objective, the study revealed that the academic performance of the form two students declined after the discipline strategies had been used on them with a mean difference of 5.71. On the other hand, the form three academic performances increased slightly after the discipline strategies had been used on them with a mean difference of 0.84. Nevertheless, this difference was not statistically significant. The studies also revealed that the academic performance of the form four students declined slightly with a mean difference of 2.22 at a t-value of 1.29 which was less than the critical t- value of 1.960 and therefore this difference was not statistically significant.

In testing the second null hypothesis which stated that there is no significant difference in academic performance of students by academic level, the alternative hypothesis was accepted with $F(1,92) = 468.64 \geq p = .000$. This means that there was a significant difference in academic performance of the form two, three, and four students before and after the discipline strategies had been used on them in Rachuonyo North Sub County, Homabay County. The study findings therefore revealed that there was significant difference in academic performance depending on the academic level of the student.

6. Conclusion and Recommendations

From the study findings and discussions, the following conclusions were deduced. Girls' academic performance is adversely influenced by these discipline strategies than the academic performance of boys since their academic performance goes down largely after the discipline strategies have been used on them.

The discipline strategies influence the academic performance of students in different ways depending on the academic level of the student. Consequently, the form two students' academic performance decline drastically, the form three academic performance improve, and the form four academic performance decline slightly. The study recommends that education stakeholders should find alternative to exclusionary discipline, especially for girls. This is because girls are adversely affected by the discipline strategies that require that they go home for a certain period of time. More research should be done on the best discipline strategies at each academic level since the strategies that involve removing a student from academic setting are seen to influence their academic performance in different ways. Therefore, this would ensure that discipline is maintained in a school and at the same time, the academic performance of students at different academic levels is not interfered with.

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Analyzing *The Secret Garden* through the Transitivity System of the Systemic Functional Theory

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Abstract

This paper applies Halliday's Systemic Functional Theory to a discourse analysis of *The Secret Garden*, a classic children's novel by Frances Hodgson Burnett. With a combination of qualitative and quantitative analysis methods, we selected typical episodes and analyzed them in terms of their story plots. By examining the data from the perspective of transitivity system's ideational function, we explore how the author guides readers in understanding character roles, experiencing their charm, and how to portray lively and impressive personas. The results indicate that characters' personalities are primarily manifested through the material and verbal process within the transitivity framework. This study represents a novel approach to analyzing children's literature, contributing to a deeper understanding of literary works as well as the improvement of writing skills.

Keywords: Systemic functional theory, Experiential function, Transitivity system, *The Secret Garden*

1. Introduction

At the end of the 18th century, romantics were dissatisfied with the rationalism advocated by the Enlightenment and worried about the environment. Under such circumstances, *The Secret Garden* was created in the course of the Romantic Movement. *The Secret Garden* is one of American writer Frances Hodgson Burnett's representative works. A mass of researchers and critics, both domestic and international, are devoted to its study from different facets. They study the novel from the aspects of human and nature, translations based on various theories, feminism, and the exploration of gothic elements. Experiential function, working with logical function, is a portion of ideational function. In daily life, languages work as a communicative tool when people talk with others about things, modality, time in the subjective and objective world and the understandings of the world from feelings, information and thoughts etc. Transitivity system on experiential function is primarily applied to the discussions of translations, novels, some speeches, advertisements and news.

This paper will explore *The Secret Garden* from the perspective of Halliday's Systemic Functional Theory on transitivity system, which is as a part of experiential function. Meanwhile, this point is innovative because not many researchers study *The Secret Garden* in this way. Based on the theory, the linguistic features can be discussed and the practicability can be testified. As a work of children's literature, the reading group of *The Secret Garden* is mainly children who are very young and their language skills have not developed well, so it is helpful for children to clear the story line, understand the characters' thoughts, perceive the characteristic change, and feel the charm of roles. Through some detailed analysis, how to portray a lively and impressive character will be learned in this paper. In conclusion, a studying of this novel is beneficial for a further understanding and an exact interpretation of children's literature from an objective point of view. What's more, the thesis of this book continually proves that the theory is feasible and applicable to the study.

2. Literature Review

2.1 Domestic and Foreign Studies on Transitivity System

Interpersonal function, ideational function and textual function, the universal functions of culture reflected

in language, are called three metafunctions of language. Transitivity system on ideational function is mainly applied in this paper. *Xiang* (2022) makes an in-depth transitivity analysis of the inaugural speech of Joseph Robinette Biden managing to reveal how English hides ideology in political speeches and proves the practicability of Systemic Functional Grammar in political discourse analysis. *Su* (2021) studies the 2018 State of the Union Address by President Donald Trump. It mainly analyzes the transitivity process, main participants and environmental factors embodied in the speech, and gets the intention that Trump wants to prove himself to win support. *Gong & Liu* (2018) make a transitivity analysis of a story (*Our Way of Life Is Piling Pressure on Ecosystems*) on the website of the United Nations Environment Programme, in order to improve people's ecological awareness. Several scholars doing Chinese-English translation research from the transitivity viewpoint have become a major part. For example, *Xiao Junyi* (2022) analyzes the Chinese translation of *The 2019 USMC Air Force Program*. *Ma Chunyan* (2016) studies from the theory to conduct a comparative study of two reports on the appreciation of the Chinese yuan in *China Daily* and *The New York Times*. *Tong Tianpeng* (2016) selects the inauguration speeches and their Chinese translations of US Presidents Obama (2009) and Roosevelt (1933), as well as British Prime Ministers Churchill (1940) and Cameron (2010), as the corpus to discuss. Scholars also study novels based on transitivity system. *Xu Bailin* (2014) discusses the portrayal of the characters in the *The Legend of Sleepy Hollow* from the linguistic level and effectively verifies the correctness of the reader's subjective impression of the characters in the novel.

Researchers mainly apply it to studies on speeches and translations. The number of scholars who make use of transitivity system in analysis of novels is less. It is a fresh idea to analyze the character's personalities about the transitivity system.

2.2 Domestic and Foreign Studies on Children's Literature *The Secret Garden*

Frances Hodgson Burnett is best known for children's books, especially *The Secret Garden*, *A little Princess* and *Little Lord Fauntleroy*. *The Secret Garden* was created in 1909 when she arranged her own garden on Long Island, New York. This book was first published in 1911 and soon was in big demand in America and Britain. Since then, this novel was adapted to plays, movies and so on. In one hundred years, it was translated to more than fifty languages. Mary Lennox is the major character, a female character totally different from others. She is a heroine who changes and saves her uncle's family. The girl, born and living in India, was eccentric and lonely. Her parents did not accompany her and threw her to their maids. Gradually, she had a bad temper and was easily annoyed. Because of an accident, she became an orphan and was sent to her weird uncle, Mr. Archibald Craven. Mary found a secret garden there. With the help of Mary, Colin who was a hunchback resembling his father and Dickon who was positive and had a wonderful relationship with animals, this abandoned garden resumed to be clear, beautiful and teemed with lives. At last, doing physical labour and surrounded with delight, Mary became kind, beautiful, and mentally and physically healthy, as well as Colin and Mr. Craven.

The Secret Garden is a masterpiece of children's literature. The foreign scholars propose their own ideas. For instance, *Opperman* (2018) interprets that Burnett uses several typical techniques of detective novels in *The Secret Garden*, namely clues, secondary secrets, interrogation, and Gothic elements, so as to introduce the theme of tension and puzzles to solve her masterpiece. *Thomas* (2016) discusses this book in the view of cognitive behavioral therapy. *Nikolajeva* (2013) believes that through reading children's literature, such as *The Secret Garden*, emotional literacy can be enhanced through the reading of fiction. *Goodwin* (2011) says that Mary Lennox is an orphan in the Indian colony. She can only resume after receiving "education" in the British countryside. It is to trace the class structure, gender, family relations, educational standards and imperial identity which existed in the last decades of the 19th century. In China, there are also lots of scholars studying this book. Several researchers analyze from the perspective of reading teaching. For example, *Zhou Liping* (2023) discusses *The Secret Garden* as an example of the English reading lessons to achieve the value of textual content for the growth of students' lives by focusing on the symbiosis of various elements in reading teaching. More scholars research the novel from the perspective of feminism. *Li Xin & Pei Fei* (2018) write that in *The Secret*

Garden, the girl Mary leads two boys against tradition and explores the Forbidden Garden, which conflicts with the social ethics that men are superior to women at that time. Zhang Ying & Su Fang (2009) propose that they attempt to interpret the novel from three aspects: the characters, the types of the novel and the metaphorical meaning of the garden. Besides, several scholars discuss this novel from the perspective of translation. For example, Xiong Mi (2019) studies the translation from the perspective of Bakhtin's Dialogue Theory.

It is clear that those discussions about *The Secret Garden* are varied. Scholars seldom study this novel by Systemic Functional Grammar. But their interpretations can help me to understand the book. Therefore, the study is innovative.

3. Research Questions and Methods

There are research questions: 1. How are the images of roles reflected more vividly; 2. How does the author help readers to understand roles and feel their charm; 3. How do people portray a lively and impressive character.

This paper mainly uses qualitative approach and quantitative approach. Some typical discourses will be selected in this novel and classified according to different story plots. For the research questions, the processes of transitivity system will be collected, so as to analyze the personality of characters. According to different descriptions of the processes, the descriptions will be arranged that used for the same purpose and analyzes these one by one. In order to get a better understanding of this analysis, figures and tables are given if necessary, so that the explanation would be more visualized.

4. Research Findings and Discussion

In this part, the author analyzed Frances Hodgson Burnett's *The Secret Garden* from transitivity system.

4.1 First Part's Analysis of *The Secret Garden*

In this part, it mainly talks about chapter 1. The processes are divided into two parts: Mary and other characters. The content of this chapter is relatively long, so it principally selects representative contents for analysis. Chapter 1 is Mary's introduction. There are 28 material processes in total describing Mary and a few other processes talking about her. The major process, relative to other characters, is also material process. That mentioned at times is the mental process. These processes give an impressive image of Mary, that she is an unattractive child. For Mary, her appearance seems to make her disagreeable. As is mentioned:

Example 1: "*She had a little thin face and a little thin body, thin light hair and a sour expression. Her hair was yellow, and her face was yellow ... had always been ill in one way or another.*" (Burnett, 1911, chapter 1)

People around her only express indifference and dislike. They always ignore her as much as possible. When mom sees Mary, she will be angry. In such cases, servants try their best to prevent Mary from meeting her mother. Even worse, Mary's governesses also give her up.

Example 2: "*her father ... had been busy and ill himself, and her mother... who cared only to go to parties and amuse herself with gay people. She had not wanted a little girl at all.*" (Burnett, 1911, chapter 1).

Those may be the reasons why Mary has a bad temper.

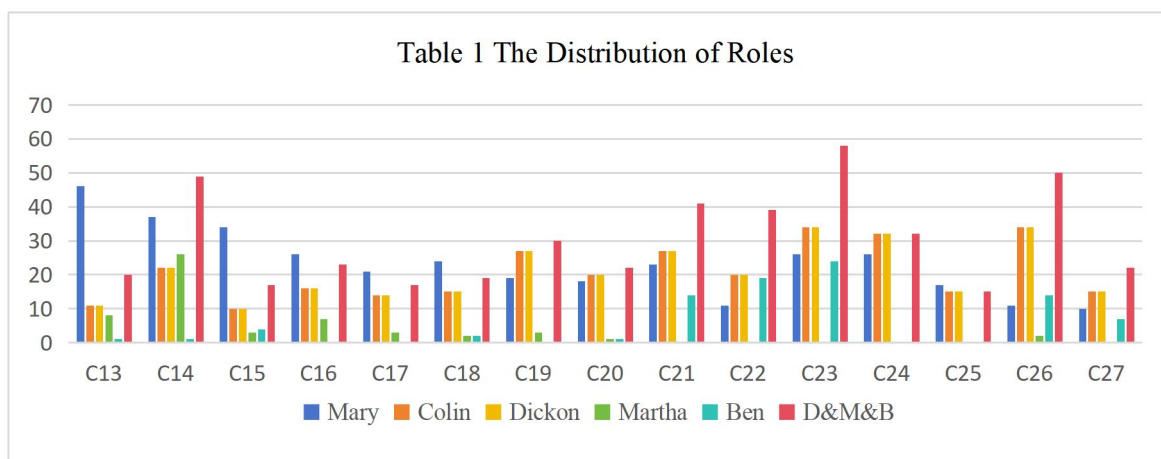
Example 3: "*Mary threw herself into a passion and beat and kicked her*" *And she uses the most insulting words in their area to curse, "Pig! Pig! Daughter of Pigs!"* (Burnett, 1911, chapter 1).

Together with disagreeable appearance, indifference from people, an annoying character is created.

From the foregoing analysis, Mary's personality and the reason why Mary is unlikable is clear. The sentences in the novel present readers a detailed background about her family and her living environment, shaping an impressive role, and make them feel compassion for her, arousing readers' interest in what will happen to Mary.

4.2 Second Part's Analysis of *The Secret Garden*

The second part chosen is chapter 13 which tells the first meet of Mary and Colin. Table 1 shows the reason why we choose chapter 13 to be analyzed.



According to the above data, chapter 13 is less interference from other characters. Meanwhile, Mary and Colin have more conversations in chapter 13. Therefore, chapter 13 is selected. In chapter 13, it deals chiefly with verbal process and material process. The material process of Mary and Colin each appears 22 times and 20 times. In this chapter, the verbal process, which appears each 42 times and 50 times, has a larger proportion. This is the first meet of Mary and Colin. They have never seen each other since Mary lives here. In those verbal processes, it is easy to get that Colin does not get any love from his father after his mother's death. This is one of the common features between Mary and Colin that they are loveless. For instance:

Example 4: *"Sometimes. Generally... I am asleep. He doesn't want to see me."* (Burnett, 1911, chapter 13)

Example 5: *"My mother died when I was born and it makes him wretched to look at me. He thinks I don't know, but I've heard people talking. He almost hates me."* (Burnett, 1911, chapter 13)

The second similarity is the bad-tempered personality. The loveless life is the first reason. Another reason is his bad health. He cannot walk himself because of his sick back which makes him hopeless. Colin also likes commanding others and he thinks the servants must listen to him. Similarities help two poor children to huddle together. It helps readers to understand why they become friends. Everything happens reasonably.

Mary exposes her secret -the abandoned garden in the manor.

Example 6: *"He hates the garden..., 'said Mary half speaking to herself. 'What garden?' the boy asked."*

Colin and other people living in the manor all know the abandoned garden, but it is not allowed to be mentioned. That is the most important factor that makes them become closer friends. In their continuing efforts to restore the secret garden, it comes alive.

According to the analysis of processes, characters' personalities become more vivid and clearer. At the same time, the reasons-similar experiences and character-why Mary and Colin make friends is tractable to get. They are both lonely, no matter from mentality or physicality.

5. Conclusion

Based on Systemic Functional Grammar, this paper analyzes *The Secret Garden* from the perspective of transitivity system on ideational function. The following findings are concluded. Firstly, the analysis of *The Secret Garden* can help us understand the narrative. The thesis primarily focuses on the verbal process and material process, which contribute to the portray of authentic and impressive characters. Secondly, the novel provides abundant information about the two main characters. The author offers a detailed background and establishes similarities between the characters, thus ensuring a smooth story line. Writing a novel requires logic where every event happens for a reason. Thirdly, due to their shared experiences and similar dispositions, Mary and Colin turn to be friends. The warm and sunny Dickon, who comes from a healthy family with a loving atmosphere, attracting them as a magnet. As a piece of children's literature, it spreads positive attitudes, allowing children to find happiness, love and warmth in the secret garden.

Transitivity system provides a unique perspective for interpreting *The Secret Garden*. When an author

wants to depict a poor character, merely stating their lack of money or insufficient food. Providing a character with a detailed background may leave a lasting impression on readers. Therefore, describing a character with abundant and complicated characterization is a crucial step that can deeply resonate with a broad readership. Halliday's Systemic Theory can not only be utilized to the realm of novels, but can also be applied in English teaching and translation.

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