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Didactic Strategies to Improve the Competencies in Analytical Reading and Academical Writing of Future Teachers and Teachers in Service

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Abstract

In Mexico, as in other Latin American countries, since near of two decades ago, based on some guidelines made by the OECD, it has implemented an educational model based on the competencies approach. Despite this, they continue to prevail in the different school levels problems in the achievement of their students, in a particular way in the communicative competences: reading and writing. In higher-level schools to train future teachers or teachers in service, we have detected that this problem is also common in this type of students. They present little practice, poor disposition and deficiencies in analytical reading and writing exercises. For three years, a group of three professors-researchers have implemented a series of didactic actions to try to overcome such problems. We have worked with undergraduate and graduate students, some of them aspiring to be teachers and others who are already. In the paper here proposed, a research report of the didactic work done so far, we present the diagnostic process carried out with different groups, the design of the qualitative research, the conceptual framework of the research, in addition to the design, the development and implementation of a didactic intervention in different phases, and the results obtained so far. Part of these are a practical taxonomy of the written academic work of our students and parallel alternative solutions such as tests for concepts review and the didactic strategies of the debate and the dissertation, which strengthen scripture as well as analytical reading and oral argumentation.

Keywords: Analytical Reading; Academical Writing; Competencies Approach; Teacher Training & Update.

Introduction

For approximately two decades, the educational approach in competencies has been implemented in the Mexican educational system, with some theoretical or practical variations at certain times. This has been tried to adopt, by recommendations made by the OECD[1], in the different educational levels, although its implementation in Basic Education has been privileged. Among the main problems that have been mentioned within the Mexican Educational System and its reviewers so that this approach does not end up having favorable results in school performance is to have neglected the updating of teachers in service to have the tools to implement it. (González de la Torre, n.d.). One of the basic areas for the skills and knowledge of students are favored in their development are communicative skills (reading and writing), as these are a transversal and continuous requirement to achieve favor the other cluster of skills that are formulated in the exit profiles of the different educational levels.

As teachers of higher education in the area of teacher training and updating of teachers in service (with Postgraduate Programs) one of the main problems that we have detected in a common way is the lack of practice, the limited disposition and the deficiencies in the students' academical writing to reach the exit profile of students of such programs. Which naturally aggravates the situation that their own students face in the school. This problem has become a constant theme in the work meetings of us academics and collegiate teachers. The willingness to face the problem by teachers and

[1] Organisation for Economic Co-operation and Development.

managers is a lot, enthusiastic and strongly supported, but at times the attempts seem to be unsuccessful in a practice that is not learned or managed to develop until reaching a level of acceptable proficiency in the short or medium term, but is part of cognitive and cultural long-lived schemes to which it seems we have not been accustomed to access on a daily basis and egalitarian. The analysis of theoretical texts and academic writing today more than ever, in the Digitalized Societies that we are or pretend to be, would give the impression that it has become an exercise only of scholars or specialist writers.

This problematic is related or implied with others that it is necessary not to leave aside: at a general and social level, for example, it is important to point out that the lack of scriptural practice is proper not only of an academic, professional or private sector like the students described, but it is presented in a generalized manner in most social and even professional strata; besides this, being self-critical, it is a current problem, to a certain extent, of the same teachers who work at a higher level. This lack of practice, returning to the social and global implications, invariably is related to the strong deficiencies in reading habits and the low level of reading comprehension in countries like Mexico, derived directly from the deficiency in processes of readings that have as purpose the reflection and analysis.

Thus, the purpose of this paper –a Research Report– is in its first part, corresponding to the Diagnosis and Formulation of a Research Problem, showing how we managed to build a Practical Typology of the types of academic text that teachers build in service and students, besides exploring the importance of the writing and oral argumentative expression and the practice of this writing and expression, parts of the communicative competences, of our students; then the Review of Theoretical-Conceptual, State of the Art and Methodological Aspects is presented, with a description of the Research Subjects and the Instruments for obtaining empirical data used, to finally present the Results and a series of actions and Recommendations in search of the improvement of these competences, which could later lead the students of our educational programs to reach the level of Academic Essay Writing, exercise of intellectual maturity of people, institutions and societies.

Practical Typology of Academic Writing

In January 2015, a group of Teachers-Researchers were part of the design and application of a Diagnostic Process that made a Sub-System of Higher Education in Durango to their teachers in service. The purpose was framed in presenting a global institutional and individual view, by teacher, on the level of development of the competence in written expression and the needs of strengthening of this one.

The Diagnosis, proposed as an Institucional Academic Evaluation, had a close background to an 8-hour preparation Workshop on January 8 and 9 of this year, "Writing of argumentative texts", attended by approximately 600 teachers. The objective of this Evaluation was: *To identify the level of development of the competence of Written Argumentative Expression in Teachers of Higher Education*.

A central idea that guided the application of this Evaluation Process was that written competence forms an integral part of communicative competencies and alludes to one of the most relevant actions for the realization of tasks for academic purposes. The consolidation of this competence involves cognitive and metacognitive processes that range from the domain of the conventions of written code to the processes of composition. It implies greater challenges, since academic writing, due to its epistemological and reflective nature, demands a specific interest, because writing has the "potencialidad de ser una forma de estructuración del pensamiento"[1] (Carlino, 2010, p.27).

Today, writing is considered a competence because "representa una capacidad de movilizar varios recursos cognitivos para hacer frente a un tipo de situaciones"[2] (Perrenoud, 2004, p.8). In conclusion, the competency-based approach crosses the whole School Curriculum, as well as the academic trajectories of teachers, in such a way that writing becomes a fundamental tool to build knowledge, to animate learning situations, to analyze texts of structures complex, to make arguments with hypotheses and premises that shed light on relevant issues.

The Diagnosis was based on the application of a written expression test with a duration of 2.5 hours, which consisted in the preparation of an Argumentative Text based on the individual selection of one of three proposed topics, with a minimum

[1] … potential to be a form of structuring of thought.

[2] … it represents an ability to mobilize several cognitive resources to cope with a type of situation.

of 800 words, under structure similar to the essay genre and with minimum formal and background requirements for the execution and specification of reflective-argumentative writings of an academic nature.

Participants

The 473 participants in this research were Teachers in Service of a Subsystem of Higher Education in the State of Durango who work in more than 30 Institutions distributed in the state geography. The professional formation of the teachers turned out to be very variable, as well as their years of teaching experience.

The call to present this diagnostic test was institutional, voluntary, low impact (no labor or professional impact for participants) and was extended to the total number of teachers in the Subsystem, approximately 800, with an acceptance close to 60 percent.

Process

In the written exam three skills involved in writing were assessed: *Linguistics* (Conventions of the language, Use and management of language), *Discursive* (Organization, Cohesion & Coherence) and *Sociolinguistics* (Adequacy to the purpose, Argumentation). To evaluate them, five criteria were established:

a) ***Use and Management of the Language (Appropriate to the Scriptural Purpose)*:** Clear and appropriate use of the language according to the theme and purpose of the writing (25%).

b) ***Organization*:** Logical relationship between the main and secondary ideas (20%).

c) ***Argumentation*:** Manifestation and defense of a position with arguments and examples (25%).

d) ***Cohesion & Coherence*:** Distribution of the information according to the textual sequence and the type of text requested, and correct use of the connectors (20%).

e) ***Language Conventions*:** Correct application of Orthographic, Syntactic, Grammatical and Punctuation rules (10%).

These five criteria were assessed in a differentiated way: greater weight was assigned to the Use and handling of language, and to Argumentation; the Organization, as well as the Cohesion & Coherence, had a lower valuation; the last formal aspect, Conventions of the language, was valued with 10% of the total percentage.

As well, four levels of performance were proposed: *Excellent*, when a performance between 91 and 100% is reached; *Good*, with performance between 76 and 90%; *Improvable*, when it is possible to overcome the minimum limit of performance required in the domain of the scriptural exercise, from 61 to 75%; and *Inadequate*, when the participant gets 60% or less. The performance levels in each of the five criteria are shown in Table 1.

Table 1. *Levels of Performance in the Academic Writing Competence*

Criteria	Excellent	Good	Improvable	Inadequate
1. *Use and Management of the Language (Appropriate to the Scriptural Purpose)*	23-25%	20-22%	16-19%	0-15%
2. *Organization*	19-20%	16-18%	13-15%	0-12%
3. *Argumentation*	23-25%	20-22%	16-19%	0-15%
4. *Cohesion & Coherence*	19-20%	16-18%	13-15%	0-12%
5. *Language Conventions*	10%	8-9%	7%	0-6%
Total	91-100%	76-90%	61-75%	0-60%

Diagnostic results

The results in the five criteria considered in the rubric are expressed in Table 2. The Organization of the paper, which refers to the logical relationship between the main ideas and the secondary ones, was noted as the main strength.

Table 2. *Results of the Five Criteria of Academic Writing Competence*

Criteria	Mean	Level
1. *Use and Management of the Language (Appropriate to the Scriptural Purpose)*	15	Inadequate
2. *Organization*	16	Good
3. *Argumentation*	16	Improvable
4. *Cohesion & Coherence*	15	Improvable
5. *Language Conventions*	3	Improvable
Total percentage in the exam	66	Improvable

The average of Spelling Errors per teacher evaluated was 28 (*Standard Deviation* = 19.7). Considering that a Written Test of 800 words was requested, on average a spelling error was made for every 29 written words (which is approximately equivalent to two lines written in a computer document).

In the overall assessment of the writing test, the following results were presented: with an *Excellent* level there were 19 professors (4.0%); in level *Good* 70 teachers (14.8%); in level of *Improvable*, 232 teachers (49.0%); and in *Inadequate* 152 teachers were located (32.1%).

Of the three topics to be selected by teachers to develop their writing (*1. Main Challenge of Higher Secondary Education today in the Economic, Social and Political Context of the Globalized World*; *2. Role of the Teacher in the Face of the Problems of Today's Society and of the Young People*; *3. Institutional, Social and Teacher Implications of the Constitutional Requirement that all Young People Attend Higher Education*), most had a predilection for the first two, only a few worked with the third theme.

When dealing with the first two topics, the teachers focused on the problems experienced at the level and subsystem where they work, addressing regularly to the figure of the teacher as the main actor of his writing, opposed or ally to the figure of the student. Teachers tend to speak from their own perspective, based on the responsibility they feel when facing, with their students, the most immediate problems.

Most of the teachers who address these first two topics reached only one level of expository / descriptive writing; they made a contextualization and initial considerations about the situation that was presented at that time at the level of Higher Education, then wrote specifically about their subsystem and in some cases to the particular example of their own schools. After that, they listed the most frequent problems, either from the point of view of the teacher or the school in general: Student Sesertion, Use of Technologies and Social Networks, Early Pregnancy, Economic Situation (with Lack of Job Opportunities), Inattention of Parents, Lack of Teacher Preparation to face the Competency Approach, the Violence of Organized Crime (named common and not so pejorative as *Narco*) and the interrelationships between these problems.

The level of analysis of the problems addressed was low; most of the professors were limited to superficial exposure of these problems with some examples recovered, in the best of cases, from their own experience, although they regularly come from the collective imaginary (the preconceived ideas that are held, at a social level and in the teaching profession, about adolescents, the characteristics of the globalized world in which young people are strongly influenced, most of times in a perverse way). The writings that remained at this low level of analysis present affirmations and positions that are not supported, they lack the minimum Critical Apparatus.

The argumentative writing that managed to elaborate only a limited number of teachers raises not only a structure and organization of successful ideas (*Introduction*, *Development* and *Conclusion*), but also used argumentative resources as a tool to support their affirmations and positions. In addition to the Normative Theory, they used the Scientific Citation, recovering ideas from canonical authors of the various educational themes, emblematic authors of the Approach by Competences and others that were pertinent to their expositions. Another resource they used effectively was the statistical

data, which also strengthened their ideas and theoretical positions. With the combination of these elements they achieved the levels of excellence expected in the academic writing competition.

Although some teachers tried to use the resources of the Scientific Citation or the Statistical Data as reinforcement to sustain their theoretical positions, they did not incorporate information pertinent to the topic or the ideas presented; a few remained in non-academic writing, making use of colloquial, prejudiced or manichean expressions to speak or describe profesional partners or laboral situations.

This information allowed us to propose, with examples coming from the reality that our teachers live, who often become the students of our Postgraduate Programs, a practical typology of the academic texts they write.

Thus, although in educational contexts it is usual to speak of the "Academic Writing", in reality there are few texts that define it broadly and describe in detail the characteristics that it should contain. In a more or less recent effort, Fernández and Bressia (2009) issued a document entitled *Definiciones y características de los principales tipos de texto*, where they described what academic writing should be in the University. They described Academic Writing as:

aquella que se produce en el ámbito universitario y científico. Comprende tanto los trabajos producidos por los alumnos universitarios (exámenes y textos de diversos géneros ya sea que funcionen como trabajos prácticos, evaluaciones, etcétera), así como también aquellos textos elaborados en la academia para la difusión del conocimiento científico. De este modo, el género académico se conforma de textos especializados que circulan en el ámbito científico y que, por lo tanto, guardan ciertas características comunes[1]. (2009, p. 1).

As it can be noticed, the main characteristic of Academic Writing is its origin, the University one, but its definition becomes circular when delimiting that it is a text produced from the scope and the scientific perspective; definition that tells us in appearance a lot but when clarifying, it really does not provide more information.

The authors continue their article and mention three more specific characteristics: They speak of the *Pretension of Objectivity* that the Academic Writing must contain, of the *Argumentative Structure* and *the Intertextuality*, referring to it as the "presencia, relaciones y entramados que se tejen entre los textos"[2] (2009, p.3).

Other attempts to specify the characteristics of this type of writing were not more successful. This, as mentioned, led us to construct the following typology of the writings that are elaborated in the educational field by Teachers in Service:

Not Academic Writing: It does not make use of the verbal, conceptual and/or semantic resources that are typical of the communication codes of a Professional Association (Educational, for example), but it makes use mostly of everyday expressions and ambiguous or not well definable concepts. Example (*text originally written in Spanish*):

"… enseñaba valores que aún usted y yo disfrutamos por cumplir esas enseñanzas y que nos trae felicidad y nos hace ser mejores en nuestras vidas estos, esto es ser un maestro, quien posee todos los atributos que un ser humano puede tener, tal como humildad, paciencia, fe, esperanza, servicio, amor, caridad, diligencia, tenasidad, constancia y usted puede llegar a ser y es una oportunidad formar parte de ésta sociedad, de estos jóvenes que a gritos piden ayuda, usted puede. ¡Cambie es su tiempo!" (*sic*).

Professor M.A.

Academic Writing:

***Expositive / Descriptive Writing*:** It makes a recount of situations, scenarios and subjects that only remain in an exhibition or description of these. Example:

"En un principio las personas que enseñaban, no tenían ningún título, pero sí eran personas letradas empiricamente o las que podrian alcanzar algun grado de estudio eran las que capacitaban a jovenes o todo tipo de personas que quisieran

[1] … that which occurs in the university and scientific field. It includes both works produced by university students (exams and texts of different genres, whether they work as practical works, evaluations, etc.), as well as those texts produced in the academy for the dissemination of scientific knowledge. In this way, the academic genre is made up of specialized texts that circulate in the scientific field and that, therefore, have certain common characteristics.

[2] … presence, relationships and frameworks that are woven between the texts.

tener un aprendizaje sobre algun tema en especial o del tema que dominara la persona letrada. La problematica de la sociedad siempre ha existido y siempre existira; la pobreza, la ignorancia, etc. Esta problematica se ha tratado de eliminar mas sin en cambio no se ha logrado; es por eso que una persona estudiada hara que la sociedad donde se desenvuelve salga adelante y supere todas las adversidades del mundo actual. Es por eso que los docentes son una parte muy importante de la educación de los jovenes" (*sic*).

Professor V.

***Reflexive Writing*:** In addition to exposing or describing situations, it has signs of reflecting on the situations that occur, intertwining them with possible meanings in the academic or social field of such events:

"Como dato histórico señalo el hecho de que los alumnos que obtienen mas bajo rendimiento escolar, corresponden a estas familias de clase social que se encuentran limitadas y marginadas económica y socialmente En este sentido, se puede percibir que la condición social esta relacionada con el rendimiento académico del alumno, condición en la cual el docente poco puede apostar" (*sic*).

Professor R.

***Analytical Writing*:** Not only reflects on the situations and scenarios that are presented in their professional environment, but begins to analyze with some methodical consistency the meaning of these:

"Nuestro papel ante la situación actual de los jóvenes debe ser conciliador; es decir, trabajar en la tarea de asociar clara y llanamente los contenidos de la asignatura con el contexto inmediato del alumno, Digo 'conciliador' por la razón de que el alumno tiene un 'pleito' con las asignaturas y desde el inicio adopta una actitud de medición de fuerzas con el maestro. Entonces conciliar es provocar que el alumno y la asignatura vuelvan a relacionarse y aquél lo acepte por convicción propia."

Professor M.A.

***Argumentative Writing*:** There are analysis of situations and scenarios, contrasting this information with what the theory says about such phenomena and defining in a comprehensive and timely manner their concepts and constructs. In addition to making quote of the authors who have spoken about the phenomena that it deals with, it makes use of Empirical, Numerical and Statistical data, and triangulates them with the knowledge of their own personal and professional experience:

"El maestro es, por tanto, solo un apoyo en los procesos de construcción del conocimiento, en el desarrollo de la personalidad, en el ejercicio y desarrollo de las libertades, derechos y obligaciones que como ciudadanos en México y el mundo para con los demás. En este contexto, el profesor debe tener un profundo amor por su profesión y un profundo respeto por los estadios de desarrollo genético de las personas (Piaget, 1968) para asegurar una inserción plena de cada persona en el mundo contemporáneo. Es por tanto, necesario abandonar las posiciones extremas; el docente no es un mesías y por sí mismo no va a reorientar el rumbo del desarrollo de nuestra sociedad…" (*sic*).

Professor J.I.

***Essay Writing*:** In addition to having the characteristics of Argumentative Writing and adhering to the general approach of its structure, it raises a hypothesis or personal theoretical position of the author, which comes not as the occurrence of a moment, but of a deep reflection on the phenomenon treated from a vision and preparation of a certain intellectual maturity that allows him to widely discuss concepts and ideas related to it:

"Ante los nuevos desafíos, el rol del docente se ha multiplicado para atender los grandes problemas sociales, por lo que, hoy ser un ejemplo como ser humano importa más que antes, ser modelo en la profesión cautivará a los alumnos, mostrar las competencias y dominarlas atraerá su atención y de esa manera pasar del verbo al sustantivo. Coincido con Vigotsky cuando señala que 'el aprendizaje es una construcción social, nace en la palabra, potencia la zona de desarrollo próximo y se interioriza, para finalmente crear nuevo conocimiento'" (*sic*).

Professor R.

***Writings that we commonly find*:** Expository / descriptive texts that mention ideas of certain authors or texts but do not discuss or interweave the ideas of the author or the empirical situations faced by the author:

"La educación básica, en sus tres niveles, plantea un trayecto formativo congruente para desarrollar competencias y que, al concluirla, los estudiantes sean capaces de resolver eficaz y creativamente los problemas cotidianos que enfrenten, por lo que promueve una diversidad de oportunidades de aprendizaje que se articulan y distribuyen a lo largo del preescolar, la primaria y la secundaria, y que se reflejan en el mapa curricular." Plan de estudios p. 44

El mapa curricular de la educación básica establecido en el 2011 se encuentra divido en 4 campos de formación que nos ofrecen la oportunidad de visualizar la articulación en la que se encuentra fundamentada su creación.

Mi tema de investigación pertenece al campo de formación Lenguaje y Comunicación el cual abarca lo relativo al Campo Formativo del mismo nombre…" (*sic*).

Professor C.

Contextual Description for the Didactical Intervention

Since 2004 and 2006, several Educational, Undergraduate and Postgraduate Programs were started at the Centro de Actualización del Magisterio. These programs are aimed at Teachers in Training and Teachers in Service, they focus on expanding and deepening knowledge and skills related to reflective practice and effective teaching intervention, based on Diagnostic Research that leads to the design, application and evaluation of Teaching Strategies oriented to the improvement of the learning of their students.

As mentioned, one of the main shortcomings faced by students in Postgraduate Programs is the weak ability to perform Reflexive-Analytical Readings and the scarce scriptural practice that, in very few cases, as we have seen, reaches the argumentative level or essay. In order to understand more clearly this situation, having as antecedent the Diagnosis with Teachers in Service, previously exposed, and having a basis for the design and application of a didactic intervention, we resorted to the information provided through an instrument applied to new students of a Postgraduate Program of this Institution during the 2016-2017 School Year. This was a questionnaire for two Reading Processes and a Rubric for the Evaluation of an Argumentative Academic Paper, and it was applied to 13 students. In the case of Reading, the processes were: for Continuous[1] and Discontinuous[2] texts. In the case of Writing, three basic aspects were evaluated: *Language*, *Argumentation* & *Cohesion*. Both instruments were designed by a faculty member made up of the same teachers who are in charge of School Subjects of the Postgraduate Programs, based on the points that PISA points out for the diagnosis of reading and writing skills.

For the Three Aspects (one of Writing and the two mentioned of Reading) a total average of 52.92 points out of a possible 100 was obtained. In the case of Reading, the final total average of the questionnaire was 14.04 points out of 36 possible for Continuous Texts, and 12.62 points out of 36 possible for Discontinuous Texts.

Facing this type of results has clearly represented a constant challenge for our group of teachers since the Reflexive-Analytical Reading and Writing are essential for the permanent tasks of the various activities of the subjects of educational programs for training, professionalization and teacher update, but above all, for the realization, in its various levels of advancement and concretion, of the didactic intervention proposals that are required to achieve the exit profile of each of these Educational Programs.

Conceptual Referents: Social and Academic Importance of Argumentation

As we progress through the process of problematization and reflect on our own practice, the authors of this Paper begin to review some Theoretical Concepts that will broaden the vision about possible causes and implications of the findings that were obtained. Thus, to conceptualize what is Argumentation we refer to what Tomás Miranda mentions in his book *El juego de la argumentación* (cited in SEP, 2012), is a game, a practice of language subject to rules that occur in a context communicative and through which individuals intend to give reason to others or to ourselves of some of our beliefs, opinions or actions. That is, it is the way we interact. In this sense, it can be said that arguing is the expression of a reasoning whose

[1] Texts that present the information in a sequenced and progressive way.

[2] Those in which the information is presented organized but not necessarily sequenced in a progressive way and that for its understanding requires the use of non-linear reading strategies that favor the search for interpretation of information in a more global and interrelated way (Sanz Moreno, 2005).

purpose is to influence the thinking and actions of other people, with the purpose of persuading, convincing or demonstrating some idea.

In everyday life, we are familiar with contact with a significant diversity of texts. The communicative function of these is Appellative or Persuasive. In this way, argumentation is understood as a discursive strategy that has as its purpose: "provocar o lograr adhesión por parte de un auditorio (en el caso de un discurso oral) o de los lectores (si el discurso se presenta de manera escrita) a la tesis, hipótesis o postura que se presenta"[1] (Centro de Investigación y desarrollo de contenidos, medios y tecnología educativa, n.d., n.p.).

On the academic field, says Anthony Weston (2013), giving arguments means offering a series of reasons or evidence to support a conclusion or affirmation. In the Contemporary World where it is naturalized, due to the diversity and ease of accessing diverse sources of information, particularly electronic ones, it is necessary that at least in the Academic Area such tendencies should not be followed. The Scientific Method involves venturing, based on experience or theory, to test results and assess actions and interventions, only then will an idea or position of thought have enough importance. This way of building knowledge is the most effective in any area of study, even in Behavioral Sciences such as Education.

The amount of studies, research and essays that we find about the Argumentative Oral and Written Competences in Higher School Studies is considerable. In a detailed but not exhaustive, and of course, conclusive, tracking in the main search engines, we could find about fifty studies covering the last ten years in Latin America, of these approximately 20 percent are from Mexican Educational Institutions. But, when trying to locate this type of work in Teacher Training Schools, the number was reduced considerably, very few are the jobs -three- that focus on this subject. Within these studies the present deficiencies and some strategies, almost always coincident, are approached to improve these competences, although a constant variation is the lack of definition of what we would have to understand by *Essay Writing*; likewise, a Typology of the Writings is not clearly and coincidentally stated, in order to have reference or point of contrast with the one presented here, which the Theoretical-Practical texts produced in European and North American Universities do with regular consistency.

Methodology

The approach for the Didactic Intervention presented here was to base the information on the diagnosis already described, and in a second moment, to carry out an exercise based on reflective teaching practice, limited in the steps of Action Research. This can be considered as the Methodological Framework of Work for the Intervention, although some authors, such as McKernan (1999), evade the term method. He prefers to talk about Action Research as:

una ideología que nos enseña que los profesionales en ejercicio pueden ser tanto productores como consumidores de investigación del *curriculum*; es una práctica en la que no se hacen distinciones entre la práctica que se está investigando y el proceso de investigarla. Es decir, enseñar e investigar en la enseñanza no constituyen dos actividades distintas. El propósito último de la investigación es comprender; y comprender es la base de la acción para la mejora.[2] (1999, p. 23).

Thus, Action Research starts from a process of reflection by which a professional in practice carries out a study to clearly define the problem, to specify an Action Plan, which includes an examination of Hypotheses by the application of the action to the problem, an Evaluation is undertaken and the effectiveness of the action taken is established (McKernan, 1999).

From this first approach of framing the Didactic Intervention in an Action Research process, linked to the initial questions and to a first simple and extended register analysis exercise, carried out in the teaching practice of one of the authors of this research, the enunciation emerged of a Central Question, guide of the work to be done:

What Didactic Strategies can I apply to favor the competences for the Academic Writing of undergraduate and postgraduate students of an Educational Institution for Teachers in Training or in Service?

[1] … induce or achieve adhesion by an audience (in the case of an oral speech) or by readers (if the speech is presented in writing) to the thesis, hypothesis or position presented.

[2] … an ideology that teaches us that practicing professionals can be both producers and consumers of curriculum research; it is a practice in which no distinction is made between the practice being investigated and the process of investigating it. That is, teaching and researching in education do not constitute two distinct activities. The ultimate purpose of the investigation is to understand; and understanding is the basis of action for improvement.

In the same way, a Central Objective was established:

Apply a series of Teaching Strategies that favor the Academic Writing skills of undergraduate and graduate students of an Educational Institution for Teachers in Training or in Service.

And, anticipating what kind of Didactic Strategies could fulfill the proposed in the general approach of the Didactic Intervention, the following hypothesis was stated:

The strategies of Debate and of Academic Writing Workshop, worked from the frame of the Didactic Sequences, help to strengthen the Academic Writing skills of Undergraduate and Postgraduate Students of an Educational Institution for Teachers in Training or in Service.

Design and Application of the Didactic Intervention Process

In addition to the information gathered from the instruments applied to new students to a Graduate Program and the results already described, and from the one provided by the Analysis of the own Teaching Practice (from 2 Audiovisual Recordings of class taught by one of the teachers authors of this paper, with their respective Transcriptions, Codifications and Data Analysis), worked with various instruments for the collection of empirical information described below.

The students with which the Observation of the Practice and the Didactic Intervention was carried out, with application of previous and subsequent tests, were 11 students (of the 13 who participated in the diagnosis already described) through the first and second semester of a Postgraduate Program in the 2016-2017 School Year; approximately 50% of them with Teacher Training and between 25 and 54 years old.

As Test Prior to the Dicactic Intervention (Pre-Test), the students' Academical Writings prepared during class were reviewed; the same Rubric already detailed in the Diagnostic Process was applied in five aspects of Academic Writing, which was already exposed in the first part of this work and which:

- ***Use and Management of Language (Appropriate to the Scriptural Purpose).***
- ***Organization***.
- ***Argumentation***.
- ***Cohesion & Coherence***.
- ***Language Conventions***.

The results obtained in the Test Prior to the Didactic Intervention are presented in the following table:

Table 3. *Results of the Five Criteria in the Pre-Intervention Test for Academic Writings*

Criteria	Mean	Level
1. *Use and Management of Language (Appropriate to the Scriptural Purpose)*	20 (de 25)	Good
2. *Organization*	16 (de 20)	Good
3. *Argumentation*	16 (de 25)	Improvable
4. *Cohesion & Coherence*	15 (de 20)	Improvable
5. *Language Conventions*	3 (de 10)	Inadequate
Total Percentage	70	Improvable

Regarding the review of the Teaching Practice, as already mentioned, two recordings were made, one with the Group Object of Intervention and another one with a Group at the Undergraduate Level, as a Complement and Contrast Group, of which Transcription, Coding and Segmentation were carried out, where six types of Oral Interventions of the Teacher were detected:

a) Indication about the development of Didactic Activities;

b) Verbal Indication of the Teacher to the Students, subdivided into: 1. Invitation to participate; 2. Questioning the Students; 3. Agreement on an idea, summary or conclusion about what was exposed in class; 4. Clarification about an idea or concept; and,

c) Teacher's Oral Presentation: a Complementary Comment about the exposed or the activity that is being carried out.

The one that presented the most frequency was b) Verbal Indication of the Teacher to the Student, Category 4. Clarification about an idea or concept, and secondly the same type of indication, b), but in category 2: Questioning the Students.

In the same way, there were eight types of Oral Intervention categories for Students' Oral Participation:

a) Student's Oral Presentation, subdivided into: 1. General Exhibition; 2. Affirmation or Clarification of an idea; 3. Doubt or Question;

b) Student's Oral Presentation: a Complementary Comment about the exposed or the activity that is being carried out;

c) Conceptual Theoretical Elaboration of the Student based on what was discussed or exposed in the classroom; and,

d) Oral Presentation of the Student to argue an idea, subdivided by Types of Argumentation: 1. From Own or Close Experience; 2. From Statistical or Numerical Data; 3. Scientific Quote.

The most frequent, by far, was a) Student Oral Presentation, category 1: General Exhibition derived from a read text. As for the Oral Presentation to Argue Ideas were only two the number of interventions, without being precisely a Scientific Quote or use of Data, but Exemplifications from Own Experience.

Didactic Intervention

Based on these results, a Didactic Intervention was designed and implemented through October 2016 and February 2017, during 8 sessions on four weekends (Saturdays from 8:00 a.m. to 3:00 p.m. and Sundays from 8:00 a.m. to 1:30 p.m.), which correspond to a regular class of the Graduate Program. From what was analyzed in the Audiovisual Recordings of the own Teaching Practice, it was found that it is extremely important to strengthen Written Argumentation from the same practice of Oral Argumentation and Analytical Reading, since the Reading-Writing relationship turns out to be irreducible; thus, the authors of this Paper decided to work during the Didactic Intervention based on these aspects. For the Written Argumentation, a self-construction strategy called "Academic Writing Workshop" was developed, in conjunction with the ideas of Doris María Parra Pineda (2003), and for the Oral Argumentation the "Debate Strategy" based on the *Estrategias de enseñanza-aprendizaje. Docencia universitaria basada en competencias*[1], from Pimienta (2012), as well as a Practical Guide for the Analysis of Academic Texts of own construction.

Analysis and Discussion of Results

There were three Debates that were also recorded in Audiovisual Recordings, with prepared activities guided by the teacher, which included Exercises of Analytical Reading of Theoretical Texts related to the proposed topics. Of the Oral Participation of the Teacher, there were clear improvements in the aspect a) Indication about the development of Didactic Activities; in b) Verbal Indication of the Teacher to the Students there were minor improvements in categories 1. Invitation to participate; 2. Questioning the Students; 4. Clarification about an idea ir concept. In the aspect c) Teacher's Oral Presentation: a Complementary Comment about the exposed or the activity that is being carried out, there was no improvement, the behavior was similar to that seen in the Audiovisual Recording Exercises prior to the Didactic Intervention.

In the categories corresponding to the aspect a) Student's Oral Participation, visible improvements were presented in the following: In the categories 2. Affirmation or Clarification of an idea, and 3. Doubt or Question; of this same aspect, in category 1. General Exhibition, there was also a considerable improvement in student participation, although this would be entirely attributable to the nature of the Didactic Strategy used. The aspect b) Student's Oral Presentation: a Complementary Comment about the exposed or the activity that is being carried out, as for the teacher, had similar behavior in the students than in the previous results. In the two aspects where there was greater improvement was in those that are essential for the intervention undertaken, the first of these was the c) Conceptual Theoretical Elaboration of the Student based on what was discussed or exposed in the classroom, where the students had moments when they began to build

[1] Strategies of Teaching-Learning. University Teaching Based on Competencies

not only from the Theoretical or Empirical Referents involved, but also in the same discussion that was held with the Pro and Con Positions. The other aspect with a high degree of improvement was d) Oral Presentation of the Student to argue an idea, where there were advances in two categories according to the type of argumentation: 1. From Own or Close Experience, and 3. Scientific Quote; subcategory 2. From Statistical or Numerical Data, behaved almost similar to that presented in the previous results.

Regarding Academic Writing, Argumentative Papers were made for the students at the end of the 8 sessions, specifying that they should aim to achieve the Structure of an Essay Writing (ten pages on average with a common theme related to the purposes of the class in which the process of Didactic Intervention was carried out) and the same Rubric previously described was used. The Academic Writing Workshop consisted in seeing writing as a process of constant Reading and Analysis of Academic Texts, and gradual writing in the process of constant Advancement-Revision. At the beginning of the class the premises and characteristics of the Essay Paper were raised and each sesión at least one student presented individual advances with group reading and comments by it partners and the teacher.

The results in the Five Criteria considered in this rubric are shown in table 4. There is a percentage improvement in the five criteria.

Table 4. Results of the Five Criteria to evaluate Final Papers

Criteria	Mean	Level
1. *Use and Management of Language (Appropriate to the Scriptural Purpose)*	22 (de 25)	Good
2. *Organization*	19 (de 20)	Good
3. *Argumentation*	18 (de 25)	Improvable
4. *Cohesion & Coherence*	16 (de 20)	Improvable
5. *Languague Conventions*	5 (de 10)	Inadequate
Total Percentage	70	Good

The first criterion rose on the mean of 20 to 22, two percentage points that even in such a small group could be considered representative of improvement. The second criterion, *Organization*, went from 16 to 19 percentage points. A*rgumentation* increased equal two percentage points from 16 to 18. *Cohesion & Coherence* rose only one percentage point from 15 to 16 and, finally, the criterion number five, *Language Conventions*, went from 3 to 5 percentage points.

Conclusion

Professors of Training Teachers or Teachers in Service Schools, we have tried to take graduate students from those first levels of Expository / Descriptive Writing to the Essay Writing without worrying about passing them through the intermediate levels of scriptural scope, being essential to put particular attention to the Argumentative Character that the writings would have to reach, since this is the one that undoubtedly would grant a desirable Analytical Level so that a writing can be considered as Academic, that is to say: that writing that can reach the sufficient merits to engage in serious discussions about any area of knowledge, with valid proposals for Improvement and Innovation.

The point in which we considere is necessary to influence, is to work on *How to achieve that students can reach acceptable levels in their Analytical Reading, Oral Expression and Academic Writing*: that is, move from the Descriptive / Expository to the Argumentative. The Strategies used to strengthen the Oral and Written Arguments (it was clear to us that the first of these has to be worked on in order to make the second more viable), the Analytical Reading, the Debate Stretegy and the Academic Writing Workshop, presented favorable results for the improvement of Communicative Competences, in particular the one that was the object of the research: the Argumentative Academic Scriptural, based on Analytical Reading. The Academic Writing Workshop was adequate in its dynamics for what the Methodology of Action Research requires, since we consider them as constant cycles of Didactic Intervention, with adjustments to the Strategy between one session and another.

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Regional Development through Continual Improvement of Higher Education in Latín American Countries Case Study

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Abstract

Aiming to promote the social mission of higher education and their integration in Latin American countries, this research has a qualitative focus and it has the objective to study the normative context and the main theoretical references for the assurance of the quality of higher education for Colombia and Ecuador, examines how the continuous improvement of higher education contributes to regional development; and proposes methodological strategies that contribute to the purpose for the regional development, in a systemic, objective, measurable and achievable in time way, like are the process management and the balanced score card for University Management Strategies and to built a public policy for Latin American Universities.

Keywords: University Management, Quality Assurance, Public Policies, Fundamental University Management Strategies.

1. Introduction

The Final Report of the World Conference on Higher Education in the 21st Century, Vision and Action, highlights the capacity of higher education to "transform and promote change and the progress of society" (UNESCO, 1998, p.20). Consequently, countries with their national governments and their higher education institutions work to fulfill this global purpose, by improving quality.

The problem of research is posed with the following question based on an analysis of the current literature and trends that allow us identify 'the problem'. Thus it is prudent to pose the following research question: What methodological strategies contribute to the continuous improvement of the quality of higher education, as a contribution to regional development? And as a research hypothesis at this stage it can be inferred that the methodological tools of the quality assurance of higher education contribute directly to regional development.

Taking all this into account, the general objective of the research is to analyze and propose methodological strategies for the continuous improvement of the quality of higher education, as a contribution to regional development. The specific objectives are: to analyze the normative and conceptual context of the assurance of the quality of higher education for Colombia and Ecuador; and to formulate methodological strategies to continually improve the quality of higher education and its contribution to regional development.

The paper firstly examines a theoretical framework. In doing this, the research contributes to the development of a conceptual framework allowing us to explain why those methological strategies improve the quality of higher education. Following this, the research will develop a study that allow to the universities have a management model according to the social requirements through the development international cooperation strategies between universities in Latin America and Europe.

2. Theoretical Framework

2.1. Conceptual Framework

The main concepts analyzed in this research, which are directly interrelated, are described below; giving special importance to the fact that the current theoretical and normative approaches in Colombia, Ecuador, and the world, for continuous improvement and the assurance of quality, are based on principles that must be adopted by the leading human talent and ascribed to the institutions of higher education to be successful in this process it is evident that the failure to achieve the purposes of quality assurance, is due to the absence or weak application of one or more of the following principles:

Principles of Higher Education in Colombia.

Law 30 of 1992 defines the following principles of the public service of Higher Education in Colombia, (Congreso de la República de Colombia, 1992, p.1). Article 1 Higher Education is a permanent process that enables the development of the potential of the human being in an integral manner, is carried out after secondary or secondary education and aims at the full development of students and their academic or academic training. Professional. Article 2 Higher Education is a public cultural service, inherent to the social purpose of the State. Article 3 The State, in accordance with the Political Constitution of Colombia and with this Law, guarantees university autonomy and ensures the quality of the educational service through the exercise of the supreme inspection and surveillance of Higher Education. Article 4 Higher Education, without prejudice to the specific purposes of each field of knowledge, will awaken in the students a reflective spirit, oriented towards the achievement of personal autonomy, in a framework of freedom of thought and ideological pluralism that takes into account the universality of knowledge and the particularity of the cultural forms existing in the country. Therefore, Higher Education will be developed within a framework of freedom of teaching, learning, research and teaching. Article 5 Higher education will be accessible to those who demonstrate that they possess the required skills and meet the academic conditions required in each case.

Valorative Principles of the National Accreditation Council (Consejo Nacional De Acreditación, 2013b, P. 9)

a) Universality.

b) Integrity.

c) Equity.

d) Responsibility.

e) Coherence.

f) Transparency.

g) Relevance.

h) Efficiency.

i) Sustainability.

Principles of Quality - International Standards Iso 9000 (Organización Internacional de Normalización -ISO-, 2015a, pp. 3–10).

a) Focus on the client.

b) Leadership.

c) Commitment of the people.

d) Focus on processes.

e) Improvement.

f) Decision making based on evidence.

g) Relationship management.

Principles of the Higher Education System (Presidencia de la República de Ecuador, 2010, p. 7)

Art. 12.- Principles of the System.- The Higher Education System will be governed by the principles of responsible autonomy, co-government, equality of opportunities, quality, relevance, integrality and self-determination for the production of thought and knowledge within the framework of the dialogue of knowledge, universal thinking and global technological scientific production.

Regional Development

According to Javier Delgadillo Macias (Delgadillo, 2001, p.1), "Regional development is a concept inherent in the transformation of the regions. A process and an end in the tasks of administration and promotion of the growth and welfare of the country. As a concept, it refers to a process of qualitative and quantitative changes at the economic, political, social, environmental, technological and territorial levels that take place within the political-administrative units of the territory. "

In this paper, regional development will be observed, based on a general analysis of the policies in which higher education institutions should directly influence, through the exercise of their mission functions, legally defined by the state.

Continuous Improvement

For the purposes of this research, the concept of continuous improvement is the fundamental purpose of the management and quality assurance systems that are implemented in higher education institutions in order to comply with the applicable national regulations, they will be defined as the capacity to increase in a recurrent way over time, the level of performance of the indicators defined by the institutions and the academic programs to satisfy the social needs and meet the quality conditions and the accreditation or certification guidelines established by the control entities of higher education.

Quality Assurance

The assurance of quality is a natural part of the evolution of humanity, since there has always been an effort to ensure the functioning of the goods produced by man and improve them continuously. Throughout history the first written norm that demonstrates this purpose is the code of Hammurabi. This code regulated a severe punishment to the architect that causes the death of a human being, in case of technical failures in the construction, in the year 1750 BC. (Franco, n.d., p.353). In relation to these origins, it is necessary to highlight what Professor Maria Angelica Navarro pointed out:

The rise of the concept of quality from the theoretical level and in the application began in the nineteenth century, along with the organizational needs of the military industry and the countries in the Second World War, with theoretical advances as follows: quality control by inspection , the statistical control of quality; the cycle Plan, Do, Check and Act (PHCA) of Shewhart (1924), taken up by Edwards Deming (1989), to support the management of the development and growth of Japan after the Second World War, with excellent results visible even in the present (Navarro, 2017). In the eighties, faced with a globalized market, the "Total Quality Processes" were born, which include planning, design and research; advancing the need to ensure quality, from all organizational components with leadership, staff participation, process management, and customer focus, both in the production of physical goods, and in the supply of intangible services. The most significant contribution in this new stage of quality was the importance that human talent took for teamwork and problem solving, leading to the creation of new knowledge in a systematic way, Cubillos y Rozo (2009) quoted by Navarro (2017, p.22), which meant a new way of thinking and working in organizations, based on the culture of continuous improvement of total quality. (Navarro, 2017, p.22)

Since 1987, the International Organization for Standardization -ISO- and to date, has published the international quality standards with greater acceptance worldwide. In doing this, the organisation promotes the implementation and certification of quality management systems (QMS), based on the principles of the management of the quality contained in the ISO 9000 standard (International Organization for Standardization -ISO-, 2015a), as previously detailed in this paper; and required for effective management of its components: Context of the organization, leadership, planning, support, operations, performance evaluation and improvement. All these components have been taken as a theoretical reference for the creation of other applicable standards in different sectors and countries, as is the case of Colombia in which the ISO 9001 standard was adapted (ISO, 2015), to apply it in a mandatory way to entities of the public sector, including public higher education institutions, through the adaptation called: Technical Quality Standard for Public Management -NTCGP 1000 (ICONTEC, 2009).

Quality Assurance in Higher Education

Starting in the nineties, the countries in Latin America, pioneers together with New Zealand worldwide, initiated processes of creation and implementation of systems and agencies of evaluation and accreditation for the recognition of high quality of Higher Education Institutions and of the programs offered by them. The aforementioned in view of the role that higher education in the region must play in the formation of advanced human capital by constituting: An essential component of the growth and competitiveness of nations, as a decisive factor in expanding the opportunities of people in the region, labor market and favoring social mobility, as well as playing a key role for the functioning of the institutions that make democratic governance possible and the development of countries, (CINDA, 2012 as cited in Navarro, 2017, page 23).

The implementation of quality assurance processes responds to the specific needs and realities of each national higher education system, and in general, to "a common denomination for a variety of mechanisms tending to control, guarantee and promote the quality of institutions of higher education "CINDA (2012), based on the interaction and information of different actors involved in the educational process. (Navarro, 2017, p.23)

Educational quality means developing an organizational culture oriented towards evaluation, continuous improvement and innovation, both in the program and in the institution, which implies the deployment of policies, strategic programs, projects, actions and resources that are integrated into development plans, promote the fulfillment of missionary statements and an ideal of excellence with active participation of the institutional community. For this to be a strategic priority as proposed by Guzmán (2011), it is necessary that each institution has an adequate organizational structure, processes and mechanisms that make permanent monitoring of the pertinence, efficiency and effectiveness of the work of the academic programs, of the faculties and of the institution, within the framework of a process of self-regulation, whose visible expression before the society and the academic world is the temporary accreditation and its continuous renewal.

Quality Assurance in Latin America

In coherence with international approaches, in Latin America as well as in Europe, each country has models and quality assurance mechanism, according to what is stated in the report of Models and mechanisms of quality assurance in Latin America (CINDA, 2012 cited in Navarro, 2017, page 23). This research paper sets out the models and mechanism for quality assurance, implemented in 12 countries in Latin America and four European countries, describing the country, the agencies, the dependency, the purpose, the character, the procedure and the level, as well as the degree of implementation of the quality assurance system, which can be: established, in the initial phase and in the process of formation; within which it is identified that the assurance of the quality of higher education depends on state control; Colombia is classified in countries that have an established quality assurance system, along with Portugal, Spain, Chile, Mexico and Costa Rica; and to Ecuador in those that are in the initial phase, along with Panama, Uruguay, Brazil and Peru.

In the same way it is observed that in Colombia there are four organisms that administer this theme, such as the Ministry of Education, the National Intersectorial Commission of Quality Assurance of Higher Education, the Colombian Institute for the Promotion of Higher Education and the Council National Accreditation; and that in Ecuador there is only one body that administers this subject, called the Council for evaluation, accreditation, and Quality Assurance of Higher Education in Ecuador -CEAACES-, which is formed after the modification of the former National Council for Evaluation and Accreditation of Higher Education –CONEA-.

Quality Assurance in Colombia

In Colombia, according to the accreditation guidelines for undergraduate programs (Consejo nacional de acreditacion, 2013b), "the concept of quality applied to the public good of higher education refers to the synthesis of characteristics that allow recognizing a specific academic program or an institution of a certain type and make a judgment about the relative distance between the way in that institution or in that academic program that service is provided and the optimum that corresponds to its nature. To approach this optimum, the National Accreditation Council has defined a set of general characteristics, from which the judgments on the quality of institutions and academic programs are issued. “It is observed that from the reference of international referents, for Colombia, it is preponderant that higher education contributes to regional development and that, it works around two concepts, academic relevance and social pertinence, which will be discussed in this paper.

Quality Assurance in Ecuador

In the case of Ecuador, the assurance of Quality is established in the Organic Law of Higher Education, chapter 1 of the principle of quality,

Art. 93.- Principle of quality.- The principle of quality consists in the constant and systematic search for excellence, relevance, optimal production, transmission of knowledge and development of thought through self-criticism, external criticism and permanent improvement. Art. 96.- Quality assurance. - The Quality Assurance of Higher Education is constituted by the set of actions carried out by institutions linked to this sector, in order to guarantee efficient and effective management, Applicable to careers, academic programs, institutions of higher education and also to the councils or bodies of evaluators and accreditors. (Presidency of the Republic of Ecuador, 2010, page 17).

Academic Relevance

According to the analysis of international and especially national theoretical and normative precepts, the concept of "academic relevance" is worked, to identify the contributions to regional development, from the impact that academic programs and institutions of higher education make on the community scientific of its discipline, of other disciplines and concretely in the application of said academic aspects in the context.

For the purposes of this research, academic relevance is fundamentally defined based on the guidelines for accreditation of undergraduate academic programs (Consejo Nacional de Acreditaciòn, 2013b, p.20), considering the aspects to be evaluated related to characteristic number three. Understanding that the academic relevance of an academic program and an institution, should be demonstrated from the alignment and contribution to the trends and lines of development of the discipline or profession at the local, regional, national and international levels, updating and relevance of the curriculum according to the needs of the environment; the changes in the curriculum, resulting from experiences related to the analysis and proposed solutions to the problems of the context, among other aspects that will be described more concretely in the development of this research in articulation with the social pertinence.

Social Pertinence

Consistent with the purpose of this research, social pertinence is conceptualized as a priority, revisiting the guidelines for accreditation of undergraduate academic programs (Consejo Nacional de Acreditacion, 2013b, p.11), as "the capacity of the institution and its program to respond to the needs of the environment. Needs to which the institution or the academic program does not respond passively, but proactively, with actions to transform the context in which it operates, within the framework of the values that inspire the institution and define it". In equal measure, the aspects to be evaluated related to characteristic number three of said guidelines will be taken into account. This concept is complemented by the concept of pertinence, given by (García, 2002, p.4), who defines it as "the degree of contribution or intervention of the universities in the solution of the needs or demands of society, in their technical and social dimensions, current and future, the contributions and the way these educational institutions are felt, studied, and perceived by society, in an interaction that takes the environment as its object of study in order to identify problems, propose solutions and participate in them, from a reflective position that allows to maintain in force the principles inherent to its condition of university, worthy of respect and that deserves the support of the community ".

In the Organic Law of Higher Education of Ecuador (Presidencia de la Republica de Ecuador, 2010, p.19), in Title VI, chapter one, in the Article. 107, explains that.

2.2. Legal Framework

The following is the general regulatory framework applicable to quality assurance and continuous improvement of higher education in Colombia and Ecuador, as a basis for regional development.

Legal Framework of Higher Education in Ecuador

In Ecuador the Political Constitution of the Republic, in articles 28 and 29 of the first section, affirms that higher education will respond to the public interest and that it will be inclusive, and acordingly, between article 350 and 357, it guides the generalities of the functioning of the higher education system (Asamblea et al., 2008, pp. 16,108-136); In a complementary manner, the Organic Law on Higher Education was issued (Presidencia de la Republica de Ecuador, 2010); the 2013 Academic Rules Regulation, which defines the levels of higher education training (Council of Higher Education, 2013); and

Resolution 104 of 2014 of the CEAACES, regulates the process of Evaluation, Accreditation and Categorization of Careers of the Universities and Polytechnic Schools; and specifically in the fifth chapter, regarding the categorization and accreditation of careers. (CEAACES, 2015, p 2.11). According to the qualification of the learning environment and the national exam for the evaluation of careers -ENEC-, three categories are defined, 1) accredited, 2) in process of accreditation or 3) not accredited. This regulation is deployed through the Accreditation and Quality Assurance System and the Higher Education Council, organizations that guide the functioning and the search for excellence and the relevance of institutions and careers.

Legal Framework of Higher Education in Colombia

The Political Constitution of Colombia (Consejo Superior de la Judicatura, 2015, pag 59) establishes in article 64, that it is the duty of the State to promote progressive access to the education service; in article 67, which is a right and a public service; and in article 69 that "the State shall provide financial mechanisms that make possible the access of all persons suitable for higher education"; in consonance With Law 30 of 1992, the public service of Higher Education in Colombia, (Congreso de La Republica de Colombia, 1992, p.1) and Decree 1075 (Ministerio de Educacion Nacional de Colombia, 2015), in part 5, title 3, chapter 2, in ten sections describes the requirements related to the management and renewal of the qualified register, this being the first level of quality required for the offer of undergraduate and postgraduate academic programs.

In response to the high standards imposed by the social and productive sector needs, as well as the international context, accreditation of academic programs is defined as a second level of quality for Higher Education Institutions, for which there is a wide range of regulations that encourages the development of these voluntary processes of high quality accreditation. In this regard it is necessary to review that by means of Law 1753 of 2015 (Congress of the Republic of Colombia, 2015, p.101), by which the National Development Plan 2014 - 2018 is issued, the obligation of high-level accreditation was determined quality for the degree programs and the privilege for the allocation of financing resources and educational credit for the accredited institutions; and in correspondence, the preliminary version of the Quality Guidelines for Bachelor's Degrees in Education was issued (Ministerio de Educacion Nacional de Colombia, 2014). Academic programs for other areas of knowledge, Guidelines for accreditation of undergraduate programs (National Accreditation Council, 2013b) and Guide No. 3. Self-assessment procedure for accreditation of undergraduate programs (National Council was published of Accreditation, 2013a); which provide the basic guidelines to develop the corresponding processes. And the third level of official quality of higher education institutions in Colombia is determined by Guidelines for institutional accreditation (National Accreditation Council, 2014).

International Standards for the Management of Continuous Improvement

As a contribution to the processes of continuous improvement and accreditation, and with the objective of providing publicly accredited quality services, nationally and internationally, the programs and Institutions of Higher Education have adopted international standards for the discipline of each area of the knowledge, endorsed by prestigious associations and universities; as well as technical standards that contribute to the specialized management of different topics that must be integrated strategically. Some of the International Technical Standards of greater application are the following:

- NTC ISO 9001 - Quality Management Systems (International Organization for Standardization -ISO-, 2015b)

- NTC ISO 14001 - Environmental Management Systems. Requirements with Guidance for its Use (ICONTEC, 2015).

- Standard 18001 - Occupational Health and Safety Management (OHSAS, 2007) which will soon be replaced by the ISO 45001 standard, which is being revised by the ISO.

- NTC ISO 17025 - General requirements for the competence of testing and calibration laboratories (International Organization for Standardization -ISO-, 2005).

- NTC ISO 26000 - Corporate Social Responsibility (International Organization for Standardization -ISO-, 2010)

- NTC ISO 31000 - Risk Management. Principles and Guidelines (ICONTEC, 2011).

It is important to consider as a precedent, that the public universities of Colombia have implemented the Technical Quality Standard for Public Management -NTCGP 1000-, because it is a legal requirement for the entities of the Colombian State, and, under this imposition, they have decided to overcome the legal requirement, and have certified their academic

processes internationally, with the ISO 9001 standard (International Organization for Standardization -ISO-, 2015b), since the NTCGP is an adaptation of this standard, for Public Management of Colombia (ICONTEC, 2009).

Internal Rules and Plans of the Institutions of Higher Education

Considering the concepts and norms applied in each country, the institutions define the institutional educational project, the strategic development plan and the internal rules that will make it possible to fulfill its mission in the context.

3. Methodological Approach

The following information was taken from the research "Study of Academic Relevance and Social Pertinence of the Bachelor's Degree Program in Early Childhood Education" of the Faculty of Education of the CESMAG Institution, of the city of Pasto -Nariño, which the teacher advances researcher Mg. María Angélica Navarro Sánchez, (2017).

To carry out this research, we carried out a descriptive, analytical and exploratory study, with a social cut because its object of study is focused on the educational phenomenon, the qualitative - interpretative paradigm is determined (Restrepo, 2002), being phenomenological, naturalistic and subjective, that is, that is oriented to the understanding of the phenomenon, to be studied from within and in its natural environment, emphasizing understanding and whose validity is the result of the richness of the data and the holistic approach.

The paradigm is qualitative (Hernández, R., Fernández, C., and Baptista, P. 2008), because "the aim is to understand the perspective of the participants (...) about the phenomena that surround them, to deepen their experiences, perspectives, opinions and meanings, that is, the way in which participants subjectively perceive their reality "p. 364

This research involves the revision of papers related to higher Education, quality assurance; development plans and objectives, and competitiveness indicators, for the analysis of information in the contexts: macro -International-, meso - National of Colombia-, and micro -of Higher Education Institutions of Colombia-. Also to strengthen the structuring of the strategic component of this research, the observation of national and international experiences, and interviews carried out with a focus group of professors and managers from different institutions and academic programs of higher education, such as Corporación Universitaria Minuto de Dios, Corporación Universitaria Remington, Institución Universitaria CESMAG, Universidad Católica de Pereira, Universidad Central, Universidad EAFIT, Universidad de La Salle, Universidad del Rosario, Universidad de los Andes, Universidad de Manizales, Universidad de Nariño, Universidad ICESI, Universidad Industrial de Santander, Universidad Javeriana, Universidad San Buena Ventura, Universidad Militar Nueva Granada; in Ecuador, Universidad Técnica del Norte, Universidad Politécnica Estatal del Carchi y Universidad de las Fuerzas Armadas ESPE.

On the other hand, Díaz and Navarro (1998, cited in Fernández, F, 2002) explain that the content analysis can be conceived as a set of procedures that aim to produce an analytical meta-text, in which the textual corpus is represented in a transformed way. (...) Or, in other words, it has to be conceived as a procedure designed to destabilize the immediate intelligibility of the textual surface, showing its aspects that are not directly intuitive and yet present (pages 181 and 182)

In this way, the content analysis is adapted to the interests of the researcher and allows for the establishment of the level of utility for:

"Describe trends and reveal similarities or differences in the content of written communication between people, groups, organizations, countries, etc. Identify attitudes, beliefs, desires, values, interests, goals, etc., of people, groups, organizations, countries, etc. Analyze the content of the communications and audit it comparing it against standards. Compare the content of the communication by means of the research of the means and the levels used. "(Fernández, 2002, p.37)

Among the characteristics that stand out in this technique are its objectivity, because the objectives and procedures to be followed are clearly defined and allows the reproduction of the analysis by other researchers who wish to verify the results obtained; systematization, by allowing the analysis of the contents from a system applicable to each and every part of the paper.

Similarly, it stands out for being susceptible to quantification, since its results can be expressed in indicators and be subject to numerical transformation.

4. Results of the Research

4.1. Analysis of the Normative and Conceptual Context of Higher Education for Colombia and Its Contribution to Regional Development

According to UNESCO, the World Conference on Higher Education (CMS) (1998), as well as different texts and authors, through history, it is concluded that higher education institutions have as their fundamental mission to promote regional development; However, this clear paradigm is often blurred, given the complexity of the internal and external realities of these entities. The high demand of the higher education service is one of the most important challenges to be solved worldwide, as a proactive or reactive measure depending on the context. Given this situation, at the international level, quality assurance systems have been adopted voluntarily and in other cases compulsory, which contribute to the purpose of balancing the balance of coverage and quality in the provision of this public service.

Quality assurance systems in all countries and their different methodological and theoretical approaches coincide in the fundamental purpose of promoting continuous improvement through technical tools, such as management indicators allow measuring, analyzing and making continuous improvement decisions.

Regarding regional development, we have identified that in Colombia the quality assurance system has established the accreditation guidelines for undergraduate academic programs (Consejo Nacional de Acreditacion, 2013b, p.8.20), that for a academic program is accredited in high quality, this must demonstrate satisfactorily, among other aspects to evaluate, significant evidence regarding academic relevance and social pertinence. Specifically, this is defined in characteristic three of these guidelines.

4.2. Methodological Strategy to Continuously Improve the Contribution of Higher Education to Regional Development

The methodological strategies to continually improve the contribution to regional development from higher education set out below, are structured taking into account the parameters used at the national and international level previously reviewed, and the concepts on which this study has been oriented, which are "academic relevance" and "social pertinence".

The norms and theories of quality assurance of higher education nationally and internationally, are clearly based on the methodology of continuous improvement of the -PDCA- cycle (Deming, 1989), plan, do, check and act; which in the case of Colombia is adapted to the accreditation guidelines of the undergraduate academic programs (Consejo Nacional, 2013b, p.17), with the following dynamics: say what you do, do what you say, check it and improve it.

To structure an academic program or an institution determined to contribute to regional development, policies, strategies, objectives and monitoring and management methodologies should be established to guarantee compliance with said purpose. These include those referred to below, starting with the review of success stories from universities in Latin America, Europe and the United States.

System of Quality Management and Process Management

The high level universities have decided to adopt quality management systems, and their components, according to the technical standard ISO 9001 (International Organization for Standardization -ISO-, 2015b), with the purpose of optimizing its administrative model and its processes with a focus towards: satisfaction of social needs, leadership and participation of the academic community, process management, continuous improvement, decision-making based on indicators and management of relationships with stakeholders.

To meet the requirements and needs of the context of the organization; assertively lead the deployment of strategic planning; ensure due institutional support in the competition and awareness of human talent, the management of documented information, communications and infrastructure that fosters an adequate work environment for the development of mission processes, the evaluation of performance and continuous improvement through self-control, audits and periodic management reviews.

One of the great methodological aspects that makes the implementation of quality management systems possible is to adopt process management, which makes knowledge of the activities - PDCA -, the objective, the scope, the leader and actors of each process possible ; as well as the inputs (inputs); the requirements of internal, external customers and interested parties (who receive the service or product); the products or services (outputs); the applicable regulations; the

referenced concepts; the generated records; the risks that must be foreseen, the information and the physical and technological resources required; the control points; the articulation with other processes; among other aspects, as required. In this regard it is clarified that discussions have already taken place, in which it has been agreed that although the standards speak from productivity in general, with terms such as product or client, from a complex analysis, universities must recognize that the student is not only a customer of any product or service, but is a human being with individual, family, social, economic and cultural characteristics, and that represents the needs of the context, which must be met through the provision of the service of higher education, which this requires conditions of high quality and that only occurs through human interaction between students, teachers and the academic community with which it interacts.

In a preponderant manner, it is suggested to adopt an administrative tool validated by higher education institutions, such as process management. In this way, it is possible to continuously improve the management indicators of general higher education and those that show academic relevance and social pertinence, as a contribution to regional development.

In order to briefly study the university process management, based on the study of management systems in this sector, this research proposes a general process map, which can be adapted according to the structure, nature, philosophy, planning, the dynamics and priorities of each higher education institution. This process map represents the interaction and articulation that the processes should have, in order to respond to the needs of the region, improving continuously; and it contains the major processes that are generally carried out in this type of entity, according to three types of processes; according to the nature of their objectives, which are: strategic, missionary, and support processes, briefly described below.

As strategic processes are defined: leadership and planning, and quality assurance, responsible for guiding the institution in the development of the mission and the achievement of the vision, in coherence with the educational project, the development plan, the quality, and the needs of the region, according to the conditions of the same organization.

The mission processes are those that execute the functions for which this type of institution was created, which are education, research, and social projection, with the transversal component of internationalization that is currently required from different normative perspectives and context.

The support processes are those that support the mission statement and the other processes, for which from this research it is proposed to identify and manage what refers to human management; wellness; support to mission processes, which contains the demanded activities to guarantee said processes, from logistics and infrastructure aspects, such as laboratories, experimentation centers, libraries, or others as required; management of technology, information and communication; infrastructure; financial management, and legal.

The denomination and location of the processes presented in this study, may vary according to the analysis of the realities, the conceptualization of each term, and the agreements that each institution must reach according to its reflections, the country, the regulations, the philosophy and the theoretical references that you wish to adopt.

Process Map Model for Higher Education Institutions

Figure Research design Source: self made.

Define Intelligent Objectives

It is suggested to implement the methodology for the definition of SMART objectives (Doran, 1981); so that higher education institutions and their academic programs, consistent with their mission statement, their philosophy, their region and their strategic approaches, define specific, measurable objectives, assigned to responsible, realistic and capable of applying traceability.

Smart Objectives of Higher Education to Contribute to Regional Development

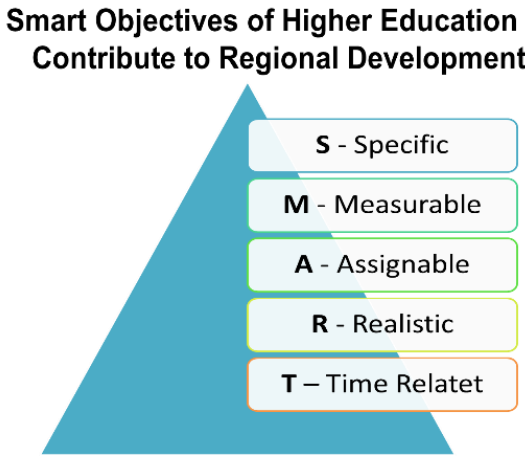

Figure Research design Source: self made, adapted from methodology for the definition of SMART objectives (Doran, 1981)

Strategic Model to Continuously Improve the Contribution of Higher Education to Regional Development

The assurance of quality promotes the continuous improvement of management indicators of academic relevance and social pertinence, which contribute to regional development, from higher education; with the strategic deployment of knowledge, by developing in the students and the academic community "being" and "thinking", with internal processes of academic formation, research and social projection; to transcend in "doing" and in "living together", in the case of Colombia, living in peace. In accordance with the elements and methodologies analyzed in this research, a series of management strategies are proposed to continuously improve the contribution of higher education to regional development.

STRATEGIC MODEL TO CONTINUOUSLY IMPROVE THE CONTRIBUTION OF HIGHER EDUCATION TO REGIONAL DEVELOPMENT

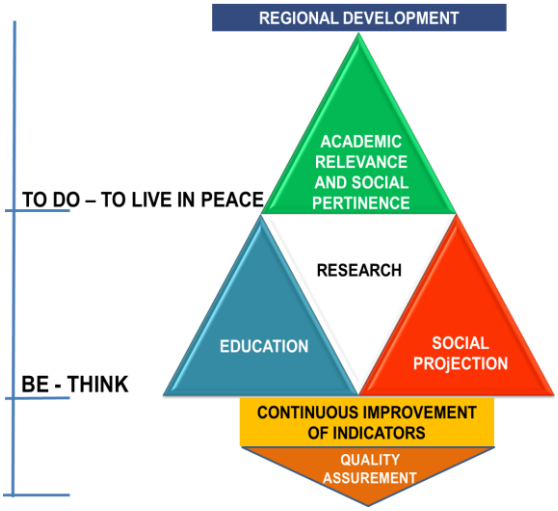

Figure Research design Source: self made.

In accordance with the elements and methodologies analyzed in this research, a series of management strategies are proposed to continuously improve the contribution of higher education to regional development.

a) Quality assurance is defined and deployed from the managerial level to the operational level, a strategic approach focused on the interdisciplinary solution of the problems of the context, exercising a competent, participative and assertive leadership; as do the leading international universities, which have already assumed the responsibility of redefining their institutional educational project, in widely participatory scenarios, applying verifiable collaborative work, with students, graduates, professors, administrators, executives, entrepreneurs from the public and private sectors; even counting on the advising, accompaniment of expert academic peers of the national and international scope.

b) Promote the production, use and evaluation of teaching support materials, relevant to the nature and methodology of the program and its pedagogical function. Which through socialization processes with internal and external academic communities.

c) Guarantee the relevance, updating and sufficiency of the bibliographic material, the databases, the laboratories, and the physical and technological infrastructure, to support the development of academic, research and social projection activities.

d) Define, implement and assertively improve the policies, strategies and institutional processes in terms of research, innovation and artistic and cultural creation, evidenced in research, innovation and creative products, widely recognized for their high quality and relevance, on the part of of the academic community and society at the local, national and international levels.

e) Evaluate the contribution to regional development, by studying the academic relevance and social pertinence of careers, using the information contained in labor observatories and other sources that express the reality of the graduates of each discipline; depending on the application of the skills acquired and the quality of life that this has generated; and make the necessary improvement decisions.

f) Managing efficiency and transparency in the planning, selection, evaluation, training, permanence, participation, remuneration and promotion processes in the merit-based ranking of professors; to guarantee a sufficient team of professors with high academic level and of conscience, evident in the correct application and innovation of teaching and learning strategies in production recognized for their relevance and academic relevance.

g) Demonstrate the strategic planning and execution of leadership, administrative and financial support based on social and academic relevance, in interaction with the national and international context.

h) It is also possible to observe the need to increase the number of professors and managers of higher Education of Latin America, with doctoral training in administration and in each one of the disciplines offered by universities, to guarantee a generational change of the human talent, relevant to the development of the regions; situation in which to have the cooperation of Europe is fundamental, both in the access to their academic programs and in the advice in the creation of their own doctorates, since in Latin America this type of academic oportunity is not available and the trained doctors currently they correspond in the area of education in its majority.

i) A key component to any notion of democracy and fundamental building block of democratic theory is the centrality of participation to the democratic process and the importance of having an educated citizenry to facilitate this process. This seemingly self evident truth can be a driving force in the promotion of community and political participation. Access to Institutions of higher education can faster encourage and support community and political organizations because in this way innovation and promotion are encouraged in defense of democratic processes in institutions built on the notion of trust in reciprocity.

Education serves as a fundamental and critical building block to further promote and encourage political, social and economic development within the context of regional development. The establishment of democratic institutions as well as free and open markets, both critical to regional development efforts, require an informed and educated populace. In many Latin American countries political participation is often restricted by a multitude of factors. Not all citizens have equal access to the political process and one of the major factors affecting this include lack of access to institutions of higher education, because an educated populace facilitates the institutionalization of democracy. Education is critical and key to both regional and, ultimately, national economic development strategies.

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5. Conclusions and Recommendations

It is important to continue investing in research and in the application of strategies that favor the improvement of the contribution of higher education to regional development in Latin America, from the pertinence of higher education and academic relevance, based on the participation of the academic community in interaction with the actors of the context.

In order for higher education to contribute effectively to regional development, it is necessary to apply the principles of quality assurance in an articulated manner in mission processes and, as a priority, to focus on society, leadership, competence and awareness. of the academic community, management by interrelated processes, continuous improvement, decision-making based on indicators and the management of local, national and international relations.

The normative context of higher education for Colombia, Ecuador and Latin America, promote the continuous improvement of aspects that contribute to regional development.

There are several methodological strategies to continually improve the contribution of higher education to regional development; quality assurance with its management tools represents one of the best-validated alternatives nationally and internationally.

Considering the high social responsibility of universities, it is necessary to deepen the formulation and monitoring of management indicators of higher education that contribute to regional development. The quality of higher education is the key to generating real and sustainable regional development strategies.

To achieve regional development through the continuous improvement of higher education in Latin American countries, an excellent alternative is to have European cooperation, with support for access to doctorates in each discipline; and with the advice for the strategic management of higher education for the creation of own doctoral programs, appropriate to Latin American countries.

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Endnotes

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Communist Propoganda in Azerbaijani Children's Literature in the Soviet Union

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Abstract

After the national republic had fallen in Azerbaijan in 1920 and the nation taken in the USSR, people's view of the world was reshaped. Foreseeing that the sustainability of the Soviet order depends on educating children, the Communist Party rapidly started to improve the children's literature. Furthermore, the Soviet ideology began to be transferred to the children in Azerbaijan via magazines and newspapers. Improved under the control of the Soviet Union, Azerbaijani children's literature maintained the goal of raising Soviet minded people thanks to the topics and heroes in the literature. Three stages were considered so that Azerbaijani children could be raised with communist mentality. These stages are: Oktyabryat (age 7-9), Pioner (age 10), Komsomol (age 14). Oktyabryat was the first title given on the way to the Communism. The Soviet government made use of the power of the press, magazines and newspapers in order to carve socialism ideology into people's minds. With the purpose of raising children with the Soviet mentality, the children's magazine called Pioner (1927-1990) began publishing in Baku, in 1927. The magazine was issued 11 times a year. 80 percent of the essays, stories and poems were served for the Communist propaganda. These praised the Soviet era, told stories about Lenin's success in school and included poems about the Soviet ancestry. National identity and national thoughts weren't even a matter of discussion. Following the magazine, a newspaper called "Azerbaijani Pioneer" began publishing. The purpose of this newspaper was to spread the Communist ideals among children. This assertion presents the development of children's literature in Azerbaijan from 1927 to 1990; the way the Communist propaganda was spread via essays, stories, riddles and poems published during the era; the way children were brainwashed; its negative impact; how atheism was first introduced; how the national conscious demolished; and their reflection in today's world. It should be highlighted that there have been no published studies conducted on the impact of these magazines on the children's education.

Keywords: Soviet, Ideology, Child, Azerbaijan, Communist, Literature

Introduction

Russia started to invade Azerbaijan in the beginning of the XIX century, between 1819 and 1826, by abolishing the Shaky, Shamahi, Karabakh and Lenkaren khans. The "Muslim Provinces Community", was formed, Shusha was the central city and administration was handed over to the Russian officer (Aslan, 2000: 12).

The Treaty of Turkmenchay (1828) was an agreement, where the land of Azerbaijan was split amongst Iran and the Russian Empire.

By the treaty, these lands, which are described as North and South Azerbaijan, were divided into two regions by adopting the Aras river as a boundary. North part of Aras was given to Russia as "Russian Azerbaijan", and South part to Iran as "Iran Azerbaijan" (Mutallimov, 2014: 50-55). Russia could stop Iranian State-i Aliye by The Edirne agreement signed on in 1829. According to the Turkmenchay agreement regarding the Azerbaijan, State-i Aliye had to accept the Yerevan and Nakhichevan khanates, which had been left to Russia, as the lands of Russia (Kurat, 1990: 57). Thus, a very long bondage life has begun for the people of northern Azerbaijan

The richness of Baku was unfortunately impoverished, because of the politics of the Azerbaijani Turks. With the decision of giving the national wealth of Azerbaijan Turks to rent to the Armenian investors, Armenians started get preferental treatment in the period of 1821-1871 (Suny, 1990: 18-19). The politics of Russia by using Armenians against Azerbaijani Turks, brought the Azerbaijani-Armenian conflict, herewith unjustified territorial occupation, reiterate with economic inequality. In 1890, the Dashnaksutyun committee was established in the Caucasus with the aim of clashing with the Turks,

obtaining more effective results and creating a controllable force. The press office of the committee is undertaken by the Trotsky (Bayrak) newspaper (Cengiz, 1983: 23). Preparations for the formation of Armenian gangs in 1890 realized in February 1905, when the Azerbaijani Turks were killed by the Dashnak gangs (Swıetochowski, 1988: 70). Russian authorities have played a very important role in the massacre of Armenians against the Azerbaijani Turks (Bala, 1938: 54-61).

Azerbaijani Turks, acted in response to the massacres done by Dashnaksutyun organization which is Russian and Armenian cooperation.

In autumn of 1905, the Difai Party was founded in Ganja. Shafi Rustembekov, Ismail Ziyadhanov, Nesib Yusufbekov, Alekber and Halil Hasmehmedov and Dr. Hasan Ağazade are the founders. Ahmet Agayev participated in this party in Baku. Establishment of DIFAI made Ganja the center of the The National Movement of Azerbaijan (Bala, 1938: 61). The Turks, who wanted to announce to the world through the press together with political unity, were strengthened by the HAYAT newspaper, which started broadcasting on June 7, 1905, was financially supported by Haji Zeynelabidin Tagiyev. The development of ideas of Turkism, Islamism and Liberalism in Azerbaijan, have a main role of Ali Merdan Topçubaşov, Ahmet Agaoglu and Huseyinzadeh Ali Bey who worked in the newspaper (Bala, 1922: 14). Hüseyinzade Ali Bey revealed the slogan of Turkification, Islamization, and acclimatization and later was enlarged by Ziya Gokalp and became the chief slogan of Azerbaijan and the State of Alia's idea of Turkism (Akcura, 1981: 163). 1905 is the year of development that brought hope to the Turkish-Islamic world and strong, innovative unity to the political life of Azerbaijan. It was the period of formation the ideas of solidarity and unity, initiation of political and ideological struggle of the Muslims in Russia and Turks living under the pressure of Russia with the Revolution in 1905.

On February 11, 1920, the Communist organization of Azerbaijan was illegally established the Communist Party of Azerbaijan in Baku. The Party was tasked with the establishment of the armed struggle and labor movement against the administration of the Musavat Party (Azerbaijan SSR, 1975: 556). The Bolsheviks began to propagate against the Musavat Party and Azerbaijan Communist Party pursued policies aimed to break down Musavatists, in order to seize government. The policy they pursued has arrived at the conclusion and the socialists have persistently insisted on the change of government. Yusufbekov assumed the leadership of forming a government In December 1919 (Karabekir, 1960: 37). Thus, the "Red Invasion" declared the power and independence of the Musavat Party, dominated Azerbaijan and proclaimed the Communist regime to the World.

Sovietization

Conservatism, liberalism and revolutionism are the concepts that have been seen as valuable in terms of improving the economic, social and political wellfare of nations.

New-world politics knew that when their interests came into force, they would fill these concepts for their own favour. The industrialization and colonization activities of Britain to become the only dominator in the world have increased the will and eagerness of other countries to create their own strength in this way. Russia ignored the Azerbaijani national independence and occupied Azerbaijani Khanates and followed the plans to become permanent in Azerbaijani territory. Russia was aware that Azerbaijan and its capital, Baku, had a unique geography for realizing and developing the concepts of socialism and communism, liberalism and radical socialism, conservatism and liberalism (Mirzoyev, 1929: 170) Baku is one of the richest oil cities of the World and oil will be ranked first in the world as the most precious mineral, and how much transportation is used in the world, so many varieties of products will be extracted from oil and petrol (Cevdet, 1929: 88). The most important reason of permanent resettlement of Russia in Azerbaijan is petrolium, as well as in the fertile soils of Baku; wool, cotton, silk, fish, salt, copper, gunpowder, licorice root, honey, fruit, wine etc. are also the national wealth (Mehmetzade, 1929: 101). Baku is the central Turkish city after Istanbul (1929: 273), for realizing comunist ideology against the Pan-Islamism and Pan-Turkism, internationalism in the East and will have an impact on the East Turkic world (M.B., 1929: 273).

The most important way of Russian hegemony for unifying differences was the Russian imperialist and proliferatory policies. The reflection of these policies on geopolitics is seen as the "Pan-Rusism" movement inspired by the "Pan-Slavizm" movement. The "Pan-Rusism" movement can be expressed as efforts to Russify different ethnic, linguistic and religious groups in the territories dominated by the Russian society, especially at the beginning period of Tsarist Russia.

The influence of the French Revolution in Europe has largely influenced great empires. The reason was the emergence of separatist movements arising from the idea of nationalism, within the great empires that unite the differences of the rapidly

spreading nationalist movement. Howover, the situation in Tsarist Russia was reversed. The French Revolution has led to the strengthening of Russian nationalism and identity. There were communities with different religions, languages, ethnic and cultural motives in the dominion of Tsarist Russia.

In other words, the period of Russian hegemony was not integrated with separatist nationalism but as integrated nationalism. As Russian nationalism became an ideological tool; nationalism, language and religion were imposed on societies in this geography on the axis of Russianization. Finally, the Russian political and economic system was founded by the Soviet Union of Socialist Republics (Soviet Socialist Republics), shifting from socialism to communism.

The October revolutions assumed to be the end of social and economic injustice in the early 20th century and build the road to the establishment of the USSR.

After the disintegration of the tsarist, the influence of the USSR on the people in such a wide geographical area was because the Russian identity of the tsarist period was accepted in different ethnic communities. As a solution to the economic injustice that the capitalist system brought to the public, the Russian intellectuals were presenting the communist system with the promises of social equality and it is no coincidence that, large masses of people pursuing the Russian intellectuals. The people believed that the social inequality seen as a missing part of the system would rise with communism. However, socialist communist system along with the USSR, also had negative effects on the people. The main factors were repressive regime practices, imperative state policies, sociocultural interventions in ethnic, linguistic and religious groups, reshaping the identity of these groups and the creation of a new Soviet man (homo-sovyeticus).

While the socialist and communist philosophy and thought movements were interfering in social life in the USSR, there were social tools in which all kinds of initiatives were censored against the system, especially for propaganda tools in favor of the system. Especially, literature were one of the most important propaganda elements of the USSR. While the works of Soviet writers passed through the control of the state, foreign sources of literary texts by the censorship translations could also be used for propaganda purposes in Soviet literature.

Establishment of the USSR and the foundation of the Soviet Nation

The USSR was established at the beginning of the 20th century in a vast geography, nearly in a one seventh part of the world throughout Asia and Europe, inherited from the Tsarist Russia, and gather different communities. The industrial revolution which has been rising in the end of the 19th century, especially in the European continent was the main reason of collapsing the Russian imperialism and emergence of Soviet civilization. The process of industrialization deeply affected the political and administrative structure of the countries. While the industrial movement was developing in every area, it created New social and psychological effect on workers in the industrial sector. Industrialization deepened income inequality, and differences between social classes. These differences revealed the rich elite class and the working class that caused problems with each other.

There was no class discrimination in Russia in the 19th century. The popular movement needed for the establishment of the USSR and the revolutionaries targeted the peasants for the civil movement. The Russian peasants were called Narod (the people) among the revolutionaries. 1917 Bolshevik Revolution emerged as the socialist and communist expression corresponded with the people. The dominant ideology of the imperialist Russian Empire has changed with the Bolshevik Revolution, and the Soviet Union of Socialist Republics was established, based its philosophy on the establishment on communist, international, class ideology.

Although the Soviet ideology was officially communism, the idea of Russian nationalism state was also accepted in the New Soviet Republics. The great heritage of Tsarist Russia was different Russian communities, which have embraced the emerging Soviet state ideology in Russian nationalism.

The USSR did not have any difficulty in suppressing separatist movements inside the government. İnstead of this, nation building in the Soviet Union was created through "Soviet and non-Soviet". The USSR has adopted the Russian upper identity and has aimed at solving the problem of nationality. However, it can also be seen that Panslavism movements in the Soviet hegemony have weakened more than in the imperialist period. The identity of Soviet empire, withdrawn from the Bolshevik Revolution, gathered different nations without discrimination of race, religion, language, under the auspices of Russian Nation, but in practice it was seen as imposition of polices. Especially since the 1920s, efforts of the Soviets to create a Soviet Man "Homo-Soviet" was evidence in language-literacy and educational policies.

The Soviet Union ruled many nations and used a number of tools for controlling these nations. The main ones were; First, the power structure of the USSR, especially the CPSU, had been an important control tool. About ten percent of the adult population was a member of the SBCP, and the level of education of party members was always better than ordinary people's education.

The Communist Party has infiltrated all important units through the Basic Party Organizations and has controlled everything from firts hand souces. Russians have always dominated politics. A few people (especially the Russians) controlled the party through the "democratic centrism" principle, and the election process was managed from top to bottom.

Secondly, education, media and other social events (like sporting events) have been used as propaganda tools for Communism and efforts have been made to create a Soviet citizen type.

Thirdly, the Soviets controlled the nations through useing of force and restrictions, have done exiles and massacres. Through exiles and exodus, people have been tried to stir. In addition, exiles have become a way to get cheap workers or slave-workers.

Fourthly, they tried to assault religious and moral values and the power of religion has been smashed. In order to weaken the power of Central Asia, which is often regarded as a threat to the Soviet, the peoples of the Turkic origin were divided into smaller units.

The main factor that keeps countless people together can be said to be "violence" When Gorbachev recognized freedom of some nations it became apparent that all nations maintained their national identity, and the Soviet Union consiquently collapsed.

The movements of thought in SSCB and effects on Soviet Literature

Soviet regime is predicated on the ideas of F. Engels and the Marxist ideologies which is disseminated by Karl Marx in 19th century. Thus, Main political, economical, govermental, philosophical structure of SSCB are affected by Marxist ideologies. As the technology was geting better in Europe and also Industrial Revolution and the emergence of working class especially Germany and France contributed greatly to Marx's world of thought. Thanks to this, Marx become the founder of scientific socialism namely communism. However, F. Engels was his best friend and he also made contribution to the movement of Marxsism. Karl Marx appropriated for workers to Socialism with the occurence of working class and Industrial Revolution. Thereby, socialism come in possesion of political doktrin of working class. The other effective factor on Soviet political ideas is materialism. The other movement of thought Underlying SSCB's founding philosopy is socialism for the desing of a society. Designing the society which is based on socialist merits is related to art and literature works that are part of socialist realities. According to this movement, new Soviet people and community must be built on the theory of Marxisism and its' values. In Russian Revolutionist and theorist Georgi Valentinovich Plekhanov's opinion: ''Soviet society should be shaped the patterns of socialist ideology because the content of art and literature is constituted by the realities''. The matter is so important such as the other activities and a working which is deprived of ideogical opinion can not be a piece of art. Socialism is need to be equipped with socialist items for ıts' adoption by the society. Art and literature works should be presented to form the society which is relied on socialist ideas and shape the working class like below ideas ;

Social development goals attached to the authenticiy of socialism should be determined.

- These work of arts should explain what new concept ''socialism'' means.
- These Works should glorify the heroes who serves to communism.
- These Works should aim to the education of the workers in respect to socialism.
- The strugles must be planeed for the future of society
- These Works should appeal to fight people for the renaissance

According to Maxist ideology class discrimination and the strugles between these classes are neceessary to understand greatly history and these should be riveting points. There is always a class divisions in respect to the theory of the class war during the history. While discriminating the classes, a part of society is called abusive, the other is abused. And the class division is appeared. As exploiter consists of elite and bourgeois people who are exclusive and superior the other part exploited are constituted of people who are involved to unjustices and immortalities and they are belong to lower classes. The main goal in the struggle of classes is to overtake the power of government. While the working class tries to

grab the power by saying discourses rely on socialism movement; on the other hand, bourgeois classs make an effort to design the society by help of privileges and grants provided by capitalist system. Class Struggle and defensing of opressed people are emphasized on work of art and literature and reality is paid attention in the works. The other enforcement formed to the structure of society is cultural reconstruction.According to Lenin, education was the significant to establish communism in a countryu so a positive politic education was launched with the minorities in Soviet in 1920. As young generation needed to be educated with the conscious of socialist and communist activities. Thus, cultural renewal started to in the field of education. According to program's aim, soviet education will be be predicated on socialist and communist ideology and the politics of Korenizatsiya will provide together students and teachers integrative education. The politic of Korenizatsiya is substantial for soviet who especially can not speak Russian for gaining Soviet philospy. The most important feature that distinguished from the other society is to have own language. Languages of the societis in SSCB have three qualities. These are written, unwritten and literary languages. The hegomony of Soviet Russia pursue a policy to come together all these communities under Soviet.One of them is to take care the protection of local elements and having written language of these groups is important to increase sense of belonging for SSCB because they can acquire a right for a land.

In order to own land one must be a member of a minority community, and in order to be a member of a minority community one must had a written language. The USSR authority created a written alphabet to groups who did not have a written alphabet in order to ensure territorial integrity. Moreover, some second rate soviet writers wrote poems and novel in these USSR made languages to add a literate component to the newly made languages. So, with socialist reality and cultural construction (Korenizatsiya policies) non-Russian minorities were included into soviet society construction. The basic movements of thought mentioned above were exercised in USSR's politics, economics, management and social areas. Also, it is seen that these movements of thought were reflected in art and literature in the process of society construction and they were promoted by the state. It is known that in this hegemonic soviet Russia state had strict controls and regulation in the matters of art and literacy. This is also known as soviet censorship and the effects of it in art and literature can be seen in the works presented to public. For instance, all written, vocal and visual broadcasts such as books, magazines, posters and radio programs were under to control of an official censorship mechanism. General Directorate for the Protection of State Secrets in the Press under the Council of Ministers of the USSR (Glavit) found in 1922 had more than 1500 workers controlling the literary text, media and external broadcasts. Their agenda was to approve the unpublished written works as well as checking the already published ones in the name of precautionary warnings. Manuscripts, photographies, drawing were at the hand of this ministry.

Language Policies in USSR

Due to riches of communities with different languages in USSR, it was an accepted fact that Soviet authorities wanted to spread the usage of Russian and Russian literacy rates. Nevertheless, in order to create a sense of belonging to the Soviet Union the local languages of some groups in terms of territorial integrity and self-rule were protected. However, certain elites in the Soviet authorities did not favor the idea that local languages should promoted because of Homo Sovyetikus(Soviet person). In the process of creating the Soviet society in order to sovietize the society the Russian language as the native language of the state was at key importance. In the establishment era of Soviet Russia the emphasize was not to discriminating anyone against their religion, language and race and the fellowship of all nations. This emphasis was also inclueded in the discourse of the October Revolution. Yet this policy was not applied and could especially seen in the language policies.

V.I. Lenin, one of the most crucial figures in the establishment of Soviet hegemony, critized the liberals and the defensor of Czarist Russia on their view on mandotary official language and also he wrote his elegant views on the usage of Russian as an offical language in an 1914 writing. Lenin was a crucial figure in Soviet history, thus his views on this topic is crucial as well. In his writing, he is strongly against the view of Liberal and Czarist Russia's advocates views on Russian being forced to embrace to each minority and that it should be thought as a mandatory lesson in the schools. Lenin's views on mandatory official language before the revolution and the applied policies on language of the Soviet Union contradicts. Pre-revolution Lenin argues that the Marxist Movement in Russia do not enforce the necessity of an offical language. According to Lenin, local languages can be thought to minorities in elemantary school, however in order to defeat backwardness the important pieces of Russian Literature such as Turgenev, Tolstoy, Dolrolyubov or Chernyshevsky should be read. To achieve this goal, Russian must be thought. Actually, in these pre-revolution statements of Lenin's can be seen as a way of gaining sympathy of the minorities whom were affected by the Czarist Russia's oppressive language policies. Because the language policies of the USSR does not coincide with Lenin's pre-revolution statements.

During and after the October Revolution, in the process of introducing socialist and communist teaching to the public it was problematic to teach the Marxist terminology in different languages. Communicating in Russian (which had already include most of the Marxist terminology) in propaganda movements rather than communicating in various languages was accepted by the Soviet elites. This is why teaching Russian to the mostly illiterate people gained meaning and importance accordingly to Soviet idealism. When the literacy rate increases in a common language, the public acceptance of the state and the process of social construction. Soviets did not use language solely for education and politic purposes. Another importance of language for Soviets was helping the society's adjustment to local and national culture formation and construction. A common language is crucial in terms of helping soviet proletariats get rid of their bourgeois traditions and creating a strong bond between citizen and the state. The soviet elites were aware of this and that is the reason they gave great importance to Russian as a common language.

USSR's language policies went hand to hand with the policies of cultural construction. It was seen that after the revolution inward oriented merger and consolidation was a motivation for a routinized national culture which was socialist and included various nations of the USSR geographics. Language is the key component of this merger and consolidation. Starting from 1917 Soviet authorities made serious efforts to standardisation of local languages and creating a common language to increase the communication between the public. Some steps taken for this agenda was writing a dictionary covering the necessities of a modern industrial society and a new alphabet to increase the literacy rates. Actually, at the very beginning of the USSR the minorities who had local and written alphabets were allowed the choose the alphabet they prefered to use. Yet, these minorities were mostly turkic societies. In these societies Islamic motives could be seen. Also the fact that their shift in using arabic alphabet to latin alphabet due to reformations in the newly found Turkish Republic bothered soviet administration. Afterwards, latin alphabet were forbid by the authority and the usage of cyrillic alphabet was made mandatory.

On this, the Soviet administration forbade the Latin alphabet, thus made the use of the Cyrillic alphabet compulsory. As a justification, it was put forward that the Latin alphabet made it difficult for the Russians to learn. For all that, a number of linguistic reforms have also been undertaken in order to ensure greater integration of the Turkic communities in Central Asia with the Soviet Union. In the context of the industrialization movement, considering the new needs arising in the field of language countless Russian words and grammatical structures have been added to the languages of other nations along with the Cyrillic alphabet. As a result of this, the local vocabulary of minority communities in the USSR was enriched with Russian language. Along with the language policies monitored, in the middle of the 1930s, the dominant language became Russian in the USSR. Thus far, we observe that the plans Bolsheviks used were to govern politics and society, and on this they use literature and media as tools in their politics. In order to raise communities that is different in social and cultural structures with common Soviet rhetoric and mentalities, they had followed-up various ways. As we mentioned above, common language, religion and culture had to be developed, and thus, it was planned to carry out a policy of assimilation, to break away the cultural values, beliefs and national histories of the countries that they occupied. This policy was not made in the same way in every territory occupied by the Soviets. Because the development level of all the countries under occupation was at different stages. For example, the lifestyle in the Turkmenistan and Kyrgyzstan republics were nomadic, till the Russian occupation, they did not have a settled life, so they had not get acquainted with writing. They passed from written to oral tradition, after the Russian occupation. Surely, no matter what the situation is, Russians are confronted with resistance in these lands, but we can say that the resistance here is not as hard as the struggle of the peoples of Azerbaijan, Tataristan and Uzbekistan, which have a long-established and developed cultural level.

For this reason, the promises made to the peoples about the freedoms during the period of Lenin, were deeply controlled under Stalinism. For building up a single Soviet society and Soviet people efforts have begun. In this way folk culture, folklore, national consciousness and unity began to be seen as a danger. That's why, the years of Stalin dominion are referred to as repressive and terrorism. Soviet domination getting support from the party in the policy of making the Soviet society and the Soviet people, first of all began to open schools in all the regions under them domination. They are starting to raise generations in all these schools for serving them. They aim to raise a generation with new cultural values by making big investments on young people and children. At first, nobody wants to send their students to these schools and the Soviet government, which faces difficulties in this process, is starting to attract students to their schools by reducing the number of schools that provide education in national values and mother tongue.

Komsomol Organization in the USSR

It is the youth structring of the Communist Party of the Soviet Union. The male members of this organization are called 'Konsomolets' and the female members are called 'Konsomolka'. Komsomol is the abbreviation for the Union of Communist Youth and its full name is the All-Union Leninist Young Communist League. The Konsomol Organization was founded on 29 October 1918. It had been active until September 1991 and it was the most influential political youth organization in the Soviet Union. The Komsomolskaya Pravda was the publication organ of the organization. In March 1196, as an expression of the ideology of the party and the respect of the Lenin, it was called as the Union of Leninist Young Communists. There were 36 million members of the Soviet Union who were between 14 and 28 years.

The Communist Party of Russia was founded in October 1918 as an organization that organizes young workers and peasants by all the Russian Congressional delegates and trade unions. In fact, the political activism of young people in Russia increased and youth organizations started to take place in socialist fraction during the February Revolution of 1917. There were some organizations such as 'Labor' consisting of young members ruled by the Russian Social Democratic Labour Party in this period, then this organization took the name of CCPM and institutionalized. After the October revolution, it was regarded necessary for the formation of the All-Russia structure by the willingness of young people to join the union in various cities of the country. On October 29, 1918, it was declared that the Konsomol Organization was established in the All-Russia congress attended by young workers and peasants.

The first komsomol badges appeared in 1922 at the center of KIM. The badge took the final shape of Lenin's profile in 1945. Lenin became the ideologue that initiated the Komsomol organization.

The work of Lenin, 'The Tasks of Revolutionary Youth' was called the basic ideological document at the third Komsomol Congress in October 1920 and it became main source all members need to read. The words of Lenin 'You can become a Communist only when you enrich your mind with a knowledge of all the treasures created by mankind.' became the basis philosopy of the Komsomol's.

In the 1930's Lazarus Shatskin was at the beginning of the organization. Shatskin who played a major role in the organization and foundation of the organization, became the first secretary.

Later Lieutenant Tarkhanov took over the leadership. The Komsomol as a subsidiary organization of the Communist Party of the Soviet Union became an organization where the party raised its future leaders. The Pioneer Union of children political organization led by the Komsomol and forming its foundation was formed in 1922. This organization was the pioneer organization that would raise the members of the committee.

Nikalov Pavlovich Chaplin became the secretary general of the Komsomol Cenrtal Committee.(1924-1928) When komsomol was established in 29 October 1918, had members 22.100. After two years the numbers of member increase to 482.000 in third congress. Two hundred of these members took part in the struggle against the '' White Terror'' and occupant.

Komsomols made a decision to found evening school for two years in 1930. In the first term 3000 Komsomol gave education to 15.000 workers for scientific technical lesson in the universities and technical school. Thus, an important step is taken for technical education in 1934, fourty eight percent of od students participate in orgnisaiton in 1941. There were more than ten million Komsomol in SSCB in World War II , one million mebers of Komsomol joined in a union called '' Arrows of Voroshilov'' the other five million members attended to other military activities. These people took charge in military as ''Young Safeguards'' Men and women who are Komsomols are awarded prize with a half million medal because of their military success after the war. Komsomol have a great influence on industry, education, science, culture and sport after the war and it carried on his existence as the most impressive mass organisation. Komsomol is the most efficient organization because it provided to reconstruction of the country and also is the first the position between the otgsnizations. In the early 1970's, the newspaper called ''Komsomolskya Pravda'' not only in Soviet Russia but also all over the worl it got the title ''bestseller'' with the circulation of 16.6 million. Accordingly the the issue of Komsomol published the magazine '' Young Guards'' so the social base ecpanded and nearly all of the students participated in this organisation during 1960-1980. Thus, Komsomol become an organization which a citizen gain qualities having a succesfull career.

Pioneer Organization

Pioneer organization or Pioneer association is a mass children organization in the USSR and was decided to establish in Russia Komsomol Conference on May 19, 1922. It has been celebrated as the Pioneer Day in Russia since 1922 on May 19th. The media organ of the Leninist Pioner Association has been the newspaper of Pionerskaya Pravda.

In 1917, there was a relatively extensive network of children's scout organizations in the USSR; which included about 50 thousand Scouts.

In the midst of the Russian Civil War scouts were seeking and helping street children. They organized children's groups, children militia and social assistance.

The Scout movement was divided into various areas by the Soviet government. Some members are called Forest Guardians. The Pioners were educated on the basis of love to each other and to the world, various entertaining and instructive games, socialization principles with work discipline. The Pioneers Organization later called on all the countries of the world to establish the World Scout Brotherhood Organization. The establishment required some neseccaries.

It aimed to contribute to the healthy development of children, the training of communist philosophy, both the development of practical skills and construction of the country. The idea was formulated by Nadezhda Krupskaya, Lenin's wife. A report titled Komsomol and Child was prepared and scouting methods were determined and a decision was taken to establish the Communist Scout Child Organization. the scouts identified as the precursors was identified by a red tie on a white shirt. Remaining scout leaders supported the Komsomol and the Red Army. They introduced the name "pioneer". Also, they convinced the Komsomol to keep the scout motto "Be prepared!" and adapt it to "Always prepared!" as the organizational motto and slogan Three generations emerged as the Pioneers, Comsomols, and Communists who formed the basis of the Communist Party.

The Pioner organization was established by the Komsomol Central Committee as a suborganization of this organization. On February 2, 1922, the Central Committee of the Komsomol sent a circular to local organizations for organizing of groups of children. For this purpose, Valerian Zorin, a member of the Committee, organized a group of children on 12 February 1922.

On April 3, 1922, the vanguard newspaper Davul began to be published. The first editor of the newspaper was Mikhail Stremyakov and then The newspaper took the name "Pionerskaya Pravda" (Psionic Reality). In 1922, there were formed a number of pioneer groups in towns and villages in the country. On December 3, 1922, the first leading detachment was established in Petrograd. In the middle of 1923, , the number of members reached from 75,000 members to 25 million in 1974.

During the Great Patriotic War (World War II) the Pioneers worked hard to contribute to the war effort at all costs. Thousands of them died in battles as military personnel and in the resistance against Nazi Germany in its occupied territories as partisans and Pioneers under secrecy in enemy-occupied towns and cities, even in concentration camps.

Four Pioneers would later receive the coveted Gold Star Medal as Heroes of the Soviet Union, and countless others were awarded various state orders, decorations and medals for acts of bravery and courage in the battlefield, on enemy lines and occupied territories. After 1955 the names of the best pioneers began to be registered in the Pioneer Organization Honor League

In 1958, cultivation of pioneers in all the Soviet Union countries was defined as three stages. In the first seven years, adult-oriented training would be provided. In the following period, pioneers would be trying to develop both the ability to work in practice and work in collaboration.

After 1962 it was decided that Lenin's profile would be on the Pioner emblem. In the same year the All-Union Pioneer Organization was awarded the Lenin Order for the achievements in socialist education. In 1970, the All-Union Pioneer Organization had 23 million pioneers affiliated to 118 thousand Pioner Unions.

Purposes and Ideals of Pioneer Organization

This was the simple motto of youth organizations the world over, and of the Young Pioneers in the Soviet Union. From 1922 to 1990, generations of 10-15 year old children in the Soviet Union learned, exercised, explored and extolled the

virtues of their society through the “Pioneers.” Many Young Pioneer Palaces were built, which served as community centers for the children, with rooms dedicated to various clubs, such as crafts or sports. Thousands of Young Pioneer camps were set up where children went during summer vacation and winter holidays. All of them were free of charge, sponsored by the government.

The main goal of the union was to train productive young Leninists committed to Communist ideology, to develop and maintain the socialist life, to protect the Soviet homeland, to proletarian, socialist internationalism, and to laboring. On May 19th, a ceremony was held in front of Lenin monuments. It was an honor to be admitted to the Pioneer League these years.

At the Communist Party meeting; Stalin talked about the regime with the words "we must take measures to protect the communists already from the capitalist world". It has been decided to increase the number of industries and publications, to supply tools and information as much as possible. The goal was to provide peasants with tractor and electronics, and to mobilize other assets within five years. By this means, Soviet wanted to dominant over socialism without kneeling capitalism which rapidly rising in Europe and America (Dash-Demir, 1930: 56).

The 1917 Bolshevik Revolution has an important place in world political history. The Turkish Republics, under the sovereignty of the Soviet Union, are also greatly influenced by this revolution. There are significant changes in the life of the society Depending on the change of the regime, A new style of life begins to develop. After the 1920s, it continued to gain even more intensity and became most prominent in 1937 when Stalin came to power. Starting from this date, the social life of Azerbaijan changed not only with the administrative style, but also the administrative staff changed. Russians and especially Armenians living in Azerbaijan are brought to the Administration. While Azerbaijan Turks are being pushed to the second plan, most scientists, administrators, journalists, teachers, writers and poets also lost their lives. In the 1930s, thousands of people were killed during the period of collectivization. The formation of literature in this period reigns, it was not possible. Thus, works of Soviet Azerbaijan Literature, became known, is about 25-30 years after the date mentioned.

There is an obligation to write works that conform the official ideological view and the regime called it "Socialist Realism". The new society needs a new type of humans, and the need to evaluate the social by their views. The new type of human was viewed as a "reformist" to society, human relationships are explained with the conflict between classes. Thus, the attack on the old man, the old society and the ancient literature started. We can see the existence of this old-new war in the Turkish literature also. However, it is noteworthy that only the Bolshevik authors conducted the dialectical discuss between the "old and new" in the Azerbaijan. Attack on classical literature, initiated by Bolshevik writers and claimed to be on the interest of public, actually all human values are overthrown. The literary texts written in this period represent the new type of humans in classical literature, as cruel governors, lovers of belief in supertitions, ignorant clergies, rich people, anticommunists. There were teachers, feminist girls and women, idealistic communist teenagers, heroes who were struggling against them. This situation becomes so obvious that the literary work was full of collection of slogans.

Azerbaijani poets and writers who support the Bolshevik’s view of that period came up with the idea that class differences must be eliminated, even to such an extent that denied their own national language and literature; they often use terms such as "Lenin's Language", "The Language of the Communist World", "Proletarian Language" and "Soviet Azerbaijani Literature", "Brotherhood Literature", "Revolutionary Literature" and "Communist People's Literature" for literature. Poets and writers like Mayakovsky, Mikhail Yuryevic Lermantov, Maksim Gorki are presented as official models. Thus, the Communist Party was rewarding the works bringing desire to socialism and loyalty, and the author-poet or author was honored with a new duty that made people quichly accept the new model. A few of the writer before the revolution, while continuing on the light of their own, a few others presented ideology of that period. Individuals who say the same poetry before and after revolution, who gave their works of literure in their own sight, was suffered cruelly. They were Jafer Jabbarli, Yusuf Vezir Dzemenzeminli, Huseyin Javid, Jalil Mammadguluzadeh and so on. Starting from the 1930s, a growing generation of young poets and writers and an older generation conflicts were built up over time. However, from 1940 to 1941, the generation conflict turned to a clash of ideas and vision of world. Young poets and writers who were eager to win the praise of the "Communist Party", to show fidelity to socialist values, and to transmit their excitement to further places, wanted to reach their goals by insulting words to old generation, thought they would accomplish it. Young people who supported from the party were more successful in this fight.

The main theme of literary works was describing the life before revolution; the explotion mentality of the rich people; the ignorance of the clergy; the poor situation of the villagers, the workers and the intellectual youth bad conditions. In the

works describing life after the revolution, how the Bolshevik regime brought wonderful life to people. In this period, the type of man who was in favor of regime had been idealized.

Between 1941 and 1946, Due to World War II and its military power, which was mostly Turkish orijin, the war theme was the main in literature in this period. During the 1950s, there were significant changes especially in the poetry. Poets such as Samed Vurgun, Resul Riza, Suleyman Rustem, Memet Rahim, Mikail Mushfik and Mahdi Sayyidzade, alongside with Russian poets like A. Tvordaviski, M. Dudu, A. Prokof Lev, M. Lukanin were a new souce for young poets. We can say that the ideological appeals started after the Revolution began to decrease in 1965-1970 years and during the years of 2000, the poets and writers were more in national and aesthetic anxiety.

The growth of new generation In Azerbaijan has made Russia worry, children were growing as faithful Muslims and in Turkish national spirit. The Communists, who began to investigate the reason of it, faced with the influence of the nationalist policy of the Musavat Party. Therefore, the Communist Party issued the following measures in the Communist newspaper;

1. The commissariate of education determined nature and factors against the influence of nationality and religion and gave strict instructions to all schools.
2. Nationalist teachers should be fired from the schools.
3. Teachers should be from proletarian class.
4. Komsomol and Pioneer organizations should increase their activities and propaganda against nationality in schools.
5. Atheistic society should revitalize its activities not only in schools, but in the families also (M.B., 1929: 58).
6. The obvious men of the Musavat society must be deported.
7. Propaganda should be carried out to decrease the population of Musavat society between the workers, the peasants and the nation.
8. Schools, institutions and Soviets should be cleared from nationalist people (Dash-Demir, 1929: 26).

The Bolshevik congress had decided to develop proletarian literature on the basis of Marxist Leninist principles and controlled by the government (M., 1929: 143). While the Russians, Jews and Armenians were brought to the highest positions in Azerbaijan, the Turks tried to be fired with various excuses (Isimsiz, 1929: 284).

Russia started to establish the Institute and train scholars in order to examine Azerbaijan and the surrounding eastern civilizations; economics, philology, ethnography, language etc. (Mirzoyev, 1929: 428). Russia took all these precautions instead of weapons and ammunition, because World War had not concluded as wished. The aim was to spirit off the national culture. Turkish nation was divided from the Insidein many parts: Azerbaijan, Kyrgyzstan, Uzbekistan, Bashkortia, Tatarstan, Turkmenistan, Tajikistan, Kazakhstan, Ajaristan, Mongolia. Russia seperated, crushed and assimilated the national wealth of Turkish nation, their dialects and their alphabets, in order not to come cross again. Türklüğü bir de Türkiye'de boğmak lazım! The communists, who was saying "Strangle Turkishness in Turkey", had started to develop ways for realizing it in Turkey (Suphi, 1929: 245). The Caucasus, was the east of Turkey, that's why they supported the Armenian and Kurdish formation in Iran, Iraq and Syria, had been involved in the internal policy of the Republic of Turkey. Using this ways Russia built a barrier between Turkish-Islamic world.

The terrorist attacks to Azerbaijan Turks, the capital and unjust invasion of lands were a mess of the Russian race. It continued until the death of Stalin when they assimilated young generation, literature and media into their own policy and divested national wealth. When the policy of messaging hidden text to the young generation in litarute weakened in 1957, instead of it, modern generation with full of national values and spirit appeared.

The efforts of the new generation were to inform the people who are connected with their souls, the importance of unity and togetherness, and the struggle for keeping independence through the reflections on the magazine called "Redinvasion" Odlu Yurt in azarbaijan.

Conclusion

The purpose of the invasion of Azerbaijan and Turkish territories, started by Russian nation, was to use the geopolitical and geostrategic values of the Turkish lands proper to Russian interests, and provide appropriate control. The target politics was to be dominant in the world as the only power. The Russians, who could not dominant over Turkish territories with the

war, realized that the war could not be won with conventional weapons. As a new war technique, was to spirit off the nationalism and serve Communism and Russians on the international arena.

Since 1828, when Azerbaijani Turks entered the territories of the Russia, they succed to be firmly stay connected to the national culture and independence. The October Revolution of 1917 flared up the ideas of independence of the Caucasian peoples. Azerbaijan Democratic Republic also known as Azerbaijan People's Republic declared its independence in 1918 after long struggle, and became the first announced Turkish Republic. In 1920, the Russians interfered to the independence and exiled all members of the Musavat Party, which provided independence to the country. The Azerbaijani intellectuals, who had to abandon their countries, settled in different countries, especially in Istanbul, and began to write for Azerbaijan indepence and national wealth, for regain them again, which Russia always wanted to erase.

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Practices of Including a Student in the School Space Based on the Example of Selected Visual Representations

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Abstract

The main subject of this work is the school space considered from the perspective of including a student in it. A starting point of the analysis is the assumption taken from Erving Goffman and Anthony Giddens that the space defines the social situation at school and imposes the framework for interpreting the behavior and interactions that occur within it. In this perspective, the term “space” refers not only to physical space, but also to the psychological space of life. People strive to personally organize it by placing their own works/creations there so that they can give it their own meanings and symbolic senses, identify with it, and thereby transform the untamed/unknown space into their "own"/tame place. The main aim of the work is to determine how much of the school space is the space of the students and for the students, and to what extent it is transformed into place. In this context, the authors take into consideration the pedagogical practices that involve students in the school space. They are illustrated with selected visual representations, indicating both constructive practices aimed at actively involving students in the school space as well as feigned (and as a result exclusive) activities. The methodology of work is based on visual ethnography to recognize the visual image of the school, its culture, and on the use of photographs that refer to the anthropology of the picture (following R. Barthes, H. Belting, S. Sontag, P. Sztompka, J. Nowotniak).

Keywords: space, place, including, excluding, school

Introduction

Towards School as a Student’s Place – Reggio Emilia Approach

The main assumption of our work is a belief taken from E. Goffman and A. Giddens that the school space is an important factor in the learning process (initiating, as well as blocking certain forms of student activity) which also defines social relations (by imposing rules of behavior and interaction patterns between people). The arrangement of school space, its colors and furnishings, are the carrier of meanings created by the dominant school culture. Thus, the analysis of the school space can provide important information on the tension between attempts to democratize it and the relationships of power and subordination, or on the rivalry of social actors for the definition of situations and phenomena (Janowski, 1995; Parsons, 1959; Durkheim, 1956). From this perspective, the importance of school space goes back to the processes of constructing human identities, because as A. Bańka points out, “architecture exists both in the form of physical space and in the intangible form of human behavior, in the psychological space of life” (Nowotniak, 2002, p. 69). In this context, what is revealed is the importance we attach to the student’s participation in constructing the school space, to his inclusion in organization of his own place. We perceive this practice as something significant from the perspective of co-defining the world, legitimate ways of satisfying needs, desirable ways of behavior or communicating with others and treating each other (Barker, 2005).

An interesting exemplification of this practice is found in Reggio Emilia system of (early childhood) education. This approach is valued as an important alternative to traditional education and an important source of inspiration for reforms in the space of educational institutions for pre-school and younger school-age children (Śliwerski, 1992, p. 9); however, due to its nature it can be shifted onto the education of older students as well.

The origins of this extremely interesting idea reach the constructivist idea of J. Piaget, L. Wygotski and J. Bruner which boils down to the belief that there is no permanent and unchanging idea of the school. Therefore, Reggio pedagogy is not a formal model of education (such as, for example, Waldorf education or Montessori schools in which there are well-defined methods, standards and certificates for teachers, or accreditation processes). It is also not a ready-to-use model, but it is subject to constant changes depending on the needs and for this reason it is sometimes referred to as pedagogy as a project (Malaguzzi, 1993; Gandini, 2012). The special mark of Reggio's pedagogy is a new image of a child as a full subject, endowed with the potential and ability to wonder; a strong, intelligent, competent, creative researcher-explorer, contributor and participant in the communication process. From birth, a child is considered to be strong, open to the world, capable of creativity and construction (of knowledge), and his competences in these areas find realization in interaction with others, in interpreting reality and the world, in giving them their own meanings, or creating their own art and theory (Malaguzzi, 1998). The child is therefore treated as the owner and co-creator of rules (Malaguzzi, 1993a).

Adopting such an image of a child requires an adult's absolute respect for his identity, individuality and otherness. That is why one of the most important features of Reggio's pedagogy is to maintain an intense and permanent dialogue between adults (teachers, parents) and children. This dialogue is rooted in their changing experiences (Rinaldi, 1998, p. 58). It is argued by the key assumption of Reggio Emilia that a child must have control over the direction in which his/her teaching/learning is heading (Rinaldi, 1998, pp. 51-52).

In this context, the environment (also the school environment) with which the child remains in a close relationship is particularly significant. Reggio Emilia thinks about space as a "container" that is conducive to children's social interactions, exploration (of the world), learning and creativity. The space conceived in such a way has an educational "content" – it contains an educational message and it is loaded with stimuli for mutual experience and constructive learning (Gandini, 2012, p. 320). Space is treated as a kind of a "third teacher" (after the teacher – a guide and parents). That is why Reggio pays close attention to what the environment "teaches a child".

Transferring this idea into the physical dimension of the school space, Reggio Emilia creates a space for students, in which their interests and creativity are constantly and naturally stimulated. The design of each institution is the result of a deep reflection and dialogue between teachers, parents and the architect. The central place in the building is usually occupied by an internal courtyard (piazza), available to all students in the school, and which includes areas for common play and working tables where students of all ages can work together. This place also serves school celebrations and meetings with parents. Smaller rooms located around the piazza are separated only by glass walls, which fosters a sense of community. Each classroom has studio spaces (in the form of a large, centrally located studio) and several smaller mini-ateliers (designed for group work). In each classroom, there is also a place for art classes, a special construction corner, a place for playing games, a place for resting, a library and letterboxes. Even the canteens and bathrooms are designed in such a way as to encourage children to searching and interactions (The Reggio Emilia Approach … 2006).

Every wall plays an important role in Reggio Emilia schools. As Loris Malaguzzi (an initiator and creator of these schools) pointed out, the walls "speak and document". They are a place of permanent or temporary exhibitions (illustrating the educational process) that present not only various works of the students, but also the opinions of the teachers, descriptions and reports of photographs and projects carried out by the children. Thanks to them, one has a chance not only to admire students' works, but also follow and reflect on the process of implementing the projects, which initiates everyday interaction and communication between the students, teachers and parents (Gandini, 2012, p. 41).

Carefully thought through and organized activities include the integration of each class with the rest of the school, and the school with the outside world[1]. This huge importance attributed to (school) environment has its source in the belief that the

[1] Schools modeled on Reggio are bathed in natural light, full of diverse plants. All classrooms open to the inner courtyard, the glass walls in the kitchens provide a view of the nearest neighborhood. At the entrance to the building photographs are presented, children's works provided with transcriptions of projects and discussions they run. The same applies to classrooms in which project exhibitions are usually varied with a wide range of items and materials. Elements of documentation of children's works (drawings, sculptures, etc.), various

children can all the better create the meanings of the surrounding world, the more the environment supports complexity, diversity, the more it sustains and transforms relationships between people, the more it takes into account children's imagination, a world of experiences, ideas and the multiplicity and diversity of expressing them (Malaguzzi, 1998). The attention of educators is therefore directed towards such organization of the school space that allows students to use it creatively and to arouse certain feelings (The Reggio Emilia Approach … 2006). The school space is organized in such a way to be rich in possibilities and to encourage students to be creative, to explore the world and to solve problems (usually in small groups where cooperation and discussion intertwine). Children's art is present at every step – on the walls, windows, ceilings (hanging works) and tables. When visiting Reggio Emilia school, an observer has no doubts that these schools are a place of widely understood authentic students' creativity, and not a place of reproduction and transmission (of knowledge) (Bonar & Maj, 2015, p. 45).

All the elements of school environment constitute a space that is often subject to re-arrangements, and in the whole building, an effort to create opportunities conducive to children's interactions, learning and creation is visible (Bonar & Maj, 2015, pp. 45-46). After the visit in Reggio Emilia school, Jerome Bruner wrote: "What struck me in Reggio Emilia is the way imagination is cultivated there, while strengthening the children's sense of what is possible (…). This imagination is what saves us from the obvious and the banal, from ordinary aspects of life. Imagination turns facts into presumptions. Even a shadow cast on the floor is not just a shadow: it is a mystery. Try to draw it and you will understand" (Bruner, 2012, pp. XVII-XVIII).

Reggio Emilia Approach has become an inspiration for us to search in Polish state schools for traces of practices of including students in the organization of the school space.

Methodological Assumptions of the Research Project

The methodological layer of the work was based on anthropology of visual image and visual ethnography used to recognize the visual image of the school's culture from the perspective of practices involving students in shaping its space (Barthes, 2008; Belting, 2012, Sontag, 2017; Nowotniak, 2012; Sztompka, 2017). We follow the assumption of Susan Sontag and Hans Belting that photography, although it cannot explain anything itself, is a perfect basis and inspiration for deducing, speculating and reflecting on the world. Photography does not reflect reality as it is, but it is able to synchronize a human view of the world with the world itself, it allows the creation of internal images of the world, out of the horizons of the photographed place, object or situation. Each visual view of the world is connected with evoking of human imagination to transcend to human memories and images (Belting, 2012; Sontag, 2017; Barthes, 2008). In this context, collecting photographs can be considered to be the same as collecting the meanings of our world.

Our research project has been located in such a context and is focused on searching for visual traces of practices of involving students in the creation of school space. We perceive these practices as potentially significant from the perspective of transforming the institutional space of the school – untamed and strange – into domesticated, tame and own place, thanks to its organization and management of students' own activities, their own works and products.

The heuristic database was a collection of several hundred photographs of spaces in Polish state schools which were analyzed from the perspective of their form, content and constructed meanings. The analysis allowed to distinguish three basic types of practices of including students in the creation of school space: an actual inclusion of the student in the creation of school space, a feigned inclusion and a mediated inclusion.

Practices That Actually Involve the Student in Creating a School Space

Practices that really involve the student in the creation of school space are usually limited to making accessible a small fragment of the school space (a table, some part of a wall), on which the products of their activity are temporarily displayed (Fig. 1, 2). The nature of this space is conducive to the makeshift nature of the products (blackboard paint which covers the walls enables easy wiping of the chalk; works on the board can be easily removed and replaced with new ones). This element of provisionality can, however, be seen as a way to protect the school authorities from the non-standard use of

"treasures" collected by children during walks are arranged in such a way as to attract attention and focus interest of both children and adults.

them by students. Sometimes, the use of the classroom space to make it available to the students is surprising with regard to its unconventionality (Fig. 3).

We perceive the presented practices as inclusive because th pupils can use this small space in their own way, which facilitates the activation of their creative potential. It is visible in products that become transgressive in relation to rigid frames typical of works created under the teacher's control. Students seem to go beyond the routine of school rules connected with performing certain tasks, and their products vary in accordance with the features and ideas of their creators (Fig. 4, 5, 6).

The space managed independently by the students also has the hallmarks of interactions between them, which is visible in the case of works of collage type (Fig. 7, 8). They illustrate the exchange of associations, ideas and meanings between students, which leads to the creation of a coherent work. We perceive this type of practice as particularly significant from the perspective of constructing identity of the student who, together with others, creates the common space. The process of its production, and more precisely its transformation into a place, requires not only an activation of an individual creative activity but also the discussion, negotiation, an effort to agree on the perception of the world, attitudes towards it and the meanings given to it. Skills of this kind are crucial for the student's social development, as they constitute training in determining their position in relation to other social actors.

Practices that really involve the students in creating the school space, despite their limited and incidental character, are treated as a significant leaning out of the school in the direction of recognizing the subjectivity of the student as a person being capable of self-determination on space intended for him by definition. They have a constructive nature in the pedagogical sense because they encourage students to independently create their own place, to express themselves, their feelings, emotions and thoughts, to create autonomous meanings that transcend school schematism. Places created by the students themselves show the productive dynamics, creativity and originality of their products. Therefore, they serve to activate the broadly understood potentials embedded in them.

Practices That Seemingly Involve the Student in Creating a School Space

The analysis of the empirical material revealed that in the culture of the Polish state school, the practices that only seemingly involve the student in creating a school space appear more often than the ones that really do it. However, they are of a very diverse nature: from discreet and implicit disciplining of the student's seemingly autonomous activity through insistent unification, to total mimicking of the students' participation in creating the school space. Each of these practices can be said to trigger a controlled, or at least externally controlled type of student activity, but it is still only seemingly involvement and presence of the student in transforming the institutional space of the school into a place of the student. This type of space usually includes class newsletters, very often used by the teachers who make use of thematic works of students created for this purpose, or occasional installations placed in the corridor cabinets, made by the teacher with use of his own elements or produced by the students under his/her strict control (Fig. 9, 10).

The first type of space distinguished in this group is represented by rather unusual photographs of the side walls of the teacher's desk that was made available for the students to independently utilize it (Fig. 11, 12, 13). As it can be observed, the students actively used the space, filling it with various statements. Some of them are clearly critical, others are based on humor and paradox, others serve as a sign of presence, or they serve to express oneself.

The first photograph (Fig. 11) shows the part of the desk from the teacher's side, with the inscription "Headmaster", which seems to be a somewhat ironic indication of students' awareness of the relationship of power and subordination in which they participate. In the context of this photograph, it seems that the students, by exposing the superior position of the teacher, reveal ostensibility of the autonomy granted to them, and the disciplining and control practices concealed behind it.

Another photograph (Fig. 12) presents the side wall of the desk and the sentence "Do not write on the desk', which seems to have a humorous effect, achieved through the use of the paradox. However, it is complemented by another message: "Big sister is watching you" and there is a drawing of a big eye which again refers to the relations of power typical of the school's culture. The author of the message exposes the practice of constant observation that has occurred in the school for a long time (Foucault, 2009), and recently refined by school monitoring. In addition, the feminine gender used in the statement seems to point directly at the teacher who made the walls of the desk available to the students but – according

to the author – she did not renounce to control the ways of its usage. This photograph seems to expose the seemingness of this practice of including a student in creating a school space.

Students' statements placed on the front wall of the desk, visible from the students' side, are the most cautious (Fig. 13). It is most often filled with the students' statements, but these are inscriptions of a "commemorative" nature ("Madzia" – as a shortening of a name "Magda"); impersonal references to subcultures ("Punk"), or some types of worldview declarations ("I am free"). They lack a reference to the culture of the school, criticism of its rules and rituals, there are no references to the interactions or interactive rituals. This seems to indicate the mechanism of self-control operating in the case of developing the most visible space, peculiar care for not exceeding the normative order of the school.

The next practice that seemingly involves the student in creating a school space, meaning class newsletters with students' works on it, is definitely more expressive and unambiguous (Fig. 14, 15, 16, 17). Its key feature is the student's complete lack of autonomy in the choice of content or form of the product, manifested in striking similarity and repetitiveness. They are completely devoid of individual characteristics of their creators, and this effect is achieved by using the same matrix, tracing paper. On the one hand, this model of student inclusion can be considered to facilitate learning and organizing the surrounding world, introducing the child to a specific community order and culture in which they live, or even as something therapeutic thanks to reference to the habits, similarities, rituals that make it easy to get accustomed to the world and express emotions (Loose, Zarbock, Graaf, 2017). However, dominating the student's activity by patterns, observed clearly in the school space, gives rise to the suspicion that the purpose of their common use is to channel human activity into the normative school order. This is supported both by the subject matter and the form of the works – the dominant aesthetics, expressed in the selection and sequence of the color and shape presented. A large number of almost identical works creates the impression of staticity, monotony, uniformity and schematicity. There is no place for unconventional perception of the world, for creating its images, and only completely unified works, one proper version of reality.

The spaces presented in the photographs indicate simulated practices that involve students in their creation[1]. In fact, they are expositions of the aesthetically and semantically imposed order which reveals the relations of power and subordination typical of the school's culture. Students are treated in this context as unable to take responsibility for their own space, to co-create it, even dangerous for the dominant normative order. At the same time, however, the didactic process and the image of the school requires the creation and presentation of their works. Hence, there are clichéd, indistinguishable creations that speak more about the culture of the school than about their creators.

The Practice of the Student's Mediated Participation in Creating a School Space

The last practice is of a very special nature because it is based on a complete removal of a student from a direct participation in organizing his or her own place. This type of practice was mainly identified in school corridors (Fig. 18, 19). The characteristic feature of this practice is a strong concentration on shaping the image of the school through documentation of students' achievements (displaying the cups and diplomas). This presentation has a ritual nature (Goffman, 2000), and possible interpretations direct attention towards the rules of neoliberal culture, in which proper autopresentation is an important element of a local educational fair (Potulicka, 2014). What is striking in the way of presenting is the poverty of form and the symmetry which make the impression of scrupulousness and orderliness, vital from the perspective of building a school's brand (position). The display serves to create a conviction about the effectiveness of educational activities, documented through the cups and diplomas. However, it is completely devoid of any impact on the created space.

Conclusions

Our attempt to explore the space of Polish state schools in search of the practices of including students in its creation, ended with an almost complete failure. Among the analyzed visual representations, there is an overwhelming domination of those which indicate only seemingly participation of students in organizing the school space rather than their actual participation in it. Few examples point to attempts made by teachers to provide students with small fragments of space that they can develop in their own way. However, what is important is that these are spaces that allow only limited forms of activity/creativity; in addition, their nature most often allows only a temporary exposure, which is not without significance from the perspective of having control over it.

[1] Students' attempts to be included in the school space can be treated here as acts of aesthetic violence, visual pollution of public space, and even vandalism.

Reggio pedagogy, accepted as a model pedagogy, in this context is a practice completely unknown in Polish state schools which are based on different philosophical assumptions concerning the concept of childhood, human learning and, above all, are characterized by a deep distrust towards students. Hence the few fragments of space in which students' works appear, and they document rather exclusionary practices than including the student in creating his/her own place. Students' work is controlled so precisely that the products are simple, uncomplicated and extremely unified.

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Figures


Fig. 1


Fig. 2


Fig. 3


Fig. 4


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Fig. 18

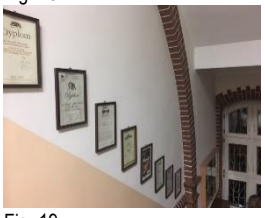
Fig. 19

Perceived Performance on Tutors during Process of Certification in Four Teacher Training Institutions in Durango

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Miguel Ángel Muñoz López

Edgar Jarib Castro Luna

Abstract

Higher Education Institutions (HEI) currently face a major issue: low levels of certification and thus the terminal efficiency. The present research emerged on the need to know what the perceived performance of tutors on postgraduate levels during the certification process in four teacher training institutions in the State of Durango. The research has a quantitative approach. This work is presented both as descriptive and explanatory. The methodology used is survey, which was used as a technique and an instrument. Variables were considered to building up 177 items, with an Alpha Cronbach reliability = .93. A total of 85 students were surveyed, who are the total of students on process to obtain the MA degree on Education in the four institutions where the research was conducted. These institutions also hold the Institutional Tutoring Program (ITP). Some common traits on tutors were found, which may strengthen or weaken the process of certification; also, some factors that make certification difficult.

Keywords: Tutoring, tutor, certification, teacher training institution, academic, development

Introduction:

The present research aims to identify the performance on tutors during the process of certification on postgraduate level in four teacher training institutions in the state of Durango.

From the main objective, three specific sub objectives were derived:

a) To describe the characterization of the participants in the research.
b) To identify the common key traits on tutors which Foster the process of certification.
c) To know the common traits on tutors which weaken the process of certification.

The institutions that participated were: Centro de Actualización del Magisterio, la Universidad Pedagógica de Durango, la Benemérita y Centenaria Escuela del Estado de Durango y la Escuela Normal Rural "J. Guadalupe Aguilera", It is imperative to state that these three institutions offer the MA degree by means of a thesis; besides, these institutions operate under the ITP.

First of all, this research is relevant because there is little research based on the tutors' performance and how this impacts on the process of students' certification in these teacher training institutions in Durango.

Secondly, this research underlines the awareness on the different problems which impact on the quality on these HEI which offer post graduate studies either in public or private. It also highlights the low levels in certification and thus the terminal efficiency. This research does not make emphasis on the terminal efficiency, but on the intentions of certification students have.

Thirdly, the results and final outcome this research found helps to identify the different factors that are either blocking or favoring the performance on tutors during the certification process.

Finally, based on these given factors which are blocking or favoring the certification process, after the analysis, a proposal will be possible to suggest suiting the tutors in the three teacher training institutions in the state of Durango.

Postgraduate Tutoring

Tutoring has a different approach from that in bachelor's degree. Postgraduate Tutoring emphasizes on the process oriented to the fundamentals, designing and execution of a research, in other words, on the generation of new knowledge (Martínez, Laguna, García, Vásquez & Rodríguez, 2005).

A postgraduate tutor fosters the interaction with the one being tutored and highlights the importance of the problems and questions on his surroundings; research problem analysis is conceived as a process of questioning and strategies to build up the new knowledge, from the previous knowledge and the active participation of the student. This way, tutoring supports the approaching of real problems and allows the one being tutored be the responsible of his own learning. (Martínez et al., 2005).

Current State of Knowledge

Experience has shown that after completing their studies, many students do not graduate immediately, but they let years go by. Some do not complete the process of the thesis, leaving behind the research that once was started; consequently, they do not go through the process to present their thesis and do not obtain the MA certification. Jaik, "states that the answers or approaches to the roots which originate the phenomenon are endless". (2013 p.40)

Postgraduate studies are on the rise bringing along several serious concerns to national level; among those are: quality, relevance and terminal efficiency. Terminal efficiency reflects the quality in education and it is an indicator to evaluate the functioning and goals reached by an educational institute.

Postgraduate studies in Mexico face a chronic problem related to terminal efficiency. Most recent data indicate these levels are around 30% (Jaik, Guzmán & Ortega, 2010) as cited in (Navarro M, Jaik A. & Barraza A., 2010).

According to a recent research report at Centro de Actualización del Magisterio in Durango, students who graduated between 2016 and 2011 only 41% took tutoring. It is less than the half who concluded. These students where starting their thesis; 59% of those graduate students did not attend therefore were not able to obtain their certification. (Espinosa, 2013).

García Herrera (s.f.) conducts a research named "terminal efficiency in postgraduate studies oriented to researching", and states that among the factor related to the terminal efficiency are the lack of research formation and the difference on programs and curricula. Kala (2003) and Piña and Pontón (1997) as cited in (Jaik, 2013) stated that some of the causes are: a) variety of subjects with a lack of expert tutor son the given subject; b) a scarcity of tradition to complete a thesis during the postgraduate studies. Similarly Lopez Villegas (cited in Sánchez and Arredondo, 2001) who conducted a research with the terminal efficiency concludes there is a direct relationship in the lack a systematized research work, cited in (Jaik, et al. 2013).

This research aims at identifying the performance of tutors during the certification process, so it turns out to be essential to creating new researchers; according to Cruz, Cruz Barriga & Abreu-Hernández (2010) it is a great potential to revive knowledge, integrate collaborative networking, innovation and knowledge transfer. These authors suggest tutors do not have it easy, for they lack proper instrument to guide their performance; thus their performance is according to their beliefs and own criteria, lacking a continuous reflection as trainers.

It is stated that the richness and cultural capital they possess related to their academic staff in sciences humanities and arts, is manifested in the tutoring system.

Postgraduate tutor must fulfill the mission to training new generations, to train them to conduct relevant research, high quality research with a social commitment, which contributes to the solution to national problems and at the same time strengthen the educative system at all levels. (Martínez, Laguna, García, Vásquez, & Rodríguez, 2005).

Methodological Design

The research was conducted with a qualitative approach, this study is both descriptive and explanatory. The methodology used is the survey. A questionnaire was used as the technique and an instrument. It is build up to have 8 complex variables, which derived up to 158 simple variables to measure the trend with values from 0 to 10 where 0 is the lack of value and the

10 is the highest value to a given question. There are a total of 177 items, nominal variables are 19 and they allow to demonstrate the characteristics of the subjects who were studied.

The questionnaire was revised under these three aspects: content validity by means of expert judgments; reliability with three pilot tests, obtaining a .93 value in Alpha Cronbach; and objectivity, adding questions to pilot tests. The population subject to study was the total of students in process of certification (85), data and analysis of data was made with the SPSS 15 software.

In this article, the complex variable to be analyzed is "The tutor", and it is composed of 33 questions. (Table 1).

Results and Discussion

Characterization of the participants

The following is the characterization of the participants which was elaborated through a descriptive study. Based on the questionnaire answers applied to the students, the following profile is understood: a population where most of them are women (61%); a high percentage of the interviewed are married (55%), although those single are (44%) and those with any family legal arrangement (free union 2% and divorced 2%); the predominant age is 39 years, with a slight standard variation of 10.47, the youngest student was 23 years old and the oldest 63 years old.

As for labor status, 96% work for an educational institute (84% public sector and 14% private sector); therefore, they are students who not only study but also work, most of them (84%) does not have a study scholarship (only 14% stated to have one). From those scholarships 6% are given by Durango Secretary of State Education (SEED) and 4% by Secretary of Public Education (SEP), 2% by the National Union (SNTE) and a final 4% by other institution not specified. Some interviewees are economical supported by their parents (14%) and 5% are supported by their work companies. In conclusion most of the students pay their own postgraduate studies.

It is important to highlight that half of the interviewees are school teachers: 44% elementary level, 11% kindergarten, 11% high school, 4% remote secondary, 1% kindergarten supervision, 2% pedagogical technical adviser, 1% maternal and 3% did not specify.

The postgraduate studies of the four institutions where this survey was conducted, 59% is formed of groups of students who graduated at least 10 years ago from bachelor degree. This data indicates the great interest of newer generations to obtain their certification well after graduating from college.

It was requested to the interviewee to indicate their work schedule. 85 different answers were obtained. 39% of them work around 5:30 to 7:30 hours a day, 45% work around 3:30 to 5:30 hours a day and surprisingly 16% of the students who took part in this study work 7 or more hours a day. Only the 8% of the interviewee work 1 to 3 and a half hours a day.

When asked how much time is invested on the thesis research, 60% stated that from 1 to 5 hours weekly, and 21 % from 6 to 10 hours weekly, 7% between 11 and 15 hours and the 2% dedicates 16 to 20 hours and only 5% dedicate 21 to 25 hours to research.

Last nominal question indicates how many books postgraduate students read yearly. 62% reads 1 to 5 books yearly, on average the candidate reads 5.04 books with a standard deviation of 6.5, which indicates that 6% does not read a single book a year. The most repeated answer was: 2 books.

As a cultural background statement it is important to mention that from 108 countries, UNESCO gives Mexico the one place before the last one on reading levels. On average Mexican read 2.8 books a year, but only 2% of the population has the reading habit. (Proceso magazine, 2013)

Descriptive statistics

1) Students perception on the common key traits on tutors which allow them to foster their process of certification.

Next, the results are presented on the descriptive statistics about the perception on the common key traits on tutors which allow them to foster their process of certification. The most significant variables are introduced; they foster the process of certification.

The general average obtained in the application of the instrument in the Tutor Factor was 8.8. it can be stated that students from the four institutions that participated in this research considered as strengths the following traits:

a) Students consider to be important that the tutor has a high knowledge on the subject matter and on the different contents; thus, he is able to conclude his thesis and obtain the degree. (X=9.6) (S=1.6).
b) Students consider important that there should be empathy between the two parties. (X=9.2) (S=2.3)
c) Tutor is accessible to meet when there has not been a previous meeting agreement to receive guidance. (X=8.9) (S=2.0)
d) Tutor suggests bibliography from different sources (books, authors) so as to consolidate students' research thesis. (X=8.8) (S=2.6)
e) Students are motivated to conclude the research on time. (X=8.7) (S=2.6)
f) Students are encouraged to present advances on a written basis. (X=8.7) (S=2.2)

Based on these results it is possible to identify the common key traits tutors have which Foster the process of certification, among those are: students consider to be crucial tutor has a high knowledge on the subject matter and on different contents that allow the student to conclude his research. Students value empathy between the tutor and the one being tutored. Students value the fact to meet even if there has not been an agreement to meet. Students also care about the fact that the tutor offers suggestions on bibliography sources to consolidate the research work. Students value the tutor who motivates the postgraduate student to conclude the research thesis on time and also motivates him to present work in advance in written form.

2) From the student's point of view, it is concluded that the common traits on tutors with less value in the process of certification are:

On the other hand there are also common traits, which according to students, do not foster at all the process of certification:

a) Tutor involves students on collaboration with other research groups. (X=5.4) (S=4.2)
b) Tutor encourage students to write journals to be published. (X=5.9) (S=3.9)
c) Tutor motivates students to have his papers published. (X=6.5) (S=4.0)
d) Tutor has explained the nature of the certification process in order to obtain the certification degree. (X=6.6) (S=4.1)
e) Tutor offers guidance on the nature of the research and the expected standards. (X=6.7) (S=3.6)
f) Tutor has recommended congress talks, collaborations, etc. which Foster the knowledge on the given discipline field. (X=6.9) (S=3.7)
g) Tutor keeps frequent contact through scheduled meeting at least once a week. (X=6.8) (S=3.7)

Based on the results, data indicate that from student's perception the traits which weaken the process of certification are:

Tutor does not involve students on collaboration with other research groups, does not encourage students to write journals to be published, does not motivates students to have his papers published, has not explained the nature of the certification process in order to obtain the certification degree. Tutor also does not offer guidance on the nature of the research and the expected standards, has not recommended congress talks, collaborations, etc. which Foster the knowledge on the given discipline field, Tutor does not keep frequent contact through scheduled meeting at least once a week.

Conclusions

Based on the answers to the given questionnaire, the following profile is derived: population is women, mostly (61%), predominant age average is 39 years. 55% are married 96 % of the students work for an educational institution, 84% on the public sector and 84% does not hold a scholarship for completing his studies. More than half of the students are teachers to basic level and 44% are elementary teachers.

An alarming fact is that 62% stated that reads up to 5 books yearly, the average is 5.04 books a year with a standard error of 6.5, which indicates that 6% of the students does not read a single book a year and the most repeated answer was two books a year. According to the results obtained in the characterization of the students, it is conclusive that postgraduate programs and tutoring promote reading which in turn will activate knowledge, motivate intelligence, increase cultural awareness and gives information, new knowledge, good writing skills and consequently ideas, projects, thoughts, argumentation and the building up of the thesis will be much more focused whether it is written or oral.

One of the purposes of education is to promote the processes of personal growth framed in a cultural group where he belongs. This knowledge will not be produced satisfactorily unless proper and specific assistance is given to the student through the student involvement in international activities, which must be planned and systematic to foster the constructivist mental awareness. (Díaz-Barriga & Hernández 2002). Delors, proponed in 1996 one of the most suitable ways to promote universal values to incite Young students to study great books from the past and perpetuate the beautiful traditions.

The master degree programs within the four institutions where this questionnaire was implements, 59% is conformed by groups of students with less than 10 years after being graduated from bachelor, and this percentage indicates they are interested on improving academically. 39% of the interviewed students work between 5:30 to 7:30 hours a day. 60% indicated that they dedicate around 1 to 5 hours a week to thesis research

Regarding the results in the descriptive statistics about students perception on common tutor traits, it is conclusive that the graduate students considers important that the tutor has a high knowledge on the subject matter and different contents in order that the student is able to conclude his thesis and obtains his degree (X=9.6) (S=1.6); students also consider important that the tutor and the very student share empathy (X=9.2) (S=2.3); Tutor motivates students to conclude their thesis within the established time. (X=8.7) (S=2.6); Student is motivated to present periodically his advances in a written form. (X=8.7) (S=2.2).

On the other hand, it is concluded that the common traits tutors have which weaken the process of certification are: tutor involves students onto collaboration with other research groups. (X=5.4) (S=4.2); Tutor encourage students to write papers to be published. (X=5.9) (S=3.9); Tutor motivates students to have his research published. (X=6.5) (S=4.0), d) Tutor has explained the nature of the process to obtain the degree. (X=6.6) (S=4.1); Tutor gives guidance on the nature of the research and the expected standards. (X=6.7) (S=3.6); Tutor has recommended congress, collaborations, workshops etc. to enhance knowledge related to the subject matter students are researching about. (X=6.9) (S=3.7); Tutor keeps regular contact trough frequent sessions with students at least once every three weeks. (X=6.8) (S=3.7).

Experience revels that students let years go by after concluding their studies and dome of them never take their thesis back to have it concluded; therefore, they do not have the experience to start the procedures to present their thesis and thus graduate and obtain the degree of master. Jaik, “states that the answers or the causes that originate this issue are endless”. (2013 p. 40).

Based on this research, it is concluded that in order to increase certifications and thus terminal efficiency, it is necessary to straighten tutors in the Teacher Training Institutions, they are essential to those students who really want to certificate their degree, writers such as Martínez, Laguna, García, Vásquez, & Rodríguez (2005), state that postgraduate tutors must fulfill with the mission to train the new generations, tutors must train them to undertake relevant, high level academic research and a social commitment which contributes to the solution of social problems, and at the same time, to enhance the national educational system at all levels.

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Table 1. Items on variable "the tutor"

Did he perform a personal interview with you to identify your academic profile, your interest to study a postgraduate degree; and your personal and professional goals?
Did he explain which the tutoring criteria are?
Did the tutor and you previously agree on the frequency of the tutoring?
Were you given the study guide about the nature of the research and the expected standards?
Does he keep in contact through regular sessions with you at least once every two weeks?
Does he keep in contact with you at least once every three weeks?
Is he flexible to meet with you to provide guidance and answer the emerging problems even if there is no previous fixed agreement to meet?
Were you informed about the institutional facilities available (library, computer labs, etc.)?
Were you given guidance on ethical and legal aspects concerning your research?
Does he Foster the application of ethical norms?
Does he provide information necessary on dates and stages of work so as to accomplish established deadlines?
Are you asked written work and required reports and then are you given back those papers with the proper positive feedback?
Are you asked written work and required reports and then are you given back those papers at a reasonable time (usually two weeks after)?
Does he offer guidance on strategies to prepare the thesis?
Does he suggest bibliography in order to consolidate the research?
Are you oriented through strategies to develop abilities for the correct usage of written language on the thesis elaboration?
Are you motivated to present periodically your advance orally?
Are you motivated to present your advance written?
Do you receive guidance on the methodology of the research?
Do you receive guidance on the interpretation of the results of the research?
Has he recommended theatrical or practical courses, congress, etc. to strengthen the knowledge in the subject matter or related disciplines?
Are you motivated to write research papers to be published?
Are you recommended to attend drafting courses on scientific papers?
Are you involved to collaborate with other research groups?
Has he maintained a systematic scheduled on agreements and established activities?
Has he explained the process of the final exam to obtain the degree of Master?
Does he motivate you to conclude your research on the given time?
Does he motivate you to publish your research?
Do you consider important the existence of empathy between you and the tutor?
Do you consider important the existence of communication to a higher level between you and your tutor?
Do you consider important that the tutor has a high level of knowledge to help you conclude your thesis and obtain your degree?
Do you consider it is up to you solely to conclude the thesis and obtain the mater degree?
Does he treat you respectfully?

Source: Own ellaboration.

Critical Factors in English Teachers' Professional Development in China – A Case Study

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Abstract

This case study is set in the context of globalisation, framing its analysis of issues relating to professional development of teachers of English language in China against the global background of English language teaching reform. In Asia generally, and particularly in China, where the focus of education in recent years has shifted from access to quality of teaching and learning, an existing plethora of underqualified teaching staff, mainly because of rapid higher education expansion, constitutes a major barrier to regular participation in professional development programs. Barriers identified as impacting on the provision of good quality teaching arose, largely, from the pressures due to the demands of curriculum reform and the often-changing expectations of university leadership, which highlighted tensions between a traditional reliance on the primacy of exam results and a newer demand for holistic development and lifelong learning. Following a review of the literature on aspects of teacher professional development, and a discussion of the current policy context in China, a range of findings will be used to illustrate common stakeholder expectations, as well as teacher beliefs and practice. The analysis of the narratives uncovers issues of identity and power, in the shaping of the participants' practice and professional trajectories. The analysis provides illustration of how limitation in professional participation can result in limitation of innovative practice. Concerns regarding barriers to further development are also highlighted. The study offers recommendations to promote innovative practice which can support more effective teaching and learning.

Keywords: Professional development, higher education, China, English

Introduction

The impact of globalisation on higher education has been widely discussed (see, for example, Xu, 2005; Hassi & Storti, 2012; Shahidi & Seyedi, 2012; Zajda & Rust, 2016). While Altbach (2004) and Vandermensbrugghe (2002) caution of the inequality which globalisation may lead to in academia, others (Lo, 2011) note that non-Western countries may selectively adapt from the Anglo-American model what suits their needs when developing their national higher education systems.

Researchers such as Ngok & Guo (2008) have reported on China's approach of "kejiao xingguo" (i.e., revitalizing China through developing science and education) which led to the launch of the 211 project in 1995 and 985 project in 1998. Project 211 is a project by the Chinese Ministry of Education that aims to raise the research standards of universities and refine strategies for socio-economic development. Project 985 is a project to promote the development and reputation of the Chinese higher education system, through funding certain universities to build new research facilities, hold international conferences, attract world-renowned faculty, and help Chinese faculty attend conferences abroad. Until recently, professional development of teachers has not been deemed to be of primary importance in China.

In common with educational leaders and policy makers elsewhere, who have tended to operate a myriad of top-down teacher professional development programs, rather than an inclusive training program involving the active participation of teachers as co-designers (Hardy, 2012), China has also relied on a one-size-fits-all approach to professional development of teachers. However, there is the dawning of a recognition that this needs to change.

Central to the debate regarding professional development programs are questions about what constitutes good quality teaching, how to develop (and subsequently evaluate) the teaching workforce and how to place students at the centre (Viete & Peeler, 2007; Chen & Fang, 2013; Peng et al, 2014). This paper seeks to contribute to the burgeoning research on teacher quality and teacher development in Asia by drawing on selected findings from a case study conducted at a university in China.

With a high focus on research performance, teaching and learning are often perceived to be secondary in importance to research in universities worldwide, and particularly Chinese universities. For example, promotion and evaluation processes still value research performance more than teaching performance in the classroom. This research-oriented tradition is a well-worn obstacle to faculty professional development on teaching and learning.

Literature Review

Language teachers' professional development emerges from a process of restructuring teachers' existing knowledge, beliefs, practices and reflections rather than just simply imposing fresh language teaching theories, methodologies and teaching materials on teachers. Therefore, language teachers' professional learning is a complex process which requires knowledge in various disciplines, such as psychology, sociology and methodology. Strong motivation on the part of teachers and a willingness to embrace change are also needed for the process of professional development to be sustainably successful (Guan & Huang, 2013; Reynolds et al, 2015).

Massification of higher education in Asia

The massification movement of higher education across much of Asia is creating a challenge for government planners and higher education administrators in being able to offer high-quality instruction with an under-prepared faculty workforce. In many country contexts, faculty qualifications prevent them from being able to keep pace with the rising demands of higher education students (UNESCO, 2014). Increasing enrolments in most Asian contexts causes many higher education institutions to be preoccupied in meeting minimum academic provisions rather than being able to focus on the improvement of high-quality instruction and learning. Varying faculty member academic qualifications—such as inadequate English language-speaking abilities and practical expertise, or qualifications in the field—are key issues among many that prevent them from reaching higher academic standards.

In an effort to address these quality gaps, many Asian higher education institutions began to emphasize accountability and quality assurance procedures, with a special focus placed on teaching performance and research output (Hallinger, 2010). Rote learning has been increasingly recognized as inadequate and university faculty members are expected to play a larger role in inspiring reflective and innovative learning.

In many higher education institutions, professional development programs were established to help support various initiatives that promote effective teaching and research. These programs are still being conceptualized across many top Asian higher education institutions with varying degrees of success. Research findings suggest a number of barriers that these professional development programs are trying to overcome (Asian Development Bank, 2011).

First, the massification process of higher education often overloads faculty members with substantially more teaching responsibilities. The trend where faculty members are required to teach more classes continues, as does the requirement to become involved in many non-academic matters that concern student campus life and/or developmental issues. As a result, professional development programs are often viewed by many faculty members as a luxury; most faculty already have little to no "extra" time available for such personal skills development.

Second, salary structures in many Asian universities are based on the number of teaching hours faculty members complete each semester/term/quarter. For language teachers, remuneration is often lower than for those who teach other subjects. From a monetary perspective, this often puts professional development program initiatives in direct competition with actual teaching activities. The lack of a general incentives or rewards structure further exacerbates the situation, making it even more difficult to motivate participation in professional development initiatives.

Third, faculty professional development programs in Asia are underfunded and operate on lean discretionary budgets. Faculty members seeking academic/professional self-enrichment domestically or overseas have to resort to self-funding in many cases, which is another disincentive for participation in professional development programs in Asian higher education institutions.

Issues of identity

Varghese et al. (2005) have noted that there are three features of identity process. Identity is firstly understood as multiple, fluid and often conflicted in nature, and importantly includes the notion of agency to explain teacher choices and decisions. The second understanding is that identity is always related to social cultural and political contexts (Lave & Wenger 2002).

Finally, it is understood that identity is constructed and negotiated through language and ongoing interactions with others (Bucholtz & Hall 2004). Particular issues in studies of language teacher identity have included marginalisation, the position of non-native speaker teachers, and the nature of teacher knowledge.

Language teachers in particular position themselves both personally and professionally between two or more languages and cultures (Kanno 2003). These observations and issues have created a diverse research field but, as Varghese et al. (2005) note, do not constitute a coherent theoretical approach. While we acknowledge critique of its limitations in this context (Varghese et al. 2005), discussed below, we have chosen to use Wenger's (1998) framework of the dual process of identity formation. This is described as the result of two processes, identification and negotiation of meaning. Identification comes from engagement (investing ourselves in our practice, as well as in relations with others), imagination (seeing our experience as part of a broader context - "images of the world that transcend engagement" Wenger 1998: 17) and alignment (connection to others when our practice is in line with a broader enterprise, involving power). Negotiation of meaning involves ownership of making meaning of experience, power processes, and, if the participant's contribution is continually denied, results in marginalisation.

Narrative research has been recognised to be of particular significance in capturing language teacher development (Barkhuizen et al. 2013). It is understood that language teaching and learning focus not only on acquisition of a language, but on the interaction and development of a holistic and intercultural identity. Nevertheless, in individuals' stories, the tension between educational beliefs is noted, for example, between the models of teacher as authoritative source of knowledge and of the teacher as facilitator, helping the student to make their own discoveries in learning (Wilson 1996).

Educational technology

Educational technology is an important aspect of professional development initiatives in Asian higher education institutions, with a special emphasis placed on research and instruction with multi-media support (Asian Development Bank, 2011; Azhar & Shahid, 2014). However, educational technology literacy among faculty—particularly embedding it into innovative curriculum design as well as transformative pedagogical practices—remains discouragingly at a low level and suffers inadequate attention from higher education administrators and government policymakers. Some faculty members, especially senior professors, remain educational technology adverse, and are often antagonistic to its strategic deployment at the institutional level. When it comes to language learning, there is often a significant lack of funding in educational technology, with the view that the textbook is the curriculum.

Top tier universities vs the rest

Geo-political and geo-economical diversities in Asia often make it difficult for professional development programs to establish unified standards and optimal training opportunities for all administrators, faculty and staff members, and students. The most robust professional development programs tend to exist within the top Asian universities, compared with lower-ranked institutions where professional development activities happen on a more *ad-hoc* and as-needs basis. Asian universities with the most salient faculty professional development programs have both centralized and decentralized measures adapted to best meet the needs of faculty research, teaching and learning.

Interestingly, there is a noticeable lack of rewards structures for innovative research, teaching and learning, even in the top ranked universities (Chapman, 2009). This is especially true for language learning. Incorporating professional development to faculty teaching and learning as a long-term strategy rather than a short-term resort has been a typical challenge in this region.

Qualifications and experience

In China, newly-hired higher education teachers often lack teaching experience due to limited teaching opportunities during their postgraduate studies (Wu et al, 2016). This has led to myriad teacher professional development programs in Chinese universities, with many deemed to have been unsuccessful, primarily because of the adoption of a one-day workshop approach to teacher development. Such an approach overlooks that learning and professional growth are life-long processes which build upon previous experiences, skills and knowledge. For native English speaker teachers, in many Asian contexts they still do not possess the qualifications necessary for employment in other parts of the world. There are encouraging signs that this is changing, but, due to the sheer numbers of students that need to be taught, it will take time. For both groups of teachers, it is clear there is a pressing need for meaningful professional development.

However, many researchers (Colbert, Brown, Choi & Thomas, 2008; Ryan & Cooper, 2010) have perceived such programs as something done to teachers rather than by them. In other words, they are often top-down programs that are planned and designed by higher education administrators whose aims and objectives have never been discussed or shared with teachers at the planning stage. Researchers such as Lee (2011) view the involvement of teachers in professional development at the planning stages as crucial to its success.

While it is not merely a matter of who is presenting in CPD seminars that makes the difference, the process of teacher learning can be enhanced by having teachers engage in professional sharing and critical reflection and by helping them connect knowledge to unique contexts. As teachers take a more active role in their CPD by engaging in professional sharing with their peers, they also build a collaborative culture and foster learning in professional learning communities.

Societal changes leading to possibilities and opportunities

Values can change in response to environmental possibilities (Littrell, 2005; Han, 2016). Social change in countries such as China and Korea, for example, including globalisation and neoliberalism, and their enthusiasm for high education are resulting in changes to ideas of good education and desirable teacher and student roles and identities. Their university culture is now said to be at the centre of a mixture of traditional values and current liberalism, individualism and equalitarianism. Lecturers seek to promote communication-based reciprocal teaching and learning, so their dominant teaching and learning theme is deemed to be constructivist (Han, 2007). Blended learning is being increasingly promoted, to increase feedback exchanges between the lecturers and the students. Given that all Asian societies are also changing under the influence of globalisation and modern ideas, their learners may share some similar values and expectations.

Policy changes leading to possibilities and opportunities

Masino and Niño-Zarazu´a (2016) conducted a systematic review to identify policy interventions that improve education quality and student learning in developing countries. They highlighted three main drivers of change of education quality: (1) supply-side capability interventions that operate through the provision of physical and human resources, and learning materials; (2) policies that through incentives seek to influence behaviour and intertemporal preferences of teachers, households, and students; (3) bottom-up and top-down participatory and community management interventions, which operate through decentralisation reforms, knowledge diffusion, and increased community participation in the management of education systems. Overall, these findings suggest that interventions are more effective at improving student performance and learning when social norms and intertemporal choices are factored in the design of education policies, and when two or more drivers of change are combined. Thus, supply-side interventions alone are less effective than when complemented by community participation or incentives that shift preferences and behaviours.

Research context

China is at a critical juncture in education reform. One in every five of the world's college students is said to be in China (Zhao, 2016). The total number of college students in China in 2015 was 37 million, easily the world's largest student population. The number of colleges and universities in China in the same year, 2015, was at least 2,900, according to the Ministry of Education (Zhao, 2016), with the number growing every year. According to the World Economic Forum, in 2017, the number of graduates from Chinese universities stood at 8 million, more than double that of the US (Stapleton, 2017). This has placed considerable pressure on the system to reform its teaching practices.

The university in this study, established in 2012, is a public institution with a student cohort of approximately 4,000 students. Thus, the university is expanding quickly, thanks in no small part to generous government funding. Goals are clearly defined by the institution, and this, in tandem with a dynamic leadership, is why expansion is happening successfully. A university with research, innovation and entrepreneurship as its mission, it has a male-female student ratio of 3:1. Chemistry, Physics and Communications Engineering are the top three programs studied by students. In the regular curriculum, the chief characteristics of the university's undergraduate education are the high prevalence of small classes (twenty students or fewer), the expansion of English a medium of instruction, and the intensification of its math courses. The low student-professor ratio (1:10) provides students with abundant opportunities to interact with their professors and enhance their higher-order intellectual skills. Approximately eighty percent of the university's graduates undertake graduate studies abroad, primarily in the US.

The university plans to intensify English education and to conduct all courses in English, to further its aim of mentoring its students as global leaders. To this end, students in their first two years are required to take intensive English courses. Upon entering the university, freshmen must take a placement test for English. All of this serves to increase the burden of expectations placed upon the English teachers. English teachers were, until two years ago, mainly native Chinese speakers, but now native English speakers comprise approximately two thirds of the English teaching faculty, the result of a university push to satisfy the demands of parents and students. Half of the English native speaker teachers are employed directly by the university, and half have been supplied by an outside recruitment agency, which is what many universities in China do.

This study takes place in the context of frequently changing policies and requirements for English language instruction as a subject. How does this impact teachers' sense of professionalism?

Research question

This study addresses the following two research questions: (a) what are the opportunities and challenges for the professional development of teachers in a mainland Chinese university and (b) do Chinese and native speaker teachers of English face mainly similar, or different, opportunities and challenges in the field of professional development?

The first research question aims to explore the current situation on the professional development of teachers and what the opportunities of and challenges for the professional development of teacher educators are. The understanding of the responses to the first research question can be seen as a foundation for the understanding of the second research question.

Method

This study involved a longitudinal study for more than six months in a university in southern China, of five native English speaker teachers and five Chinese teachers of English language in the university. Observations, interviews with the teachers and with two trainers, in addition to document analysis, were employed to capture the teachers' thoughts, actions and especially group interactions in trying to understand and implement this new professional development practice. The practice involved mentoring (Chinese teachers mentoring non-Chinese teachers, long-serving teachers mentoring newly-hired teachers), as well as continuous professional development (workshops, seminars, group reflection etc.) throughout the six months of the study.

All of the above facilitated narrative enquiry. Narrative is a pathway to disclose "how we see ourselves and how we view ourselves with respect to others" (Vasquez, 2011: 543). In this sense, the interview was an appropriate method, enabling teachers to reflect on any changes they experienced. The participants' worldviews were disclosed and their experience and positioning with others and revealed the "evaluative and ideological" discourses embedded in their identities (Maybin, 2004:70).

Data analysis methods included: transcribing interview and observation data; writing analytical memos after each observation, interview and document analysis; keeping constant dialogue with the existing research findings and theories as well as the author's own personal experience and insights. Throughout this research, a social constructivist approach was taken of these teachers' responses to a top-down initiated reform practice. While keeping theoretical framework and concerns in mind, special attention was paid to these teachers' native concepts. These concepts were used as the codes and categories for data analysis, in addition to other related concepts and theories in the existing literature.

As for the validity of the research findings, triangulation of different data sources from different participants was used. Preliminary findings were fed back to the participating teachers for verification and falsification, and findings were revised accordingly. As China is a huge country with a lot of regional disparities in education, it is not claimed that the findings from teachers in the university in the study represent all teachers in all universities in China, although they may shed light on the phenomenon under study.

Results and discussion

The study found that despite some clear views on how professional development can help teachers be more effective, it was also evident from the interview responses that there were barriers to ensuring quality, equal treatment and the future development of teaching. This largely centred around issues of continuous professional development and differences between native and non-native speaker teachers, as well as between those employed directly by the university and those

on secondment to the university through an outside agency. Issues of intercultural communication are the first ones to arise.

Intercultural communication

Xu, a Chinese teacher, was at first sceptical about being asked to mentor Amy, as she felt she wouldn't be listened to. However, after two months, her attitude had changed completely:

'Collaborating with Amy is my first experience of working closely with a non-Chinese colleague on English teaching and learning. Through her, I have learned many useful skills and activities and most importantly, I understand how the two of us share some of the same ideas about English teaching. Of course, we think differently about some things. Her comments prompted me to rethink many things that I took for granted, and her caring personality makes me, an older teacher, feel respected and treated as a mentor. This is a fascinating experience of intercultural professional learning. I think I'd like to do some teacher training in the future. I didn't think it would work, but it has!'

Amy had a similarly positive experience with her mentor, Xu:

'Working with Xu has been important to me in in a number of ways. Firstly, it shifted stereotypes I had held, such as "all Chinese teachers teach by standing in front of the class and lecturing", when clearly Xu didn't teach that way at all! Secondly, I learned how I need to adapt to the Chinese context. I love the personal challenge, knowing that I need to learn a lot about this incredible culture, and I am so fortunate Xu is helping me navigate it. We each understand so much more about the other's point of view.'

One of the positive results of this was that a renowned researcher in the field of intercultural communication was invited by one of the Chinese teachers to give a guest lecture to students at the university, as it was felt that students, just as much as teachers, could benefit from a greater awareness of intercultural issues.

Stakeholder expectations and the role of teachers

The University's strategy is to ensure that the learning experience of students is a relevant fit in an increasingly globalized world. In particular, the university leadership wants to ensure that students are prepared for academic migration upon graduation, to undertake doctoral studies in English-speaking countries, at some of the world's top universities. Students need to develop new knowledge, skills, and attributes which prepare them for this new world. This means, as Nick acknowledges, that they need to be taught in ways that are different from those traditionally associated with University education:

'First, the world is changing, and our teaching methodology needs to keep pace, especially when it comes to technology. Second, our students are changing, and we need to be constantly aware of their changing needs and expectations. I've appreciated the workshops which deal with the areas I need to develop in, and would suggest we have follow-up workshops, refreshers, on those areas next semester. My students have benefitted too, and it makes me feel part of the team, the Centre and the university.'

Nick, an agency teacher, was one of only two agency teachers to regularly attend professional development sessions. When asked why there was such a low take-up rate amongst his colleagues, he believed that:

'For so many agency teachers, not just here, but the ones I know in other universities, they won't be involved because of the time commitment. They will just go and find another teaching gig in that time, as salaries aren't that high in China. They know even if they don't have good teaching evaluations they will be employed again next semester, because there is a great demand. Also, nobody will recognise them or reward them, so they figure why should they?'

It is clear from this that not everyone wants to avail of the opportunities afforded by professional development. This highlights the need to link student assessment of teaching effectiveness to professional development continual improvement. But then the question arises do these assessments necessarily translate into teaching improvement? These questions will continue to knock on our doors as we witness progresses of faculty professional development experimentation in Chinese universities well into the future.

Yohet, a Chinese teacher, found professional development to be effective and noted how it changes her perception of her role as a teacher:

'Before, I just came to class, taught the class, and left. Like most teachers, I didn't always stay for office hours. However, I now realise that it's important to be more accessible to students, and I think PD has helped me understand my role as a teacher is also pastoral.'

Wanda, one of the international training providers, was somewhat frustrated by her experience with the teachers:

'What surprised me was that, generally, the Chinese teachers were more qualified in terms of degree level than the foreign teachers, but that everyone expected everything to be spoon-fed to them. There wasn't the same level of motivation that I have encountered with groups of teachers of all nationalities in other countries, and perhaps it is because English language teachers do not seem to be as valued here in China. They seem to be expected to just teach anything, like robots, and this is the first experience for most of them of real professional development. By the end of the course, I noticed a difference, as they could see how they had improved, and I will make myself available online for them. They were surprised by that.'

It is clear from what Wanda is saying, which was reiterated by the second trainer, that teachers need to feel valued, and that they also need career development opportunities provided to them, in order to be motivated in their work. However, opportunities for many teachers as few and far between, as shall be discussed below.

Lack of a level playing field

Career development is important for most people in their field of work, and this is no less true for teachers. However, what emerged over the course of this study is that there is a dichotomy between opportunities available for Chinese and non-Chinese teachers, as Rob explains:

'I want to do a good job, and I want to be acknowledged for it. However, there are absolutely no opportunities for promotion for me at this university. Only when the director of the language centre pointed out to university administration that it wasn't fair that the annual teaching competition wasn't open to non-Chinese teachers and argued for inclusion was this allowed to happen. Also, for English teachers, all the funding available for research, which isn't as much for language as it is for other subjects, is only available to Chinese teachers. How unfair is that?'

Flynn, a Chinese teacher, also bemoaned the dearth of opportunities for career advancement:

'Only because we have a language centre director who fights for our interests do we have a chance, but she encounters a lot of opposition. It is so difficult to move up the career ladder here, and I am ambitious, as are many Chinese teachers. However, we are just told to teach. There is a complete lack of understanding that teaching should go hand in hand with research, professional development and career opportunities. Because we are not mathematicians or chemists, it doesn't seem to be important. But they will see that their good teachers will leave. I know some who are already making plans, even to leave the teaching profession.'

It is clear from the above that career inducements are not forthcoming to language teachers. Additionally, non-Chinese teachers are mainly employed on one-year contracts, unlike their Chinese counterparts, who have standard three-year contracts, thereby making sustainability of teaching and learning initiatives a much more difficult proposition, as well as making the argument for devoting more time to greater professional development opportunities one that is more difficult to advocate for. All of this can have a knock-on impact on the quality of teaching and learning.

Perceived barriers to improving the quality of teaching and learning

In line with other investigations on teacher education and professional development of foreign language teachers in China, we can find that the university administration wants the methods adopted in teacher professional development to follow the traditional way which emphasises the impact of such professional development on teachers' pedagogical knowledge and teaching skill. This neglects the impact on the promotion for teachers' cognition, emotion, attitude and self-development, nad, although the professional development in this university for English language teachers has endeavoured to address this, there is an uphill battle. This hinders the development of teachers to a certain extent. However, the many curriculum reforms being imposed by administration require teachers to renew teaching ideas, implement new curriculums creatively, update educational concepts, reset their roles and innovate in approaches of their professional development. All of this creates additional pressure on teachers who already feel overburdened.

Publish or perish pressure for Chinese faculty

To boost their research productivity, Chinese universities are putting great pressure on their faculty to publish in internationally indexed journals. However, the emerging publish-or-perish culture in China has been evolving differently for Chinese teachers of English, who, unlike their counterparts who teach other subjects, are not usually seen as either research track or tenure track, are expected to teach more classes than before, due to the increased number of hours of English language instruction for students, to greater numbers of students, and yet who are, in the words of three of the teachers in this study, viewed 'as second class citizens', expected to publish but rarely provided with the time or research grants their colleagues in other disciplines enjoy.

Consequently, the Chinese participants were reluctant to spend time on other academic activities, including professional development, as indicated by Eric:

'The course designed for us was a very good one, particularly as we had some input into what we wanted to learn. However, I had to drop out of the course after a few weeks, because I need to complete my research and publish. If I don't, I won't be considered for future projects. I want to develop professionally, but I just can't find the time. Research first.'

They also reported considerable work time devoted to writing, which resulted in fatigue and negatively affected family relations. The participants admitted that they had to rush to publish, and therefore were less likely to produce papers of better quality, as Jenny frankly states:

'I know that I'm not producing the best quality papers, but I'm determined to be promoted. It's so difficult for us English faculty, because we are not seen as tenure-track or research track, and yet we are evaluated every year on our research output as much as our teaching. I have no time for anything else in my life at work, so my students and my professional development are suffering, and my home life is suffering, trying to juggle it all.'

This serves to underscore Chinese universities' increasing use of the number of international publications as a major assessment and incentive measurement of their faculties' academic performance. Teaching and professional learning are still not receiving the recognition they deserve from administrators.

Recommendations

Improving university instruction and research quality is an area of growing concern for government policymakers and planners, higher education administrators, faculty members, students and the community at large. In this article we examined the global literature on this topic, with a specific focus on the professional development of teaching and research within universities. While many ideas can be learned from the university in this study, a few recommendations are highlighted that higher education administrators should consider when establishing or strengthening university-based professional development. Each of these recommendations is broad enough to apply to different country contexts as well as institutional types—regardless of whether the university is private or public.

It is no secret that teacher professional development is an essential element in the teaching and learning process and should have an effect on student performance. It is supposed to help teachers improve their skills, knowledge and teaching practices. Yet, most of the programs and courses planned for this purpose lack the engagement of teachers in the planning process and indeed, in other phases of the process also. What matters at the end is what teachers learn and acquire and the way they transfer this new knowledge into the classroom. One main aspect that policymakers have not probably well-considered in planning for educational reforms throughout the world in general and in China in particular is the lack of research studies in education, as research in science, engineering and mathematics has traditionally been more valued. Local studies based on real data in Chinese university contexts are essential if solutions for more promising outcomes are the ultimate goal of the reform.

Teacher professional development is planned and designed to help teachers improve their pedagogical knowledge and skills and then to translate their new understanding into classroom teaching and practices. Consequently, this improvement is expected to impact positively on students' learning outcomes. Therefore, it is of high importance to investigate teachers' existing knowledge and experiences and build on them at the planning phase of any professional growth program. Programs need to be customized to fit into the individual and subject-knowledge requirements. As it is the case with accommodating to students' learning styles, literature is also replete with research studies that emphasize the necessity to

match one's teaching styles to his/her learning styles. Therefore, one size does not fit all when it comes to professional development.

Teachers' beliefs and attitudes are major factors in any educational reform. Therefore, it stands to reason that teachers need to be convinced of the reasons for the change imposed on them. They need to believe in the credibility of any designed training course in providing them with new opportunities for learning, recertification and salary increments, as well as individual growth. If there are no career inducements for teachers, it is unlikely that professional development programs will have a wide impact.

Policy makers and university administration should be aware that learning is a long-term process. Assuming immediate positive results of students' performance after a well-planned professional development program is by no means possible. Variables other than any specific program might have larger impact on students' academic performance such as parents' educational and social backgrounds, students' motivations and interests, students' learning styles or the classroom size. More importantly, the link between what teachers have learned and acquired in a certain professional development program does not necessarily have a direct impact on students' academic performance. Teachers might have developed and gained other skills and knowledge that would affect the classroom teaching and practices in a different aspect. As a result, a well-designed follow up strategy of teachers' development might provide a better understanding of what worked well in the training programs and highlight areas of concern to be tackled in the future.

It is more effective to have multiple professional development offerings rather than a single option. Multiple professional development approaches to improving teaching and research include individual counselling and mentoring services, online training seminars, podcasts, peer reviews; courses on optimal use of research and instructional best practices; access to the latest research and instructional software; and university wide training workshops. With the trend towards increasing teaching and research workloads of tenure-track and non-tenure-track faculty members, it is especially important that professional development reaches out, communicate, respond, and provide solutions, guidance and technical assistance. Professional development centres can help support all university personnel.

However, effective professional development requires top-level administrative support from the university, for example, a vice-chancellor or provost. This often helps secure the institutional and financial support needed to be able to outreach to the various schools, colleges and departments across large campuses. Regardless whether the institution is considered public or private, top-level administrative support is essential for long-term sustainable change and in ensuring that professional development is considered central to the university's mission. Without top-level administrative support, universities often consider professional development programmes as secondary to the central research and instructional focus of world-class universities.

Conclusion

Possessing expertise in education reforms provides no guarantee of having the capacities, attitudes, and cultural sensitivities needed to facilitate change across cultural contexts, which at the policy level seems largely assumed. Universities that value student exposure to native speaker teachers may not want or require a teacher with an ambitious change agenda. Conversely, universities that aim to implement specific reforms, such as standards-based assessment or English medium instruction, may benefit from native speaker teachers possessing such expertise and experience. However, there needs to be a more level playing field in terms of opportunities provided to both native speaker and non-native speaker teachers, be that in terms of promotions, salary increments or opportunities for conference attendance, research funding etc.

So, while recognising the limitations in the data discussed, and despite the limited scope and exploratory nature of these findings, it is argued that this paper can still provide greater understanding of the current situation of teaching in universities within mainland China. Structural and financial inequality was evident in the responses, and strategies for further professional development were being compromised in some areas. The findings also support the view from Reynolds et al. (2015) that teacher behaviour is influenced by their underlying attitudes and values, although more research is needed on the way in which the formation and expression of such values shapes, and is shaped by, the historical, social and political context, in which they work. It can be argued that this is especially needed in developing country contexts where little such research already exists.

What this study highlights is that successful professional development efforts are based on relationships. This is especially true in the Chinese context, where networking operates at a more intensive and pervasive level than elsewhere. Those managing professional development must have leadership style characteristics that are consultative and collaborative. Professional development administrators need to be able to adapt to the many unique challenges that faculty members and departments from many different backgrounds face, and also know how to work collaboratively with faculty members.

Professional development also needs to be able to reach out and meet the needs of individual faculty members. This one-on-one faculty mentoring and guidance model is often the most sustainable. Faculty members' instructional and research needs are often so unique that they cannot be grouped into entire department-wide training seminars. Finding ways to best meet the various and disparate needs of so many faculty members is a constant challenge for professional development, yet, if viewed as an opportunity, long-term success can ensue.

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Pursuing the Issues with Students' Understanding of Decimals

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Abstract

Decimal notation plays an important role in our everyday use. However, previous studies have indicated that some students had difficulties in interpreting and operating decimals. The objective of this study is to pursue the changes of students' achievements in a strategically designed decimal comparison test within a period of one year. Data from an earlier funded study were extracted and analysed. The first analysis examines the 2258 students, ranging from Year 6 to Year 10, who did two decimal tests in a year, and traces the students' movements between readily identified decimal codes from their first test to their second test (referred to as Transitions). In the second analysis, 122 students were identified to have had almost no errors in their first test but made more errors in the second test. This particular transition is referred to as regressing. A further analysis of responses on the decimal test indicated some regression students were consistent in using various incomplete algorithms to correctly choose many decimal comparisons. However, when the algorithm that was used fail to give a definite answer, they resorted to guessing at random or revert to a latent misconception.

Keywords: decimals, comparison test, longitudinal study, persistence, regression

Introduction

It is known that some students will have difficulty in dealing with decimals (Shahrill, 2005, 2011, 2013; Sarwadi & Shahrill, 2014; Finti et al., 2016). Decimal notation plays an important role in our everyday use. We see decimal numbers on price tags of foods and clothes in shops and everyday activities involving measurements and calculations (Chong et al., 2018). Evidences from mathematics education studies across the world have shown the difficulties experienced by children and adults in decimals (Brown, 1981; Sackur-Grisvard & Leonard, 1985; Resnick et al., 1989, Thipkong & Davis, 1991; Graeber & Campbell, 1993; Moloney & Stacey, 1996; Steinle & Stacey, 2002; Sarwadi & Shahrill, 2014; Durkin & Rittle-Johnson, 2015, Griffin, 2016; Jong et al., 2017).

The source of the data reported in this paper came from a project that started in 1995 in a study funded by the Australian Research Council (the ARC Study). The Decimal Comparison Test (DCT) was distributed to 12 volunteer schools in six geographical areas of Melbourne, Victoria. About 7000 tests were collected between 1998 and 1999 and more than 3000 of these tests were not entered into the database hence have not been reported on. One school continued to administer the tests to their students beyond the testing periods of the ARC Study (towards the end of 1999). Members of the ARC Study marked and allocated a decimal misconception code to each of the collected tests. Publications from the ARC Study (Stacey & Steinle, 1998; Stacey et al., 2001; Steinle & Stacey, 1998a, 1998b, 2003b; Steinle, 2004) regarded the DCT as a useful comparison task mainly because it diagnosed students' misconceptions on decimals. Students' responses to the test created a pattern that revealed the various ways of how they think about decimals. Since the DCT is diagnostic, the total score on the test is a meaningless quantity. The DCT is used to classify students' thinking about decimal notation and the test takes less than 10 minutes to complete. Its usefulness was that it was simple to be administered to large groups of students as proven by the thousands of tests collected from 1995 to 1999 within the ARC Study.

The descriptions of the four behaviours, known as the coarse codes (A-Apparent Experts, L-Longer is Larger Behaviour, S-Shorter is Larger Behaviour and U-Unclassified) and the associated ways of thinking (the fine codes) are given in

Appendix 1. The fine codes were intended to represent the ways of thinking associated with the four behaviours (A, L, S and U). The descriptions of the four behaviours are from Steinle and Stacey (1998a), and the explanations for the fine codes were taken from Steinle and Stacey (2003a, p. 641).

Results

The results and the analysis of the longitudinal study aimed at tracking the changes of students' achievements in the DCT within a period of one year. Data was obtained from the class list in the ARC Study from 1998 and 1999. In this study, when a student completed his/her first test, it will be referred to as Test 1 (i.e. data from 1998 Semester 1 and 1999 Semester 1), and the second test will be called as Test 2 (i.e. data from 1998 Semester 2 and 1999 Semester 2).

Transitions between codes

The first analysis examines the 2258 students who did two tests in a year and traces the students' movements between codes from their Test 1 to Test 2 (referred to as Transitions). This is done using both the coarse codes and the fine codes. Table 1 illustrates the percentage distribution of transitions from one coarse code (in Test 1) to another (in Test 2). The last row provides the summative information. The overall rate of students moving to A is 75%. From Table 1, about a quarter of the L students, almost a third of the S students and almost half of the U students tested as A in their second test. The shaded cells in this table show the extent to which students (i.e. 93% stayed as A, about half of the L and S students and about a third of the U students) persist in their original behaviour, in other words, they did not transition. There was not much movement between L to S and S to L, indicating it was less likely that students swap between these codes. Those who stayed as A from Test 1 to Test 2 recorded the largest entry within a cell (93%), and those who persist in their original behaviour (L, S and U) from Test 1 recorded the largest entries within a column.

Table 1. Distribution (%) of Test 2 given coarse code of Test 1

	Coarse code on Test 2			
Coarse code on Test 1	A	L	S	U
A (n=1531)	93	1	2	4
L (n=215)	23	47	10	20
S (n=215)	32	8	45	15
U (n=297)	49	8	11	32
Total (n=2258)	75	7	8	10

The results of the transition matrix using coarse code from Table 1 above was further analysed using fine codes. Table 2 provides the percentage distribution of transitions from one fine code (in Test 1) to another (in Test 2). This was done to reveal students' progress towards a specific way of decimal thinking within the A, L, S and U behaviours. As per Steinle (2004), the darker shaded cells indicate retesting in the same fine code, while the lighter shaded cells indicate movement within the same coarse code. The largest entry within a cell was 91% (1257 out of 1379 students) indicating those who stayed as A1 on second test. From Table 1, even though 93% of A retested as A in their second test, in the fine code transition matrix (see the first three cells of the 'A1 on Test 1' row percentages in Table 2) revealed there were students who have not achieved the 'expert' status in the second test yet. These are the students who are either A2 or A3 in Test 2. Most of the A2 students either persist in A2 or moved to A1 whereas there were more A3 students retested as A1 (38%) compared with U1 (23%) in Test 2. The first row percentages in Table 2 indicate 9% out of the 1379 students (i.e. 122 students) who started as A1 in Test 1 and regressed to non-A1 in Test 2. These regression students will be analysed further in the next section.

Table 2. Distribution (%) of Test 2 given fine code of Test 1

	Fine code on Test 2										
Fine code on Test 1	A1	A2	A3	L1	L2	L4	S1	S3	S5	U1	U2
A1 (n=1379)	91	3	2	0	0	0	0	0	0	2	1

A2 (n=78)	42	33	4	0	3	0	3	5	1	5	4
A3 (n=74)	38	12	10	3	3	0	1	5	1	23	4
L1 (n=136)	10	2	2	38	11	7	3	4	4	18	0
L2 (n=48)	40	4	2	4	21	2	2	2	2	21	0
L4 (n=31)	19	7	0	16	16	3	7	0	7	26	0
S1 (n=63)	29	11	8	6	3	3	11	6	6	14	2
S3 (n=109)	15	3	4	5	3	0	8	42	9	12	0
S5 (n=43)	28	5	5	0	0	2	16	9	14	21	0
U1 (n=270)	38	4	7	3	4	2	3	6	3	29	2
U2 (n=27)	33	4	7	0	0	0	0	11	0	11	33
Total (n=2258)	67	5	3	4	2	1	2	4	2	9	1

There were more L1 students becoming L2 in their second test (11%) than L2 students becoming L1 in Test 2 (4%). From Table 2, 40% of L2 students moved to A1 compared to 10% of L1 students. Furthermore, L1 students persist more than L2 students (38% of L1 compared with 21% of L2). I had stated earlier that almost a third of S students became A in Test 2; it was the S1 students that showed the most movement towards A1, A2 and A3, hence moving out more from the three fine S codes. Students who exhibited A3, L4, S5 and U1 in Test 1 tend to move most to either A1 or U1 in Test 2.

The issue of regression

The analysis in this section investigates the issues relating to regression. From the analysis of the fine code transition matrix (Table 2), there were 1379 students who tested as A1 in their first test, 1257 students (91%) remained as A1 but 9% did not. These are the 122 students who regressed from being Task experts (A1) to non-Task experts (non-A1). Although more than half of the 122 students stayed within the Apparent-expert (A) behaviours i.e. A2 (37 students) and A3 (26 students), the others had spread out into the L1, L2, S1, S3, S5, U1 and U2 codes (refer to Table 3). More than a quarter of the students regressed to U1. There were no tests allocated the code L4. The last row in Table 3 shows that the 122 regression students were most likely to regress to codes A2 (30%), U1 (26%) and A3 (21%). The percentage of students regressing to codes L1, L2, S1, S3, S5 and U2 were low. Steinle (2004) also found A2, A3 and U1 to be the most common code involved in regression.

Table 3. Distribution of regression codes for the 122 regression students

	A2	A3	L1	L2	L4	S1	S3	S5	U1	U2
Overall (n=122)	37	26	2	5	0	5	3	3	32	9
Percentage	30%	21%	2%	4%	0%	4%	3%	3%	26%	7%

Investigating the items

The 122 students were identified and their test papers from the second test were collected for further analysis. Their responses to the 30 items were recorded. Table 4 contains the results of all the 30 items. The rows in the table represent the items, arranged according to Item Types and the columns represent the results of each regression code and (in the last column) the overall result of the regression codes. There are only a few L1 and L2 regression students, therefore both fine codes were grouped under the coarse code L. Similarly, there are few S1, S3 and S5 regression students, which were grouped under the coarse code S. The A2 regression code column in Table 4 reveals that instead of the predicted 0% for every Type 4 item, the four results range from 3% to 19%. A discussion about this matter will be in the next section.

Table 4. Item results for 122 regression students by regression codes

	Item details (larger first)			Regression codes						Overall (n=122)
				A2 (n=37)	A3 (n=26)	L (n=7)	S (n=11)	U1 (n=32)	U2 (n=9)	
Type 1	Q6	4.8	4.63	100	100	0	91	72	0	79
	Q7	0.5	0.36	100	96	0	100	47	0	72
	Q8	0.8	0.75	97	100	0	100	59	0	75
	Q9	0.37	0.216	97	92	0	100	47	11	71
	Q10	3.92	3.4813	100	100	0	100	53	22	76
Type 2	Q16	5.736	5.62	92	96	100	9	69	0	73
	Q17	0.75	0.5	95	92	100	0	72	0	73
	Q18	0.426	0.3	100	100	100	0	53	0	71
	Q19	2.8325	2.516	100	100	100	0	47	0	70
	Q20	7.942	7.63	100	100	100	0	53	0	71
Type 3	Q12	4.7	4.08	97	85	86	91	78	11	82
	Q13	3.72	3.073	100	81	71	91	78	0	80
	Q14	2.621	2.0687986	100	85	71	91	84	0	83
	Q15	8.514	8.052573	97	92	71	82	94	11	86
Type 4	Q21	4.4502	4.45	3	54	100	0	38	11	29
	Q22	17.353	17.35	3	85	86	18	50	0	39
	Q23	8.24563	8.245	19	62	86	27	47	11	39
	Q24	3.2618	3.26	3	62	100	36	47	22	37
Type 5	Q3	0.4	0.3	95	73	100	73	66	0	74
	Q4	1.85	1.84	100	69	100	73	72	0	76
	Q5	3.76	3.71	97	73	100	73	66	0	75
Type 6	Q26	0.42	0.35	100	100	100	46	66	0	79
	Q27	2.954	2.186	100	96	100	55	69	0	80
	Q28	0.872	0.813	97	96	100	73	81	0	84
Supplementary	Q1	0.457	0.4	43	46	100	27	59	22	48
	Q2	1.3	0.86	92	100	100	100	94	67	93
	Q11	1.06	1.053	100	96	43	91	69	0	80
	Q25	3.746	3.741	97	88	100	64	59	0	75
	Q29	0.04	0.038	86	85	43	100	75	11	76
	Q30	0.53	0.006	92	96	100	82	91	22	87

Regression code A2

A test is allocated the code A2 if the test had 3 to 4 incorrect answers in Type 4 items and 0 to 1 incorrect answer in the remaining Types. In addition, A2 students might think like *money thinkers* where they treat the first two decimals like the (whole) number of cents. In this section, the analysis of all the 37 students who regressed to A2 in their second test will be carried out (note that these 37 students were A1 in their first test, which indicated they had 3 to 4 correct answers in Type 4 items). If a student consistently chooses the longer decimal on all Type 4 items (hence choosing correctly) he/she will be coded as A1. Otherwise, if the student chooses the shorter decimal on all Type 4 items (hence choosing incorrectly) he/she will be coded as A2.

In order to probe A2 students' thinking (in terms of which incomplete algorithm they may use), their responses on the test were examined. For most of these 37 students, their algorithm did fail and the *repair* they applied on all Type 4 items was choosing the shorter decimals (hence choosing incorrectly and denoted by a cross '×'). However, there were 10 students who didn't get all Type 4 items wrong (i.e. a correct answer for one of the Type 4 item). There are several suggestions as to why some students chose correctly on Q23 but not for the other items (i.e. Q21, Q22 and Q24) in Type 4. One of the suggestions is the way items of Type 4 were presented in the test paper. These students chose all the four items on the right-hand column. They started circling the right-hand column of Q21 and Q22, and when it came to Q23 they circled 8.24563. However, this suggestion does not support a student's response (either correct or incorrect) to Q1. The following strategies are now proposed to explain the two patterns stated above (with regards to choosing correctly or incorrectly on

Q1 (Supplementary) and all the Type 4 items). Table 5 contains the proposed responses to these five items (with regards to the strategies below).

Table 5. Proposed responses for strategies to five items on DCT

Item (larger first)			Type	Strategies	
				ST1	ST2
Q1	0.457	0.4	Supplementary	✓	×
Q21	4.4502	4.45	Type 4	×	×
Q22	17.353	17.35	Type 4	×	×
Q23	8.24563	8.245	Type 4	✓	✓
Q24	3.2618	3.26	Type 4	×	×

Strategy 1 (ST1)

Specifically for the 5 items in Table 5, there might be some students who compared the size of the digits of the longer decimal. In the case of Q21, the third decimal digit '0' in 4.4502 is smaller than the previous decimal digit i.e. '5'. Hence a student may decide the '0' will make the longer decimal number (4.4502) smaller and resulted in choosing the shorter decimal number (4.45) as the larger of the pair. Similarly for Q22 (the digit '3' in 17.353 is smaller than the previous digit i.e. '5', hence a student may decide 17.353 smaller than 17.35) and Q24 (the digit '1' in 3.2618 is smaller than '6', hence a student may decide 3.2618 smaller than 3.26). However, for Q23, the digit '6' in 8.24563 is larger than the previous digit i.e. '5' and a student may decide the '6' will make 8.24563 as the larger decimal number than 8.245. Similarly for Q1, the digit '5' in 0.457 is larger than the previous digit i.e. '4'. Hence a student may choose 0.457 > 0.4. A student using this first strategy would get Q1 and Q23 correct.

The suggestion stated in ST1 above is almost like the incomplete algorithm partial left-to-right digit comparison (PLR). According to Steinle (2004, p. 168), the partial left-to-right digit comparison algorithm (PLR) involves Step 1: Moving from left to right; digits in corresponding columns are compared, until a difference is found, and Step 2: The decimal with the larger digit is the larger decimal, otherwise undecided. For example, the comparison of 17.353 with 17.35, a student may compare from left to right digit; 3 with 3, then 5 with 5 but then the suggestion given next is different to Steinle's suggestion i.e. comparing the third decimal digit '3' with a *space* (also known as *the invisible zero*). It was stated earlier that third decimal digit '3' was smaller than the previous digit i.e. '5', hence 17.353 smaller than 17.35. The general idea of this strategy is that if a student encounter decimal comparisons such as items in Table 5, he/she may compare the digits from left to right, however they may not know what to do with the extra digit(s)', for example '57' in 0.457 on Q1. Therefore, he/she may try a different strategy (i.e. using ST1), where only the longer decimal will be taken into account. Then, the extra digit or the first digit of the extra digits will be compared to the digit before the extra digit(s). This strategy will only work (in the DCT) for items such as Type 4.

Strategy 2 (ST2)

The second strategy was taken (with permission) from an interview conducted to an adult regarding his strategy to answer the 5 items in Table 5. When these 5 items were presented to him, he immediately said "any decimal number with a lot of digits is small". He then proposed to discuss it in terms of money and said \$0.457 < \$0.40, \$4.4502 < \$4.45, \$17.353 < \$17.35. However, he stopped on Q23 because he suggested Q23 to be different (i.e. a decimal comparison between 5 decimal places and 3 decimal places). He further proposed that his 'money concept' would not work for this item, which resulted in him altering his 'money concept' strategy. His next step was to ignore the last decimal digit i.e. '3' in 8.24563 because he proposed it to be 'meaningless' (hence 8.2456), then adding the last two digits i.e. 5 + 6 = 11 (refer to his procedure in Figure 1 below). Finally, deciding 8.251 > 8.245.

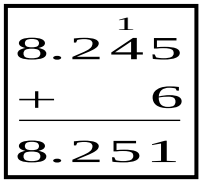

Figure 1. Addition of digits on Q23

He then proceeded to Q24 (using the earlier 'money concept' strategy) and concluded \$3.2618 < \$3.26. When asked who taught him this method, he replied, "my high school teacher told me to do this when encountered with decimal questions". Furthermore, he had been using this method for the past 10 years. This person's 'money concept' strategy is different to the money thinking suggested by Steinle and Stacey (2003a). Instead of treating the first 2 decimals like the (whole) number of cents for example in 4.4502, he treated it as being smaller than 4.45 because of the extra digits (02) at the end. However, he did treat the decimal numbers with only 2 decimal places e.g. 4.45 like money (\$4.45). His use of the term 'money' led me to believe that there is confusion in his conceptual understanding of decimals in relation to money. This person could probably be a reciprocal thinker where reciprocal thinking would imply for example, 0.457 < 0.4 as $\frac{1}{457} < \frac{1}{4}$, hence his incorrect responses to 3 of the 4 items in Type 4. His proposed strategy on Q23 was very bizarre, as this method was not expected and does not confirm the money thinking suggested by Steinle and Stacey (2003a).

Regression code A3

By definition, students coded as A3 (the Unclassified A) have high scores in Types 1 and 2, and a combination of different scoring (either Low, Medium or High scores) in the remaining Types. From Table 5.4, there were 26 students who regressed to A3. Investigating the A3 regression code column (see Table 4), low results was noted for Types 4 and 5. The lowest result (46%) was for Q1 (Supplementary). Almost all of these A3 regression students were able to answer items within Types 3 and 6 correctly.

The following analysis summarises the possibilities on what the A3 students may do with regards to their incorrect responses to Type 3 and Type 5 only. It is suggested that students who gave incorrect responses to Type 3 questions may have ignored the zero after the decimal point and only compared the digits after the zero. For example, 4.08 would become 4.8 and concluded 4.08 > 4.7. This incorrect generalisation continued with the other items in Type 3. However, for Type 5 questions students with incorrect responses were making judgements on decimals of equal length. These students were probably like reciprocal or negative thinkers i.e. S3. Steinle (2004) reported that reciprocal thinking and negative thinking were unable to be distinguished on DCT; hence both were allocated the code S3. Note that students who are S3 would get items in Type 5 incorrect. For example, if a student were a reciprocal thinker, he/she would consider 0.4 < 0.3 as $\frac{1}{4} < \frac{1}{3}$ (thinking that the larger the denominator, the smaller the fraction). On the other hand, if a student were a negative thinker, he/she would choose 0.4 < 0.3 as -4 < -3 (the farther the negative number from zero, the smaller the number). Unlike A2, where the repair can be predicted, it was difficult to suggest specifically what these A3 regression students did in their test. However, there may be a possibility that (within A3) the existence of students thinking like S3 (for items in Type 5 i.e. the equal length decimals). Furthermore, an A3 regression student might have guessed at random for two of the four items correctly chosen in Type 4.

Conclusions

The analyses using the longitudinal approach have revealed valuable insights about the changes of students' achievements in the test within a period of one year. The first analysis investigated the students' movements between codes from their first to the second test. Investigations of the results for the 2258 students by coarse code and fine code transition matrices were carried out. There were similar results in both the coarse and fine code transition matrices; high percentage of students was observed for movements to A (or A1) in Test 2 and, those who were in the same code for both tests. Also included in the first analysis was the issue of persistence. These were the students who retested in the same code in both Test 1 and Test 2. When the results of the coarse code transition matrix were compared to Steinle (2004), similar results were obtained.

It was only using the refined codes that differences were observed; particularly, in the persistence in A2 and S3. The code A2 recorded the highest positive difference (14%) in persistence.

The second analysis investigated the issue of regression. There were 122 students who started as experts in their first test but became non-experts in their second test. Original test papers of these students were obtained in order to record each of their responses to the 30 items in the test. Many of the students regressed to A2 (30%) and A3 (21%) in the second test. There were A2 regression students who fit the prediction of Steinle's (2004) incomplete algorithm of PLR (i.e. 7 students). However, there were also students who almost fit the prediction of Steinle's incomplete algorithms (if their careless choices on some items were ignored). The repair these students made when the algorithm failed was choosing the shorter decimal as the larger (evident from their incorrect responses on Type 4 items). Furthermore, it was predicted that the A2 regression students would have low results for every Type 4 item, however one question stood out (i.e. Q23) where seven students answered this question correctly. There were two patterns observed with regards to a correct response to Q23 (and incorrect responses to Q21, Q22 and Q24), i.e. correct response to Q1 (4 students) and incorrect response to Q1 (3 students). Several suggestions were given as to which strategies were most likely be used by these seven students. The strategies (specifically for Q1 and all Type 4 items) were; comparing the size of the digits of the longer decimal (ST1) and, the 'money concept (or may be reciprocal thinking) and adding of digits' strategy (ST2). The latter strategy (i.e. ST2) is very complicated because the strategy (as proposed by the interviewed person) incorporates two different procedures (i.e. sometimes thinking that more digits are smaller, while other times add digits together). Several possibilities were also presented in relation to what the A3 regression students would possibly do in their test. The possibilities were; ignoring the zero after the decimal point (corresponds to the incorrect responses for Type 3 items) and thinking like reciprocal or negative thinkers (corresponds to the incorrect responses for Type 5 items). If an A3 student was using one of the five incomplete algorithms, and the algorithm failed then the student would possibly guess at random on Type 4 items.

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Appendix 1. Descriptions of the coarse and fine codes (taken from Steinle & Stacey, 1998a; 2003a)

Apparent-experts (A): May possess excellent understanding or may apply correct rules not understood or may have one identified incorrect pattern of thinking.
Task expert (A1): Correctly completes the task of comparing decimals. Various correct and incomplete strategies might be used singly or in combination throughout the test. Students may "fully understand" or rely on rote rules.
Money thinking (any A): Treats first 2 decimal places like the (whole) number of cents (or cm) so unsure when these are equal. Sees decimals as discrete. Difficulties with Type 4 (e.g. 4.45/4.4502) as both numbers are like $4.45, and then may truncate or round or guess. (Will be coded as A2 if consistently chooses incorrectly on these items, else A1 or A3).
First digits only thinking and Failed left to right thinking (any A): *First digits only* makes comparison with the first digits (one or two places) after the decimal point but strategy fails when these are equal. *Failed left to right thinking* refers to an incomplete version of a correct procedure. When comparing 3.26 with 3.2618 digits from left to right, the "1" needs to be compared with the "invisible zeros" at the end of the 3.26 to successfully complete the algorithm. Like money thinking, these students are generally correct but need to guess when their procedures fail.
Longer-is-larger behaviour (L): Choosing the decimal with the *most* digits after the decimal point as the largest.
Whole number thinking (L1): Treats decimal portion as another whole number, so 4.8<4.75 as 8<75. Two variations: *Numerator focused thinking* chooses 0.53>0.006 as 53>6, while *string length thinking* chooses 0.53<0.006 as 006 has 3 digits & 53 has two.
Column overflow thinking (L2): Correctly chooses 4.03<4.2 as 3 hundredths<2 tenths, but incorrectly chooses 4.8<4.75 as 8 tenths<75 tenths. The presence of a zero indicates the need to use new "name". Generally correct on equal length decimals.
Zero-makes-small thinking (L2): Uses *whole number thinking* (L1) with an additional (isolated) fact that a zero after the decimal point 'makes the number smaller'. Correctly chooses 4.03<4.2 as the zero in 4.03 makes it small, but incorrectly chooses 4.8<4.75.
Reverse thinking (L3): Believes right-most columns have largest place value, so compares from the right-most column first, either due to *mishearing* column names (hundredths as hundreds etc.) OR an overgeneralisation of symmetry (larger value columns on outside). So, 4.8<4.75 as 5 hundred 7 tens>8tens, and 0.42<0.35 as 2<5.
Shorter-is-larger behaviour (S): Choosing the decimal with the fewest digits after the decimal point as the largest.
Denominator focused thinking (S1): Reads a one digit decimal as a number of tenths, a two digit decimal as a number of hundredths etc. and then incorrectly generalises the fact that 1 tenth is greater than 1 hundredth to 'any number in the tenths is greater than any number in the hundredths'.
Place value number line thinking (S1): Works from false analogy between place value columns and number lines. Moving from far left to far right, numbers are indicated in this sequence, numbers in the hundreds (3 digits) then tens (2 digits) then single digit numbers

(including 0 which is a 'whole number') then single digit decimals (tenths), two digit decimals (hundredths), three digit decimals (thousandths) etc. Thinks 0.6 less than zero, because zero is in the ones column and 0.6 is in the tenths.
Reciprocal thinking or Negative thinking (S3): Treats decimal portion as another whole number but then as something analogous to the denominator of a fraction (reciprocal) OR as a number 'on the other side of zero' or less than zero (not necessarily negative!). So, 4.82<4.3 as 1/82<1/3 or as -82<-3. 'The larger it looks the smaller it is". Generally makes incorrect judgements on equal length decimals.
Unclassified (U): Since the criteria for classification are quite stringent, this large group includes students thinking about decimals in unknown ways and others who are inconsistent.
Misread/misrule (U2): Students who get nearly all questions wrong. Either a *task expert (A1)* who misreads the instructions, circling the *smaller* number throughout the test, OR a student following a correct comparison rule (like A1) but then believing that there is a reversal in size (by loose analogy with fractions and negative number). Support for *misrule* being widespread is that two thirds of these students select 1.3>0.86, whilst being incorrect on almost every item with the same integer part.

Investigating the Impact of Greek EFL Teachers' Participation in Online Communities of Practice as a Means of Professional Development

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Abstract

This paper examines EFL teachers' participation in online Communities of Practice (CoPs) and its impact on their professional development. The study focuses on 50 EFL teachers who became members of CoPs using an online platform named *2gather* developed by the University of Athens in the context of a national in-service professional development project in Greece. Founded on the theory of situated learning, CoPs have been defined as "groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis" (Wenger et al., 2002). The study involved monitoring the development of four CoPs and teachers' patterns of participation using a mixed-methods approach which combined quantitative data and qualitative research of collective case studies (Dornyei, 2007) of different groups of teachers. A comparison of teachers' exposure to meaningful professional development (Franke et al., 2001) activities "before" and "after" their participation in the CoPs was carried out. In addition, results suggest the existence of statistically significant associations between the teachers' participation in online CoPs and perceived benefit and change of their beliefs and/or practices. They also highlight the specific conditions that have supported their reflection, their reported reconstruction of beliefs and practices and the reported effectiveness of their training experience in relation to their teaching practice. The findings contribute to furthering our understanding of effective implementation of online CoPs in the context of continuing professional development.

Keywords: professional development, communities of practice, teacher change, effectiveness of training.

Introduction

Teachers are required to constantly adapt their pedagogy to new theoretical approaches in order to pursue their professional development and improve their classroom practices. However, serious doubts exist about the effectiveness of traditional teacher education courses since they have been widely criticized for failing to "provide teachers with sufficient time, activities, and content necessary for increasing their knowledge and fostering meaningful changes" (Garet et al., 2001, : 920). Reforms often fail to provide effective PD that promotes perceived teacher change (Darling-Hammond & McLaughlin, 2009, Kourkouli, 2015). They usually take the form of short-term, "spray-on PD" seminars (Day & Sachs, 2004) creating thus a need for an alternative solution.

One model that has evolved as a way of supporting this paradigm change is that of professional Communities of Practice (CoPs). The premise underlying this paper is that the use of online Communities of Practice may present a real solution to the failure of current education programmes in contributing to the professional development of teachers and reported effectiveness of the training experience in relation to their teaching practice. Thus it is the intention of the present paper to investigate this potential in the Greek context.

In-service teacher education policy in Greece, under the authority of the Ministry of Education, is highly bureaucratic and centralized, not leaving any space for initiatives. Teacher training usually takes the form of non-compulsory 3-hour seminars which are carried out by School Advisors, public school teachers selected and appointed by the Ministry. Teachers do not participate either in the design or the development of their training while the broader context of training policy in Greece is characterized by lack of coherence, continuity, flexibility, failure to respond to teachers' needs (Vergidis et al, 2010) and ineffectiveness (Kourkouli, 2015). Although various efforts have been made throughout the years for a more decentralized and flexible teacher education policy, they were never implemented (Pedagogical Institute of Greece, 2009).

Since Communities of Practice constitute an innovatory form of teacher development, involvement in the ELTeachers CoPs was seen as a catalyst for Greek EFL primary school teachers towards their professional development while at the same time addressing their needs.

Therefore, the purpose of this paper is to investigate the professional development of 50 Greek EFL teachers participating in four online Communities of Practice using an online platform named *2gather* developed by the University of Athens in the context of a national in-service professional development project in Greece to acquaint teachers with teaching English to young primary school learners. Firstly, it is intended to compare teachers' exposure to meaningful professional development (Franke et al., 2001) activities "before" and "after" their participation in the CoPs. Secondly, it establishes associations between the teachers' participation in online CoPs and perceived benefit and change of their beliefs and/or practices. Thirdly, it is attempted to highlight the specific conditions that have supported their reflection, their reported reconstruction of beliefs and practices and the reported effectiveness of their training experience in relation to their teaching practice.

The research was conducted within the paradigm of a mixed-methods design which combined quantitative data and crosstabulation with qualitative research of collective case studies (Dornyei, 2007) of the four ELTeachers CoPs.

The investigation of the impact of the Greek EFL teachers participation in the ELTeachers CoPs on their professional development during their first official launch (December 2014 – May 2015) contributes to furthering our understanding of effective professional development implementation. It also proves them to be an effective and sustainable catalyst for teacher learning, reformed teaching practice and reported effectiveness of the training experience in relation to teachers' teaching practice. In addition, it can serve as a springboard for other educators and possibly pave the way for a true paradigm shift in teacher education.

Literature review

Professional development of teachers

As the main purpose of the paper is to identify and describe the role of online Communities of Practice in the professional development of teachers, this chapter will begin by addressing the notion of professional development in terms of teacher learning and change. In Freeman's (1989) view, teacher education constitutes a superordinate term that encompasses both teacher training and teacher development as different strategies by which teachers are educated. Training is based on a process of direct intervention, leading to the mastery of specific knowledge and skills and is based on external criteria for assessing teachers' change. On the contrary, teacher development implies an idiosyncratic and individual process of influence encouraging some sort of increase or shift in teachers' awareness which can be non-evaluative by external criteria. Therefore, any course focusing on the education of teachers should feature elements of both training and development in order to bring about some sort of change in teachers' beliefs, attitudes and teaching practices.

Within the last decades, educational reform efforts have been directed to seek professional opportunities for teachers that will help them enhance their knowledge and develop new instructional practices (Borko, 2009). There has been a paradigm shift gathering momentum with regard to the professional development of teachers. As Moore and Barab (2002, p. 44) state "professional development is not something you receive, but something in which you participate as part of your everyday activities" since learning is a participatory process that involves "doing, becoming and belonging, not simply acquiring" (Ng & Hung, 2003, p. 62).

Investigating the extent to which the participation in PD programs manages to bring about language teachers' change, implies cognitive and behavioural change processes in teachers, whereby they get to alter aspects of their belief systems and practices as a result of a new input (Kubanyiova, 2012).

In an alternative normative-reeducative perspective of teacher change (Richardson & Placier, 2001), we are suggested to evaluate the impact of teacher education courses in terms of the teachers' understanding of the training content and its value and how this leads to the development of reformed practices. It also focuses on how and to what extent the teachers' practice changes as a result of a teacher education course. This view of teacher change places emphasis on the mental state of teachers and their concepts, since teachers' teaching practice and decision-making is largely informed by them. Thus conceptual change constitutes a major factor of teacher change also to be also taken in consideration in the present research.

Finally, the role reflection plays in enhancing teacher change is also to be addressed. Teachers cannot develop themselves unless they learn to develop their critical self and be able to reflect critically upon what they do in their classrooms (Liu &

Fisher, 2006). This shows that "learning and reflection are interrelated," as Brandt (2006, p. 42) argues, and that "reflection requires a recapturing of experience in which the person thinks about it, mulls it over, and evaluates it". In addition, it encourages them to take greater responsibility for their own professional growth and look for ways of becoming more autonomous professionally.

Therefore, in order to enhance the effectiveness of teacher education programs a number of principles are proposed for the design, organization and implementation of teacher education courses (Kourkouli 2015) such as the exploration of teachers' personal practical theories and beliefs (Levin & He, 2008) at the pre-training stage, enhancing the relevance of topics, restricted use of the lecture mode for presenting new information, emphasis on reflection, experiential elements such as micro-teaching, self and peer-observation as well as demonstration techniques, collaborative learning in pairs or groups, exploratory learning in workshops and provision of continuous follow-up support to equip trainees with the knowledge and confidence required to implement new theories in their everyday teaching practice.

Online Communities of Practice and situated learning

Online Communities of Practice (CoPs),founded on the theory of situated learning (Lave & Wenger, 1991), have been defined as "groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis" (Wenger et al., 2002, p.4). Social constructivist theories view learning as a process situated in a social context where knowledge is "constructed" by the participants (Kimble et al. 2008). The theory of "situated learning" is rooted in Vygotsky's cognitive theory (1978) positing that learning is embedded within an activity, context and culture. It can also be unintentional rather than deliberate. Knowledge needs to be presented in authentic contexts — settings and situations that would normally involve that knowledge. Social interaction and collaboration are essential components of situated learning — learners become involved in a "community of practice" which embodies certain beliefs and behaviors.

In Mezirow's transformative learning (1991), "critical reflection" emerges as a precondition for learning.When faced with a disorienting dilemma, people are forced to reconsider their beliefs in a way that will fit the new experience into the rest of their worldview. This often happens in the context of dialogue with other people through co-operation, peer respect and fruitful communication (Eades, 2001).

It is also suggested that deep or higher-order learning occurs through collaboration when a group develops common meaning through discussion and externalization of individual interpretations (Goodyear & Zenios, 2007).

Online Communities of Practice – a new approach in teacher education

In Communities of Practice, teachers learn through focused investigation and challenging of existing beliefs and practices. As Katz et al. (2005) suggest, fostering discussions on the theory and practice of teaching can support teachers in changing their practice through a culture of critical colleagueship (Lieberman & Mace, 2009) and reflective inquiry. In particular, teachers develop by actively reflecting on their practice, interacting and collaborating with their colleagues (Sorge & Russell, 2000) in order to solve problems encountered in their classrooms (Richardson, 1990) and make changes accordingly (Kontra, 1997).

Contrary to the inefficiency of traditional training models (Levin & He, 2008), online Communities of Practice have the added element of "facilitative" technology. They can accommodate teachers' busy schedules, can account for maximum relevance and interest factors (Bax, 1995), hold the promise of creating a path toward providing real-time, work-embedded support for teachers' ongoing learning (Dede et al, 2009), can draw on powerful resources that are not locally available and can practically reach out to everybody, even in geographically isolated areas (Fishman et al, 2013). The collective results of research studies (Hollins et al., 2004; Dunne et al., 2000; Englert & Tarrant., 1995) suggest that well-developed CoPs can have a positive impact on the professional development of teachers. Effective leadership can create a supportive learning environment by creating a shared vision, encouraging and empowering members through cooperative teams (Johnson & Johnson 1997).

Method

Methodological approach

The purpose of this study is to investigate whether teachers' involvement in the 2gather online CoPs constitutes a good source of meaningful professional development for them and which factors seem to create a more conducive environment for that. In this light, a methodological approach is needed that examines the following research questions:

1) To what extent were teachers exposed to more meaningful professional development (Franke et al., 2001) activities "during" their participation in the CoPs compared with the ones "before" their participation?

2) To what extent is there reported reconstruction of beliefs and practices as well as reported effectiveness of their training experience in relation to their teaching practice as a result of this participation?

3) Which factors support perceived benefit and change of their beliefs and/or practices?

4) Which are the specific conditions that have supported their reflection, their reported reconstruction of beliefs and practices and the reported effectiveness of their training experience in relation to their teaching practice?

2.2 Study context

In order to gather the necessary data for the research described above, we developed our own authentic online CoPs with appointed volunteers EFL teachers working in the state primary education in Greece with real needs and everyday problems. For this purpose, we used the 2gather platform developed by the University of Athens. Through open source technologies, it combined features of Learning and Content Management Systems with those of Social Networking Services. The platform integrated the following facilities useful to a CoP: α) homepage b) discussion spaces to foster discussions through a closed forum for every CoP, c) private messages and public messages), d) member directory with a profile – avatar and a short bionote for every participant as well as their online status), e) chatrooms, f) medialibrary, g) activity streams) and h) groups and sub-groups (Karavas & Papadopoulou, 2014).

The whole project amounted to a monumental effort of setting up, publicising, piloting, organising launching as well as kick-off events, face and skype meetings, tutorial workshops as well as informing and training the School Advisors (the teacher trainers) on the innovative teacher education method, the specific platform and available tools. It lasted from April 2014 – June 2015. Each online CoP was composed of one School Advisor (Teacher Trainer) and as many volunteers- teachers working in the broader geographical area of their School Advisor's jurisdiction, sometimes a whole Prefecture. The CoP training schedule and material was based on reported teachers' needs and was given to the School Advisors as a "guidebook" for further development or, as it mostly happened, a step-by-step implementation procedure, which practically meant that it was fully adopted by the School Advisors and implemented with very little content and structure variation. School Advisors posted one monthly activity in each CoP's forum divided in two fortnight sections with strict deadlines and specific ground rules designed to multiply interaction. The first section was designed to foster reflection and practice-related integration with posts and accompanying studying or viewing material. The second section was meant to foster the development of open discussion and the connection with teachers' everyday practice through new posts, continuous provision of feedback and open interaction among the participants. We created and posted the following topics as monthly activities 1. Introductions; 2. Teaching Context; 3. Multiple Intelligences and Learning Styles; 4. Classroom Management; 5. Increasing student motivation/Developing positive student – teacher relationships; 6. Differentiated instruction; 7. Project work on lesson planning.

2.3 Participants

The research was conducted by the author of this paper, Katerina Kourkouli.[1] Following Cambridge et al.'s example (2005), we assigned the roles as follows:

1) Administrator–Leader: Katerina Kourkouli, researcher at the English Department of the University of Athens, responsible for the setting up of 4 online CoPs all over Greece, registration procedures, training modules, moderators' training, support, contact, organizing face-to-face, Skype and kick-off meetings with School Advisors and participating teachers, explaining the philosophy, publicizing the training innovation and addressing every technical or other issue that might arise.

2) Moderators: 4 state EFL School Advisors assigned their own CoP (A' Athens, Kalamata, Chalkida and Ioannina named after the capital city of the geographical region) based on their administrative jurisdiction, responsible for training, supporting, encouraging the participants and providing feedback. In fact, one of them, Chalkida CoP's School Advisor opted to acting as a supervisor with a chosen teacher of her jurisdiction acting as a Moderator/Contributor instead of her.

3) Participants: 50 EFL state school teachers working in the primary education (A' Athens CoP 16, Chalkida CoP 16, Ioannina CoP 6, Kalamata CoP 12 teachers) who consented to answer the "before" the CoP participation questionnaire

[1] The project and research were realized thanks to my PhD supervisor, Dr. Kia Karavas, Professor at the English Department, University of Athens, who initiated and supported me with feedback throughout this endeavor.

anonymously and registered to participate in their area CoPs. They were informed that it was meant to serve as a research tool and baseline investigation[1] resulting finally in 49 EFL state school teachers working in the primary education who participated voluntarily and actively throughout the training period, in their authentic contexts, fulfilled the criteria in terms of workload and projects submitted specified by the CoP program and answered the "after" questionnaire (A' Athens CoP 16 teachers, Chalkida CoP 15 teachers, Kalamata CoP 12 teachers and Ioannina CoP 6 teachers). All 49 participants received a certificate of participation. Anonymity was guaranteed by their School Advisors and the researcher herself.

2.4 Data sources

As for the 1st research question, two questionnaires were constructed as tools for data collection and analysis administered "before" and "after" the CoP participation. The questionnaire, administered "before" the CoP participation is meant to serve as a baseline investigation of teachers' profiles, beliefs and classroom practices before their involvement in the CoPs program while the questionnaire administered "after" their CoP involvement is considered a tool for detecting reformed beliefs, attitudes, practices and change. Both questionnaires were constructed based on the study of variables that capture common experiences of groups of people. In particular, the use of the Microsoft Excel 2010 Data processing programme accounted for the descriptive nature of this research. In addition, "Chi-Square tests of independence" which allow us to look at two variables and evaluate the strength of their relationship or association with each other took place with the use of SPSS (Statistical Package for the Social Sciences) (Dornyei, 2007: 228).

The sampling plan for this project involved two stages and yielded a total of 50 questionnaires from November-January 2014 (the "before" phase) and 49 questionnaires in July 2015 (the "after" phase).[2]

Instrument

Information was elicited through mainly clozed-ended item types using factual, behavioural and attitudinal questions. In effect, Part I aims to build a profile of the respondents who participate in this research, especially in the areas of teaching experience with young learners. Part II focuses on the types of training experiences teachers had been exposed to "before" and "during" their participation in the ELTeachers CoPs as well as investigation of any previous experiences with other CoPs. Finally, Part III seeks to investigate the teacher education courses themselves, both the traditional ones teachers used to participate "before" their CoP involvement and the CoP course itself. This is achieved firstly by exploring the topics covered, the presence of training practices used which are regarded conducive to teacher development as well as the specific professional development activities teachers were exposed to "before" and "during" during their CoP training. Secondly, it seeks to investigate the impact of both the traditional courses as well as the online CoP course itself. This is done through the tracing of perceived teachers' knowledge restructuring, reported change of teachers' actual teaching practices as well as perceived benefit and reported effectiveness of their training experience in relation to their teaching needs and practice "before" and "after" their participation in the CoPs. Finally, focusing exclusively on the "after" instrument, we will also highlight the specific conditions that have supported their reflection, their reported reconstruction of knowledge and practices and the reported effectiveness of their training experience in relation to their teaching practice based on crosstabulation.

Presentation and discussion of results

In this section, a detailed presentation and critical discussion of results is attempted, following the research method described and the theoretical framework delineated above.

3.1 Personal and professional data

[1] It should be noted that at the time, November 2014 – January 2015, due to austerity measures and reforms enforced in Greece in the context of its fiscal adjustment, the competent Ministers had issued a Presidential Decree No 152/5 November 2013 published in the Govenrment Gazette Vol I/No.240/pp. 4107-4132 assigning School Advisors to conduct teachers' evaluations for the first time in years with the aim to create a potential tank for future state school teachers' dismissals. They were signed as prior actions of the Second Economic Adjustment Programme for Greece in March 2012. The total number of online CoPs under my supervision amounted to 10 CoPs for the school years of 2014-15 and 2015 – 16 and the total number of participants amounted to 147. Despite repeated reassurance and affirmation on the part of the researcher and their School Advisors that their participation in the CoPs training program would not be used for their evaluation reports, the final research participants were much fewer.

[2] The "after" questionnaires were collected in a period of widespread financial and political turmoil in Greece with banks closed and capital controls imposed.

The majority of the respondents are female teachers (91%) teaching english to young learners of the first and second grades of primary school at a percentage of 61%. 26% of the respondents hold a postgraduate degree in English teaching with a further 10% in some other field. A small percentage of 22% report no teaching experience with young learners while almost 39% report more than three years teaching experience with the target age group. In addition, 70% report having attended some type of training course, day seminar organized by the school Advisor and the University of Athens or self-training in relation to teaching English to young learners. The vast majority (90%) had never participated in an organized Community of Practice before.

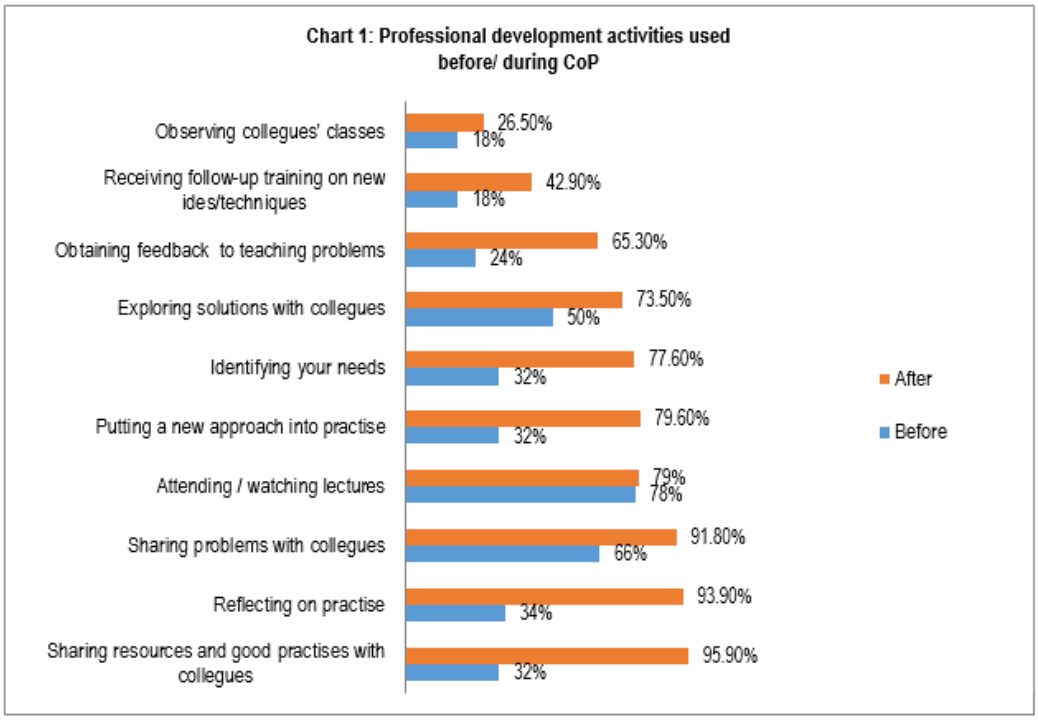
3.2 Description of training and teaching attitudes and practice "before" and "after" the participation in the online CoP

The second part of this presentation focuses on the teacher education courses themselves, in terms of the presence or absence of strategies and training procedures regarded conducive to teacher development. We will focus on decribing the types of training experiences teachers were exposed to "before" and "during" their participation in the ELTeachers CoPs as well as the impact of both the traditional courses and the online CoP course itself on their professional development.

In response to the first research question,

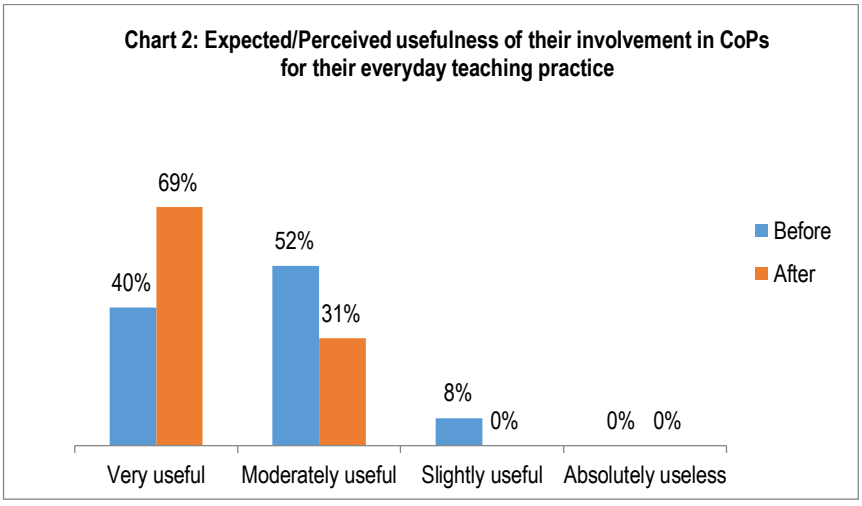
1)To what extent were teachers exposed to more meaningful professional development (Franke et al., 2001) activities "during" their participation in the CoPs compared with the ones "before" their participation?

as can be seen in Chart 1 below, in the traditional training seminars teachers attended "before" their CoP participation, the majority of participants were not involved in the identification and articulation of their needs (32%) compared with the reported identification of their needs at a percentage of 77% "during" the CoP course which is obviously more compatible with adult learning principles and learner-centred approaches. Concerning the training procedures employed, the methods the trainers used to provide data as well as the presence of experiential elements enhancing the effectiveness of training courses, the situation looks much more promising "during" the CoP course. More specifically, 65% report obtaining feedback to teaching practices "during" the CoP course while 24% answer positively concerning the "before" courses. Similarly, 42% report receiving follow – up training on new ideas and techniques "during" the CoP course , an astonishing 96% engaged in sharing resources and good practices with colleagues while more than 91% got involved in sharing problems with colleagues and exploring solutions with them at a percentage of 73%. Since learning is considered to be a participatory process where knowledge is "constructed" by the participants, then collaborative and exploratory learning in pairs or groups constitute major professional development activities. Learners become involved in a "community of practice" through social interaction and collaboration at greater percentages than "before" the CoP course. In addition, 94% report reflecting on practice "during the CoP" compared with a 34% "before" and 79% putting a new approach into practice. Since we have reports of involvement in reflective strategies, collaborative and cooperative environment, opportunity to stand critically towards the process experienced and practical application of new approaches, it could be suggested here that the online CoP course engages teachers in more meaningful professional development activities than the traditional courses.



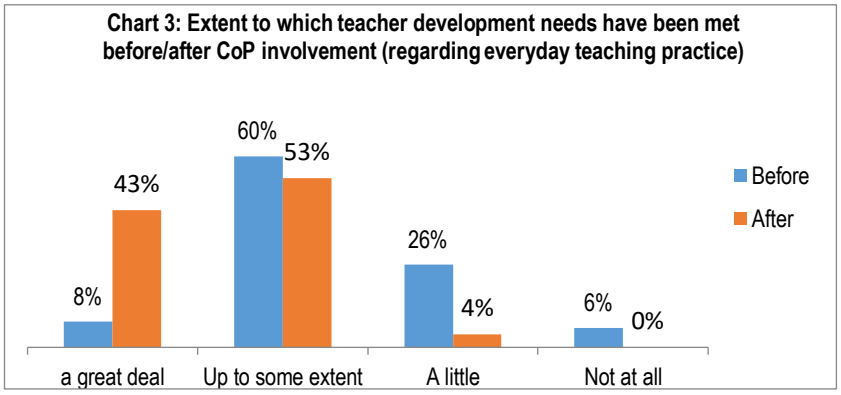
Addressing the second research question,

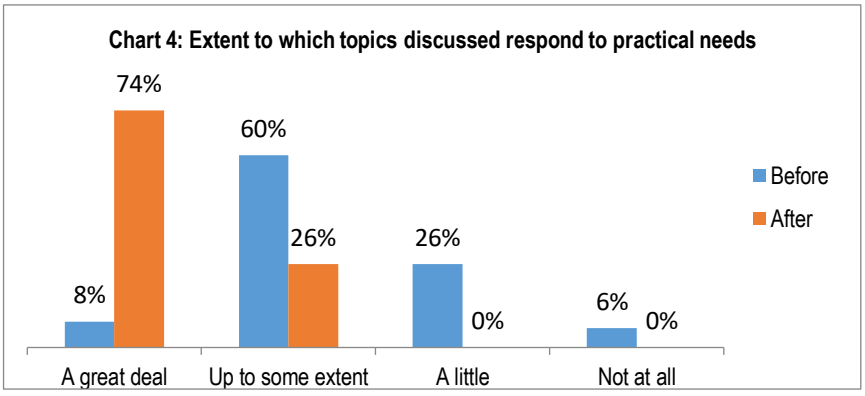
2) To what extent is there reported reconstruction of beliefs and practices as well as reported effectiveness of their training experience in relation to their teaching practice as a result of this participation?



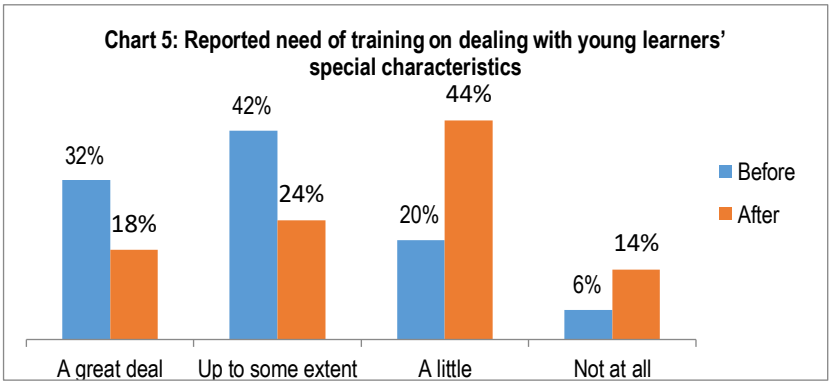
findings show that, in terms of the trainees' perception of the impact and usefulness of the CoP training course for their everday teaching practice, the majority of participants "moved" to the "very useful" category from the "moderately useful"one, having completely changed their minds on the "slightly useful" category (see Chart 2).

Findings also show (see Chart 3) a striking change of satisfaction concerning their teacher development needs. In particular, whereas 8% report a great deal of satisfaction with the traditional courses, 43% take the same stance for the CoP course. In terms of reported effectiveness of their training experience in relation to their teaching practice and perceived benefit, there is a great shift to the "a great deal" category "after" the CoP course (see Chart 4).





Charts 5 – 11 below describe the reported need of training on issues and useful topics pertaining to the teachers' practical needs for the age group of young learners such as dealing with young learners' special characteristics, using ICT in the classroom, teaching with songs and rhymes, employing arts and crafts, using drama/theatrical activities, storytelling, using games in class and dealing with individual learning difficulties. Results clearly depict an increased perceived benefit as teachers seem more confident and competent to deal with the same topics "after" the CoP training.



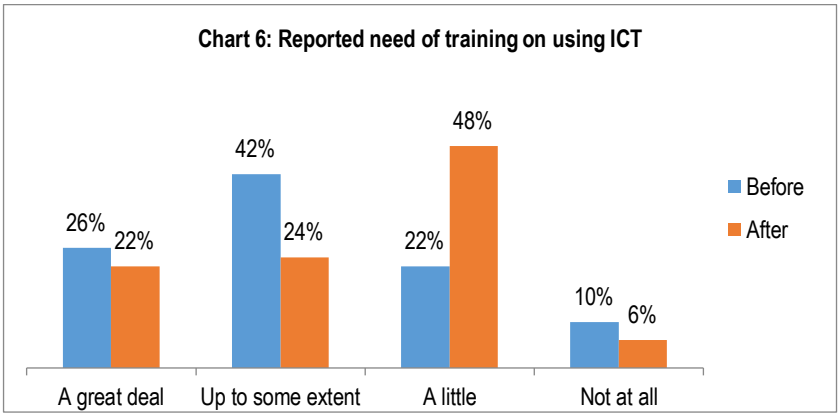


Chart 6: Reported need of training on using ICT
26%
22%
42%
24%
22%
48%
10%
6%
A great deal
Up to some extent
A little
Not at all
Before
After

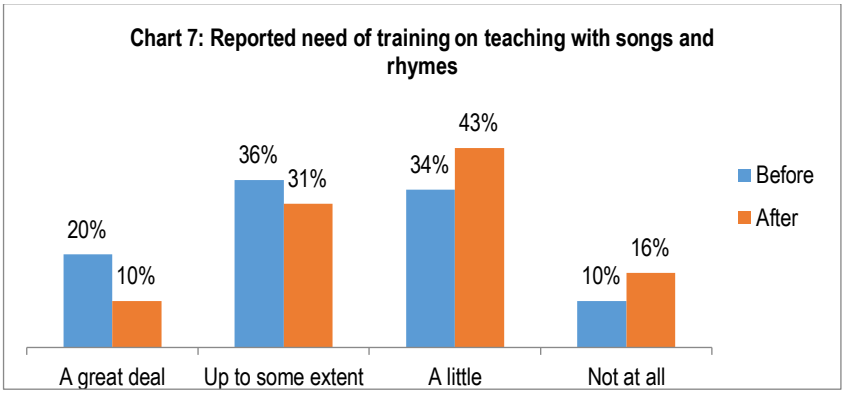


Chart 7: Reported need of training on teaching with songs and rhymes
20%
10%
36%
31%
34%
43%
10%
16%
A great deal
Up to some extent
A little
Not at all
Before
After

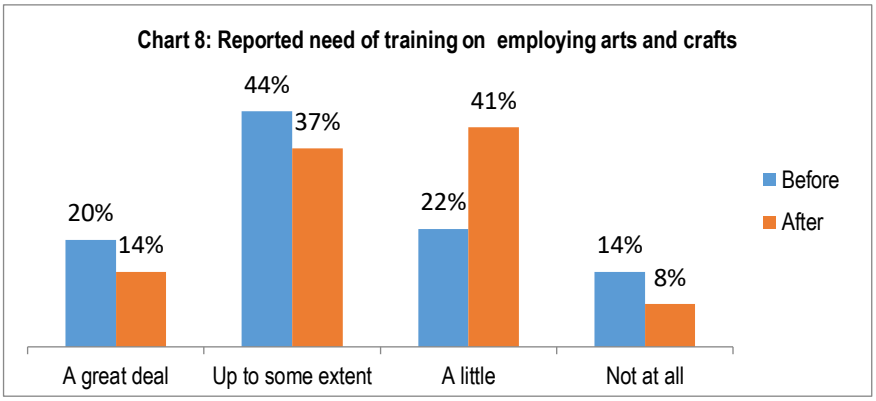


Chart 8: Reported need of training on employing arts and crafts
20%
14%
44%
37%
22%
41%
14%
8%
A great deal
Up to some extent
A little
Not at all
Before
After

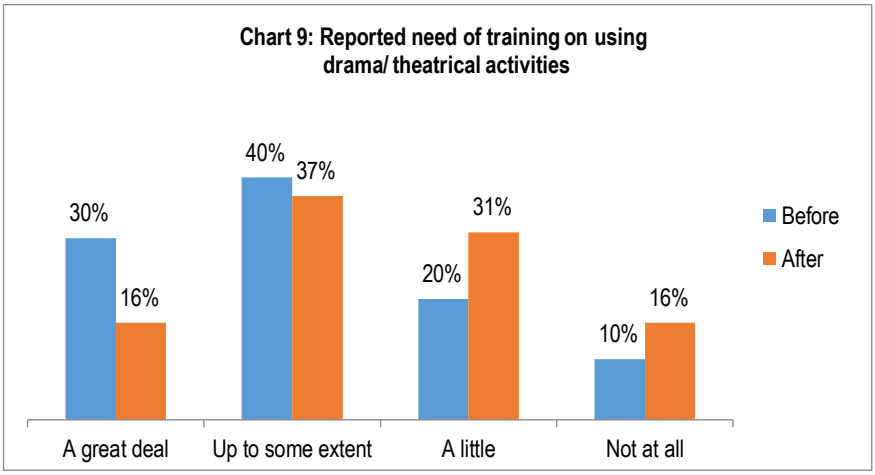


Chart 9: Reported need of training on using drama/ theatrical activities
30%
16%
40%
37%
20%
31%
10%
16%
Before
After
A great deal
Up to some extent
A little
Not at all

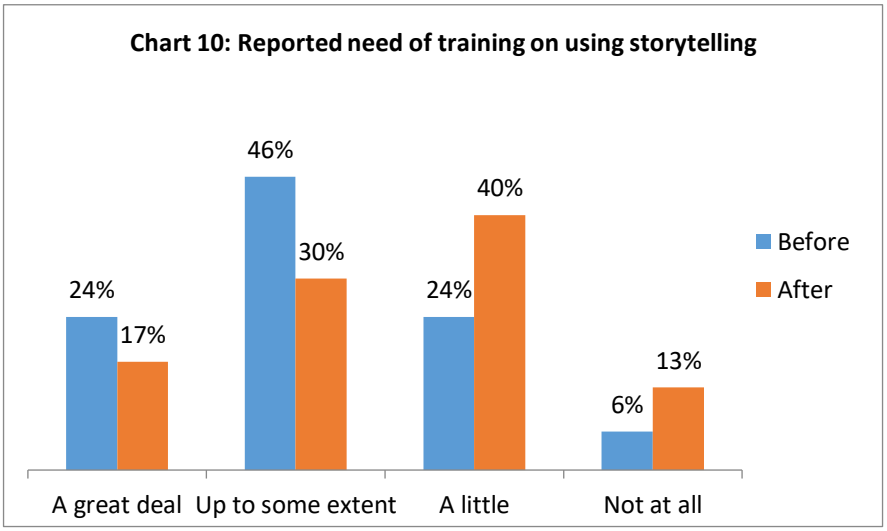


Chart 10: Reported need of training on using storytelling
24%
17%
46%
30%
24%
40%
6%
13%
Before
After
A great deal
Up to some extent
A little
Not at all

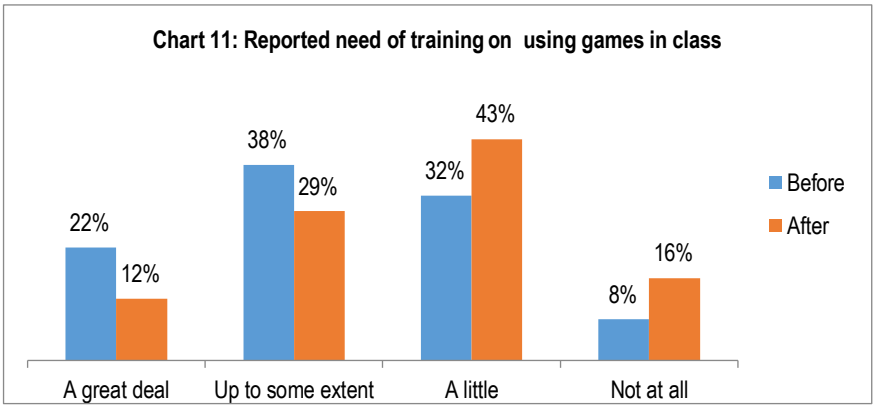
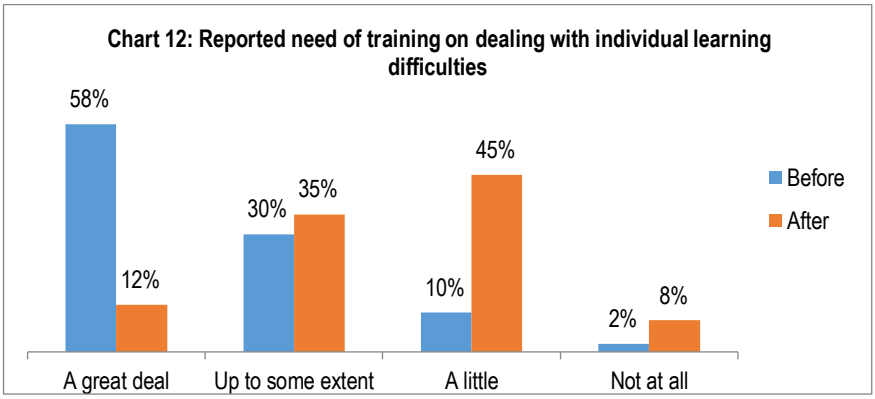
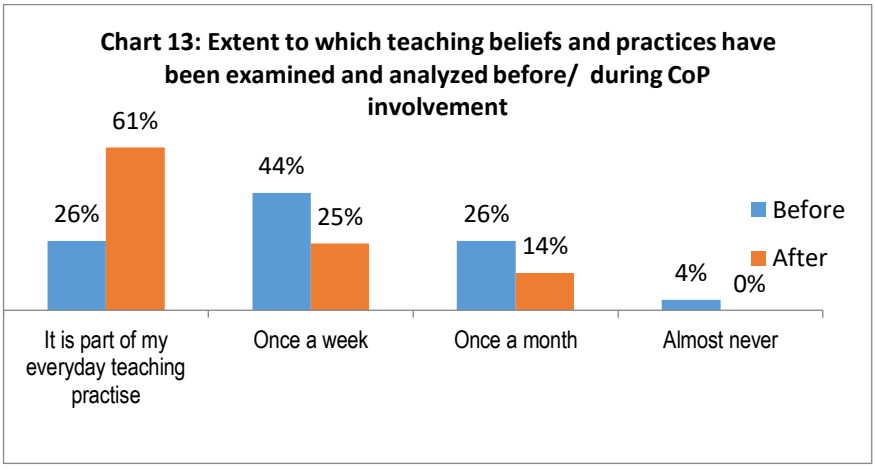


Chart 11: Reported need of training on using games in class
22%
12%
38%
29%
32%
43%
8%
16%
Before
After
A great deal
Up to some extent
A little
Not at all

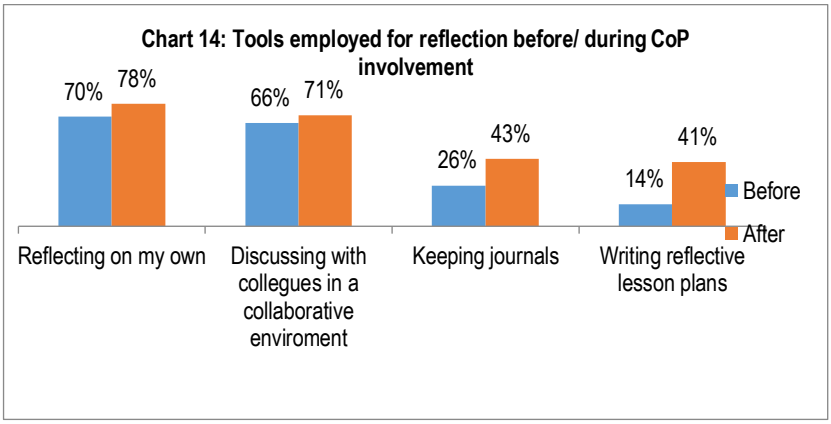


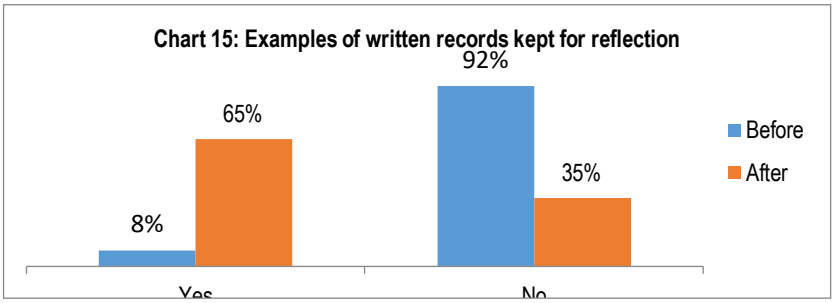
Interestingly enough, topics that constituted monthly CoP modules for discussion such as "Multiple Intelligences and Learning Styles' as well as "Differentiated instruction" could account for the striking reduction of reported difficulty with the topic in question in Chart 12 from 58% "before" to just 12% "after" the CoP course.

The opportunity for reflection because of the role it plays in enhancing teacher change and the trainees' perception of the impact the training course had on their beliefs and everyday practice is the next area of exploration. As Chart 13 shows, there is a significant increase in the number of participants responding that they have integrated examining and analysing their teaching beliefs and practices in their everyday teaching practice amounting to 61% "during" the CoP course.

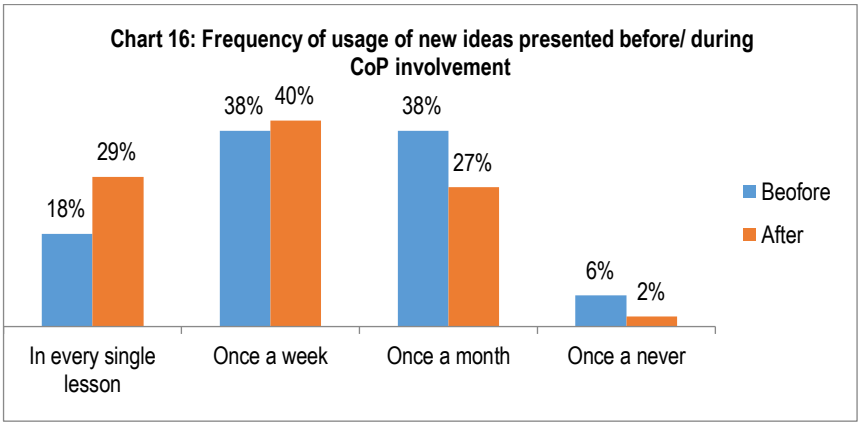


They also report employing more effective reflection practices "during" the CoP, such as keeping journals and writing reflective lesson plans compared with significantly lower percentages "before" (see Chart 14). To corroborate the previous finding, Chart 15 depicts a sharp increase in the percentage of participants responding the provision of examples of written records they kept for reflection purposes.

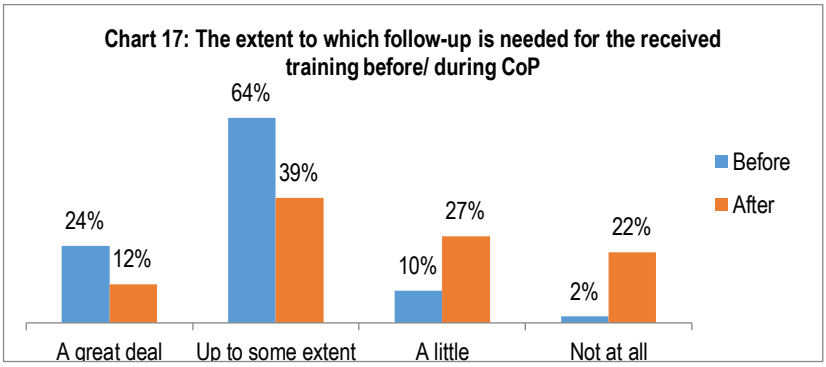




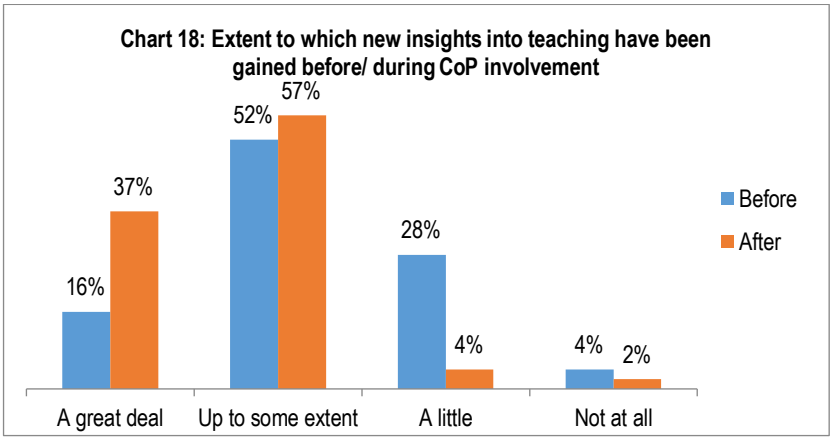
Concerning restructuring of knowledge and practices as well as reported effectiveness of their training experience in relation to their teaching practice, there is a significant increase in the percentage of respondents reporting they have integrated new ideas in their everyday teaching practice (see Chart 16) "after" the CoP course.



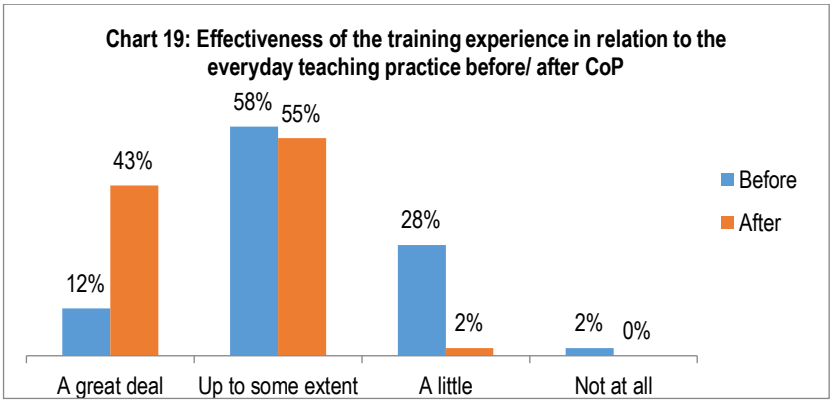
In accordance with the previous finding, fewer teachers responded that they needed more follow-up on the training they received "during" the CoP course than on the training received during traditional seminars (see Chart 17).



The extent to which new insights into teaching have been gained significantly increases for the "a great deal" category in the "after" sample, with a big decrease in the category of "a little", while the last category remains about the same. The CoP training program emerges as a source of meaningful professional development for this sample (see Chart 18).



In terms of the trainees' attitude towards the CoP training experience overall, 43% of the participants report finding it very effective in relation to their everyday teaching practice compared with only 12% attributing this kind of effectiveness to the seminars they were involved in "before" (see Chart 19).



3.3 Crosstabulation of variables

The final part of this presentation responds to the existence of statistically significant associations between the teachers' participation in online CoPs and perceived benefit and change of their beliefs and/or practices. It also highlights the specific conditions that have supported their reflection, their reported reconstruction of beliefs and practices and the reported effectiveness of their training experience in relation to their teaching practice. Therefore, the whole analysis and discussion of results below refers to the "after" questionnaire. More specifically, to answer the next research questions,

3) Which factors support perceived benefit and change of their beliefs and/or practices?

and

4) Which are the specific conditions that have supported their reflection, their reported reconstruction of beliefs and practices and the reported effectiveness of their training experience in relation to their teaching practice?

we conducted analysis of data based on a crosstabulation (Chi-Square) test which allows the researcher to conduct tests of independence between the variables of the research instrument, through the significance of the Pearson Chi-square value. In particular, if the p-value of the table is significant at the 0.05 significance level, we can claim that the two variables under statistical analysis are not independent but they are statistically and significantly associated. In this light, the statistically significant index (p-value = 0,044< a=0, 05) of Table 1 below enables us to draw the conclusion that the variables examined in questions 6 and 11.2 are not independent, but they are statistically associated.

Q6 * Q11.2

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	4,040[a]	1	.044		
Continuity Correction[b]	2.085	1	.149		
Likelihood Ratio	3.673	1	.055		
Fisher's Exact Test				.079	.079
Linear-by-Linear Association	3.958	1	.047		
N of Valid Cases	49				

a. 2 cells (50,0%) have expected count less than 5. The minimum expected count is 1,22.
b. Computed only for a 2x2 table

Table 1: Sharing problems with colleagues– Reported usefulness of Involvement

	Table 1: Question 11.2			
		Yes	No	Total
Question 6	Very useful	33(73,3%)	1	34
	Moderately useful	12	3(75,0%)	15
	Slightly useful	0	0	0
	Absolutely useless	0	0	0
	Total	45	4	49

In particular, we have found statistically significant asscociations between the professional development activity of sharing problems with colleagues and reported usefulness of involvement in the ELTeachers CoPs. As table 1 shows, 73. 3% of

the participants who got involved in sharing problems with colleagues found their participation in the online CoP very useful. The finding is in line with the relevant literature advocating the utilization of collaborative environments to promote the usefulness of the training courses for the teachers' everyday practice.

To corroborate the argument made, we found that the involvement of teachers in sharing resources and good practices with their colleagues in the context of the online CoPs and reported usefulness of their participation in the ELTeachers CoPs for their everyday teaching practice is significally associated at a percentage of 72.3% (see Table 2).

Table 2: Sharing resources and good practices with colleagues – Reported usefulness of Involvement

	Table 2: Question 11.5			
		Yes	No	Total
Question 6	Very useful	34(72,3%)	0	34
	Moderately useful	13	2(100,0%)	15
	Slightly useful	0	0	0
	Absolutely useless	0	0	0
	Total	47	2	49

As far as the perceived effectiveness of professional development activities are concerned, we used the Mann-Whitney U test Wilcoxon Rank Sum Test (see Table 3) to compare means between those who answered that they consider their participation in the ELTeachers CoPs "Very useful" and "Moderately useful" since noone answered that it is not considered useful. We can see that there is a statistically significant difference between means since as table 3 shows, those who answer they found their participation "very useful for their every day teaching practice" they order, on average, the effectiveness of obtaining feedback to teaching problems at a higher rank (4.9) than those who found their participation "moderately useful" (6.3). This fact gives evidence to the importance of the teaching presence (Garrison et al., 2010) in terms receiving feedback from either the trainer or the colleagues themselves as a factor contributing to the usefulness of the training program for the participants and supports the paradigm of a culture of critical colleagueship (Lieberman & Mace, 2009) in the context of online CoPs.

Table 3: Reported usefulness of Involvement – Obtaining feedback to teaching problems as an effective PD activity

	Table 3: Question 12.8 (mean)			
		M.O.=4,9	M.O.=6,3	Total
Question 6	Very useful	34	0	34
	Moderately useful	0	15	15
	Slightly useful	0	0	0
	Absolutely useless	0	0	0
	Total	34	15	49

(Mann-Whitney U Wilcoxon W test)

As for the specific conditions that have supported their reflection and the reported effectiveness of their training experience in relation to their teaching practice, we have found that 85.5% of the participants who kept journals as a tool to guide their reflection on their own and their peers' teaching practice report that they found their participation in the ELTeachers CoP very useful. On the contrary, those who did not keep journals do not evaluate their participation as highly as the former (57.1% see Table 4).

Table 4: Keeping journals as a tool for reflection – Reported usefulness of Involvement

	Table 4: Question 13.3			
		Yes	No	Total
Question 6	Very useful	18(85,7%)	16(57,1%)	34
	Moderately useful	3	12	15
	Slightly useful	0	0	0
	Absolutely useless	0	0	0
	Total	21	28	49

Similarly, 81.3% of the respondents who can provide examples of their written reflective records also evaluate their participation very useful (see Table 5).

Table 5: Provision of written records for reflection– Reported usefulness of Involvement

	Table 5: Question 13c			
		Yes	No	Total
Question 6	Very useful	26(81,3%)	8(47,0%)	34
	Moderately useful	6	9	15
	Slightly useful	0	0	0
	Absolutely useless	0	0	0
	Total	32	17	49

The significance of reflective practice in the context of the online CoPs as a major professional development activity for this sample is further corroborated with the statistically significant association presented below. Frequent examination and analysis of the teaching practices emerges as a precondition not only for learning but also for the extent to which teachers perceive their participation in the ELTeachers CoPs as a source of meaningful professional development for them (see Table 6).

Table 6: Extent to which teacher development needs have been met– Examination and analysis of teaching beliefs and practices

	Table 6: Question 7					
		A great deal	Up to Some extent	A little	Not at all	Total
Question 13a	It is part of my everyday teaching practice	13(61,9%)	16(61,5%)	1	0	30
	Once a week	8(38,1%)	3(11,5%)	1	0	12
	Once a month	0	7	0	0	7
	Almost never	0	0	0	0	0
	Total	21	26	0	0	49

In the same light, another factor that enhances the reported effectiveness of their training experience in relation to their teaching practice is the provision of written records for reflection. The role written reflection plays in enhancing the reported impact of the online CoPs bears evidence here (see Table 7).

Table 7: Extent to which teacher development needs have been met – Provision of written records for reflection

	Table 7: Question 13c			
Question7		Yes	No	Total
	A great deal	19(90,5%)	2	21
	Up to Some extent	12(46,2%)	14	26
	A little	1	1	2
	Not at all	0	0	0
	Total	32	17	49

Concerning the specific conditions that have supported their reported reconstruction of beliefs and practices, examination and analysis of their teaching beliefs and practices on a daily basis constitutes a major agent of teacher development and course effectiveness as the findings show (see Table 8). In particular, the vast majority of the respondents who reflected daily on their teaching beliefs and practices were able to integrate the new knowledge received in their every single lesson (46.7%) or once a week (40%).

Table 8: Examination and analysis of teaching beliefs and practices – Frequency of usage of new ideas in class

	Table 8: Question 14					
Question 13a		In Every Single lesson	Once a week	Once a month	Almost never	Total
	It is part of my everyday teaching practice	14(46,7%)	12(40,0%)	4	0	30
	Once a week	0	9(75,0%)	3	0	12
	Once a month	0	0	6(85,7%)	1(14,3%)	7
	Almost never	0	0	0	0	0
	Total	14	21	13	1	49

Similarly, fostering discussions on the theory and practice of teaching can enhance the training course effectiveness as Table 9 shows and corroborates the relevant research findings (Lieberman & Mace, 2009). Frequent examination and analysis of the teachers' beliefs and practices through the forum discussions is considered to be an indispensable factor of the CoP course effectiveness for the 76.1% of the respondents (see Table 9).

Table 9: Reported effectiveness of training experience in relation to teaching practice – Examination and analysis of teaching beliefs and practices

	Table 9: Question 17b					
Question 13a		A great deal	Up to Some extent	A little	Not at all	Total
	It is part of my everyday teaching practice	16(76,1%)	14(51,8%)	0	0	30
	Once a week	4	8	0	0	12
	Once a month	1	5	1	0	7
	Almost never	0	0	0	0	0
	Total	21	27	1	0	49

Finally, the majority of the trainees who report knowledge restructuring tend to be more positive in their attitude and evaluation of the online CoPs. More specifically 77.8% of those who report a great deal of knowledge restructuring also state that their participation in the online CoPs proved very effective for their everyday teaching practice (see Table 10).

Table 10: Gaining of new insights into teaching – Reported effectiveness of training experience in relation to teaching practice

	Table 10: Question 17b					
Question 17a		A great deal	Up to Some extent	A little	Not at all	Total
	A great deal	14(77,8%)	4	0	0	18
	Up to Some extent	6	22(78,6%)	0	0	28
	A little	0	1	1	0	2
	Not at all	1	0	0	0	1
	Total	21	27	1	0	49

Conclusion

As Greek and international educational policies require teachers to constantly adapt their pedagogy to new theoretical approaches in order to pursue their professional development and improve their classroom practices, training course designers and decision makers need to provide professional opportunities for teachers that will help them enhance their knowledge and develop new instructional practices (Borko, 2009).The findings confirm the central role that online Communities of Practice can play in the teacher education area in Greece since they prove to be an effective catalyst for the meaningful professional development of teachers and deserve to be further and more widely implemented to become a sustainable one too. However, teaching and teacher training is complex and teacher professional development policies have traditionally been ineffective in inducing lasting change (Cuban, 2013). The present paper provides evidence that teachers can benefit from membership in supportive online Communities of Practice that can help them make sense of new ideas, examine their existing practice and implement new instructional practices.

The study also found that the ELTeachers CoPs engage teachers in more meaningful and effective professional development activities than the traditional methods of in-service teacher education implemented in Greece and constitute an online environment conducive to teacher development. In particular, the online CoP environment facilitates sharing resources, problems and good practices with colleagues as well as the identification of needs, reflective discussion, exploration of solutions with colleagues and obtaining of feedback through the discussion forum. In addition, the

ELTeachers CoPs training was found to be very useful for the teachers' everyday practice, addressed more effectively their professional development and practical needs, engaged them in critical reflection and contributed to the reconstruction of their beliefs, knowledge and practices to a great extent. Finally the study designates specific factors associated with their reflection, their reported reconstruction of beliefs and practices and the reported effectiveness of their training experience in relation to their teaching practice. Examination and analysis of teaching beliefs and practices, keeping journals as a tool for reflection, obtaining feedback to teaching problems and gaining of new insights into teaching are the factors that contribute to furthering our understanding of effective implementation of online CoPs in the context of continuing professional development. Further research on reform initiatives involving online CoPs can shed light on more factors associated with teacher learning, implementation of innovative teaching practices and perceived effectiveness of the training courses and potentially pave the way for a new teacher education paradigm in Greece.

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The Use of Peer Assessment to Improve Students' Learning of Geometry

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Abstract

This mixed-method action research study aimed to examine the effect of the use peer of assessment in a Brunei Mathematics classroom in the learning of Geometry. This study offered insights into the use of a student-centred learning approach, which the participants held the role as an assessor of peer's work, and the use of peer feedback as a potential learning source in changing students' conception and understanding in the topic of Angle properties. The study revealed that the use of peer assessment had significance in improving students' performance in the learning of Geometry and there was evidence of knowledge retention as a result from the intervention as seen in the improved post-test performance on similar mathematical problem. In addition, the mathematical works in the post-test still showed evidence of misunderstandings and misconception in the concept of Angle. Despite the unsatisfactory quality of peer feedback given by the participants, the assessing activity and the student' role as the assessor had increased cognitive, metacognitive awareness and self-regulation in their learning. Overall, the participants showed positive perception and attitude towards the use of peer assessment as a learning tool in Mathematics and considered it as a means for knowledge sharing. There was still concern of emotional sensitivity and anonymity despite the effort to maintain the anonymity of the students' work and identity as an assessor.

Keywords: Peer assessment, feedback, student learning, geometry

Introduction

The term assessment is often closely associated to tests, examinations and interviews. According to Brown (2004), assessment is defined as "any act of interpreting information about student performance, collected through multitude of means or practices" (p. 304). Ghaicha (2016) argued that the terms like testing, evaluation and measurement may not be synonymous with assessment, however, Black and William (1998) mentioned that there is no universally agreed upon term. Assessment is an approach to enhance the quality of instructions to suit the learners' different learning styles and needs by gathering information pertaining students' academic performance by means of assessments.

In Mathematics learning, giving assessments is already a common situation in classroom and serve as a way to practice the mathematical concept and the procedural steps that have been taught in the classroom. This is evident as according to the national survey of 555 teachers by Plake and Impara (1993, 1997) that reported that three-quarters of the participants gave minor classroom assignments at least once every week. Assessments do not just merely serve as an instrument to measure students' performance and behaviour but also for instructional evaluation to promote towards better teacher instructions by judging the effectiveness of instructions on students (Brown, 2004; Botty & Shahrill, 2015; Damit et al., 2015; Ghaicha, 2016; Kulm, 1994; Mohammad et al., 2017) and for students' accountability in their learning. In addition, Ghaicha mentioned that assessment is also used to categorise group of students for instructional purposes as also seen in the work of Othman et al. (2016) where a classroom assessment is administered beforehand to identify the learning styles of students in order to carry out the tiered assignments. Classroom assessment is a primary source for the process of differentiated learning.

Peer Assessment

Peer assessment is a form of formative assessment or assessment for learning that is used as a learning tool and no foreign in the field of teaching and learning. In educational context, the steps of peer assessment process are summarised in systematic order as follows: establish rapport, give out works to be assessed, distribute rubric and performance criteria, peer assessment debriefing, training using sample work, discussion and work revision (Black & William, 1998). The constructive feedback from the evaluation is the expected outcome that should serve helpful purpose towards the assessees' personal developments. Peer assessment comes in various formats in terms of its implementation and evaluation process. In learning context, it ranges from just a simple marking of other's work for reducing teachers' load to assessing peers' performance and contribution towards group project.

In a traditional classroom setting, students are instructed to do a learning task and submit the completed task where a teacher will be in charge of making judgement and marking process. Once returned, there is likely students will not read the written feedback, as according to Thomas, Martin and Pleasants (2011) that once the work is off from the students' hands, they are no longer engaged with the work. Students are perhaps extrinsically motivated to complete or compelled to do learning tasks due to time-limit factor or fear of punishments. Subsequently, they become less reflective in doing the work and uninformed about what makes a quality work. In peer assessment, the students indirectly gain benefits for being reflective when judging or marking peer's work. The students are able to receive immediate feedback about their works.

In a study done by Adediwura (2015) on the use of peer assessment in Secondary Mathematics classroom, the findings revealed that the intervention had positive impact on the students' learning retention rate. In the study of 212 Secondary Mathematics students (Chukwuyenum & Adeleye, 2013) in Nigeria, the intervention had shown a significant improvement in the post-tests scores. In addition, students developed positive attitudes, behaviours and became more engaged in the learning process after being exposed to this learning approach (Kearney & Perkins, 2011; Topping, 2003). A study by Chan (2013) in an eighth grade Mathematics classroom in Macau had shown improvement in several aspects of students learning; mathematical reasoning skill, fluency in conceptual and procedural knowledge and positive growth of attitude towards Mathematics. These findings further support the benefits of peer assessment. According to Logan (2009), the improved academic achievement is resulted from the self-awareness and critical thinking that developed from the process.

Peer assessment to promote metacognitive thinking

According to Topping (1998), peer assessment has influences on the following domains namely "cognition and metacognition, affect, social and transferable skills" (p. 254). As shown in the study by Pantiwati and Husamah (2017) on university students undertaking Science courses, the use of peer assessment had influences on their metacognitive thinking. In addition, peer assessment is an active learning model, which helps students to develop collaborative and reflective skills through the result of metacognitive processes (Husamah, 2015). Hence, peer assessment encourages students to be accountable of their learning (Langan & Wheater, 2003; Vickerman, 2010) and leads to development of self-regulation, self-regulation and reflection (Egodawatte, 2010; Gielen, 2007; Langan & Wheater, 2003). Moreover, this could potentially improve learning as it involves a task requiring students to engage and encouraging them to reflect on the quality of work for improvisation (Chukwuyenum & Adeleye, 2013).

Peer assessment as a platform for peer tutoring

Peer assessment can be regarded as part of peer tutoring process (Chan, 2013; Donaldson & Topping, 1996). The characteristic of students interacting, supporting and learning from each other during the peer assessment reflects those of a peer tutoring activity (Topping, 2005). The students may not be interacting physically through verbal feedback but assessing their peers' works and giving feedback in the rubric are already considered as peer interaction. In this study, the students will be assuming the roles of both 'assessor' and 'assessee', which resembles reciprocal peer tutoring (Chan, 2013). According to Medcalf (1992), cooperative learning is defined as a learning approach that encourages the learning of peers or peer tutoring. This indirectly implies peer assessment is a form of cooperative learning, which shares similar role to peer tutoring. While the feedback aims to help peers to improve their quality of works and evaluate their learning, the act of giving feedback to peers incorporates sense of cooperation and also collaboration as it involves interaction between a minimum of two (Kollar & Fischer, 2010). As a consequence, it stimulates motivation among group members for peer tutoring and peer assessment, subsequently correction, which produce enhanced learning (Slavin, 1996).

Peer assessment as observational learning

A common feature of peer assessment is making judgement or evaluation of others' works. Not only this particular task provides opportunity to students to look into others' work, students get to monitor their current learning performance. This enables students to evaluate and make judgement by thinking critically and be reflective on the work, which becomes a learning opportunity for the learners. A study by Logan (2009) on implementing self and peer assessment on 11 higher education students revealed that majority of students found out they were able to learn more from looking at a variety of peer's works. Another study by Wood and Kurzel (2008) reported that student realised the value of doing comparison of their own and others' work. This provides opportunities for students to learn from the mistakes made and the criteria that make up an exemplary work through exposure of different peers' works. By exposing students to others' works and instructing them to make judgements, it gives them the opportunity to extend their knowledge and look at the different approaches made by their peers in the work. (Logan, 2009; Zevenbergen, 2001). A study by Tsivitanidou et al. (2018) also reported similar finding on the use of reciprocal peer assessment on Secondary school students in the learning of Physics.

Feedback

In peer assessment, peer feedback is the core component of the process meant for the peers (Topping, 1998). According to Gielen et al. (2010), the bidirectional nature of giving and receiving feedback potentially enhances students' learning as students could learn from different examples and approaches in the process. A classroom often consists of students coming from different academic ability and perhaps may have different perceptions towards peer assessment due to prior experience. Hence, the quality of peer feedback generated from the assessor is likely to be affected by his or her domain knowledge (Patchan & Schunn, 2015; Van Zundert et al., 2012). This explains the concern on accuracy of feedback produced by peers reported in several studies (Alqassab et al., 2018; Falchikov, 2004; Liu & Carless, 2006; Strijbos & Wichmann, 2018). This is because for the feedback to be effective on the students' learning lies on the assessor's ability to critically link his or her prior knowledge with the work (Liu & Carless, 2006).

Use of rubrics in learning

A rubric is defined as a framework to assess students or mathematics learning task, which can be adopted or tailored by the teacher (Kulm, 1994). Rubric has been used to assess students' works across any disciplinary subject, often used to judge quality of performance or whether the criteria are met. Rubrics are used to help teachers analyse the information about students' understandings from performance-based task. Rubrics are categorised into different types according to its functions such as anaholistic rubric, process rubric, analytic rubric and anaholistic rubric (Kulm, 1994). Meanwhile, in a study by Idris et al. (2017) on the use of rubric in the History presentation of Year 10 student, it was found that students were motivated and anticipating the use of rubric which helped in completing the task by knowing teacher's expectations ahead. The explicitness of learning and task expectation set in the rubrics is an advantage for students in understanding clearly of the learning objectives to be reached (Andrade & Ying, 2005; Huba & Freed, 2000; Stiggins, 2001). Idris and colleagues stated that the use rubrics enabled teachers do systematic evaluation of their students' work and contribute to the students' learning process through constructive feedback whilst acting as the framework. On the other hand, Chong et al. (2017) used observational rubrics to monitor students' learning progress and to measure students' inquiry skill in the inquiry-based learning of conditional probability.

The Study

The aims of this present study are to investigate the impact of peer assessment on students' conception on the concept of angles, to investigate whether peer assessment affects students' learning retention and transferability skill after assessing their peers and reading feedbacks directed to themselves, to identify students' misconceptions in the topic of Angle Properties, and to inform educators and researchers particularly in Brunei of the use of peer assessment in the learning of Mathematics.

With the aforementioned aims the following research questions central to this study were posed:

How does peer assessment affect the students' performance in the learning of Geometry?

What are the students' perceptions on the application of peer assessment and its peer feedback in the learning of Mathematics?

Following the first research question stated above, two hypotheses are formulated:

H_0: There is no significant difference in students' performance after lesson intervention using peer assessment

H_1: There is significant difference in students' performance after lesson intervention using peer assessment

Methodology

This study adapted the Action Research design, which is known to employ a mix of qualitative and quantitative data collection approach. The rationale for choosing action research is because this particular research design aims to find solution to common problems encountered by schools and subsequently acts as a means of professional development (Mills, 2011). In accordance to the research questions stated above, imply the need of quantitative data type to identify any difference prior and post intervention. Collection of quantitative data is preferred for the first research question as Denscombe (2010) noted that quantitative data is analysed not based on intuition and others can validate it for authenticity. Whereas, for the second research question, qualitative data is required to explore further on participants' attitudes and perceptions towards any parts of the intervention process.

The participants that were involved in this study were 23 Year 11 students aged between 14 to 16 years old, from an all-female government secondary school in Brunei Darussalam. All participants were from a Year 11 class that consisted of mixed ability students. All participants studied Mathematics 'D' and were not taking Additional Mathematics subject. The school is government funded where the local Bruneian students are waived from paying tuition fee. The participants of this study were selected by convenience sampling. The school was chosen for this study on the basis that it was within the convenient commuting distance. A follow-up qualitative data collection procedure after the intervention, which is the focus group interviews, required a small percentage of study samples.

Consent to conduct the research study were sought from the Department of School, Ministry of Education, Brunei Darussalam and the university. According to Declaration of Helsinki (1946), children of age under 16 will be required parental consent to participate in any research study. Hence, parental permission letters along with participant information sheet were distributed to participants of the study. Any students' names mentioned here are pseudonyms.

Instrumentation

For quantitative data collection, the following instruments were employed:

The Pre-test was used to assess students' understandings and actual knowledge in Geometry at a point before the intervention is conducted. It assessed students' understanding on the concept of properties of angles. The pre-test allowed the researchers to tap into the students thinking by investigating the misconceptions and errors made by the students. The post-test assessed the change in the students' conception and understanding in Geometry after a period of intervention. In addition, the performance from the post-test served as an indicator whether the learning strategy, that is, the peer assessment approach, used in this study had effect on students' understanding. The contents of the post-test were an exact replicate of the pre-test instrument. The pre- and post-tests questions were pilot tested prior to the commencement of main study by test-retest reliability method. The pre- and post-tests were administered to Year 10 students at a different school setting. A one-week interval between the pre-test and post-test was ensured so there was no memory effect. Meanwhile the Pearson coefficient of correlation obtained from the Test-retest reliability (0.853) of the pre- and post-test instruments indicated a very high reliability.

The classwork consisted of nine questions including its subquestions. It assessed students' knowledge on the concept of Angle Properties with some questions possessed similarities with the questions in the tests. This classwork would be used as the work to be evaluated by the assessor during the peer assessment.

The 5-points Likert Scale survey explored the students' perceptions and attitudes towards the intervention conducted in the classroom whether there was any relation with students' performance in the post-test. The survey was adapted from Chan (2013) and slightly modified for this present study with the addition of a few items to fit the design of the research study and the topic chosen for the intervention. This survey was particularly adapted and chosen for this study because this study shared resemblance with Chan's design of the intervention, that is, peer assessment, for her action research study. The use of survey allowed the researchers to collect wide range of response in a relatively short amount of time yet very informative towards study (Johnson, 2008). According to Revilla, Saris and Kronick (2014), the 5-points Likert Scale survey

is preferred because higher odd-numbered point scales lead to lower quality data. In addition, the use of 5-point Likert scale instead of 7-point Likert scales helps to reduce respondents' frustration level, increase response rate and its quality as well (Babakus & Mangold, 1992).

For qualitative data collection, the following instruments were employed:

The rubric acted as a medium for the students to write qualitative feedback and to assess their peers' works against the criteria being set. The rubrics for the peer assessment were developed and designed by adapting the common structure in a rubric developed by Chan (2013) for peer assessment in an eighth grade Mathematics lesson. The rubric was modified and designed to follow the content covered by the assessments given. The column under 'Steps to Success' was set blank for the purpose of student-teacher discussion of the required success criteria during later peer assessment. The modified rubric consisting of four columns is shown in Figure 1. Every student was required to fill in the success criteria they had come up for each question after discussing with peers and the teacher. If the assessee correctly answered a question, the assessor had to write down the evidence found in the assessee's work that met the success criteria into the column 'How did you know your friend already achieved the criteria?' However, if the assessee did not correctly answer the question, the column is not required to fill in and the column to its right, 'What it should have been?' had to be filled in by correcting the mistake found in the mathematical working. In addition, the assessors were recommended to give qualitative feedback on the mistake or misconception the student had made in the last column, 'What your friend should revise on to improve his/her work'. This included constructive feedback that focuses on correcting the mathematical understanding.

Assessee's student no: _____

Question No. _____

	Steps to Success (Success Criteria)	How did you know your friend already achieved the criteria? (Evidence)	What it should have been? (Correction)	What your friend should revise on to improve his/her work (Comment on Mathematical Aspect)
1				
2				
3				
4				

General comment:

_____

_____

Figure 1. Modified Rubric.

The focus group interviews allowed the researchers to elicit information from the participants as they were all sharing similar experience under the same intervention treatment. The group setting created dynamic interaction that means more varied responses and opinions could be obtained, and to gain insights on why they held such views (Denscombe, 2010). The interviews were in semi-structured format, and were carried out by asking verbally a series of open-ended questions with guided prompts and follow-up questions. A pre-interview was conducted to determine whether the students had experienced peer assessment and their perceptions of similar processes, if they reported otherwise. The post-interview was to determine students' perception towards the use of peer assessment and its process as a learning tool in the learning of Mathematics.

Video recording of classroom observation was also employed to analyse the classroom behavior and interactions among the students. The information obtained helped to supplement what the interviews and surveys could not probe from the students, so that any important findings that caused concern would not be missed.

Data analysis

For the reliability of the test instruments, Pearson correlation coefficient or also known as the Pearson *R* test was used to compute the correlation coefficient. The tests instruments were piloted on a different school through test-retest reliability. The variables would be the students' test marks at Time 1 and Time 2 respectively. If the correlation coefficient was greater than 0.5 then, the test was reliable, whereas, if the correlation coefficient was between -1 and 0.5, then the test instrument was not reliable. The reliability analysis was done using a spreadsheet package namely Microsoft Excel.

The mixed method research design of this study allowed the triangulation of the findings from both qualitative and quantitative sources such as between focus groups and questionnaire. This approach helped to increase the validity of findings by means of their accuracy to gain more confidence (Denscombe, 2010). For this study, methodological triangulation was used where comparison between qualitative and quantitative data was made (Denscombe, 2010).

Quantitative data were collected for the first research question, the mean and standard deviation for both pre-test and post-test were computed. To accept or reject the hypothesis formulated earlier, the significance of the difference between the two pairs of the descriptive statistics aforementioned was checked. A repeated-measures *t*-test, or also known as, paired samples *t*-test, is an inferential statistics used to determine the statistical significant of the differences. If the *p*-value obtained is less than or equal to 0.05, then the null hypothesis is rejected. Whereas, if the *p*-value is larger than 0.05, the null hypothesis is accepted. This was done by statistical package namely SPSS (Statistical Package for the Social Sciences), which is known widely for its use in statistical analysis. Meanwhile, to analyse the quantitative data collected for the second research question, descriptive statistics were used to obtain a general view of students' perception towards the learning strategy implemented in this action study. Both video recordings of the classroom lessons and audio recording of the pupils' interviews were transcribed for the qualitative data analysis. Both focus group interviews were audio-recorded and transcribed verbatim. A word processing package, Microsoft Word, was used to create the interview transcripts. The transcripts were analysed to form descriptions or codings that were further categorized into themes, which gave overviews of the students' perception towards peer assessment.

Intervention procedure

Before the intervention was carried out, a pre-test was administered to measure students' knowledge and to identify existing misconceptions on the topic of Angle Properties. The test papers were subsequently marked to record and measure the students' current level of understanding on the topic prior to the intervention. A short classwork was assigned to students to be attempted individually within 20 minutes. Each student was assigned a 'student number' consisting of alphanumeric characters. The students were not allowed to write their name on the paper nor did they were allowed to share their identification number with their peers. The purpose was to keep the anonymity when the works were exchanged among students later. The classwork was collected and followed by a short briefing. The briefing aimed to define peer assessment, its purpose in learning, examples of success criteria, and list of learning objectives. Students were reminded to give constructive feedback and avoid hurtful comments. Handouts of sample classwork and sample rubric on the same topic as the intervention were given to students. The explanation of how peer assessment is conducted was supplemented along with a handout on learning objective and a list of common success criteria expected in the topic. A training on peer assessment and setting of success criteria was given to students to familiarise themselves with the rubric and assessing peers' works against the criteria.

A one-hour Mathematics lesson was allocated for the actual peer assessment. Prior to the assessment, a rubric sheet was given to every student and a short time was allocated for the setting of success criteria in the rubric for each question. Each student was given an anonymous classwork of his or her peers. The assessors were not allowed to write their name in order to minimise the negative consequences of the interpersonal procedures (Panadero, 2016). Students were instructed to form into a group of four students. The groups were formed on the basis of teacher's selections so that to create a heterogeneous grouping. The classwork and pre-test marks were used to assist the teacher in doing the selection. They were encouraged to discuss among their group mates on the given works. The students were expected to discuss the correct procedures to solve the problem and write feedback by commenting on the mathematical aspect and suggest the correct solution for inaccurate or incorrect work. The teacher did not provide solution at all. At the end of the class, the rubrics were collected and the teacher marked the rubric to avoid the students from utilising inaccurate feedback for later work revision. The teacher refrained from giving Mathematical solutions in the rubric. During the subsequent lesson, the rubrics were returned and a similar blank classwork was distributed to students. The students were instructed to individually

revise the classwork based on the feedbacks they received in the rubrics. The completed revised classwork was returned and was evaluated by the teacher to check for its improvement and changes. A post-test was administered to students a week after the intervention. The post-tests were subsequently marked to compare the difference between their pre-tests and post-tests.

Results

The affect of peer assessment on the students' performance in the learning of geometry

To determine the significance of the effect of intervention on the participants' score mean, a parametric testing namely paired sample *t*-test was employed. Preliminary checks were made to ensure the data met the two assumptions for paired sample *t*-test. The two assumptions are the sampling distribution must be normally distributed and the data is measured at the interval level (Field, 2009).

The normality test was carried out using SPSS version 20 on the difference between the participants' scores in the pre- and post-tests. A histogram based on the difference between test scores was created and it could be seen that the sampling distribution is normally distributed (Figure 2). The normality of the distribution is further verified graphically as seen from the Q-Q plot diagram (Figure 3), which the plots are well aligned along the line. The absence of outliers in the boxplot diagram and both mean and median are in the centre, which forms a symmetrical-looking box indicating that the distribution is normal (refer to Figure 4). The dependent variable is an interval variable since meaningful mean scores could be obtained for both samples of data. Hence the two assumptions were satisfied and the hypothesis testing could proceed with paired sample *t*-test.

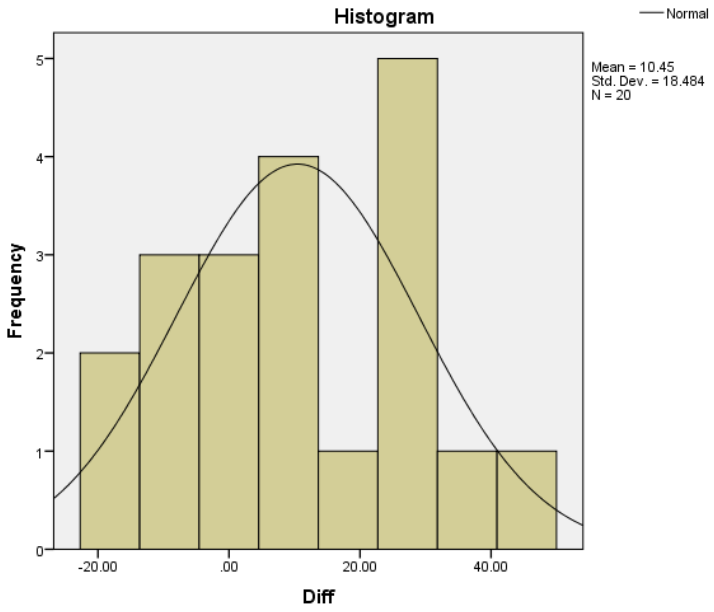


Figure 2. Histogram showing the distribution of the difference between the test scores.

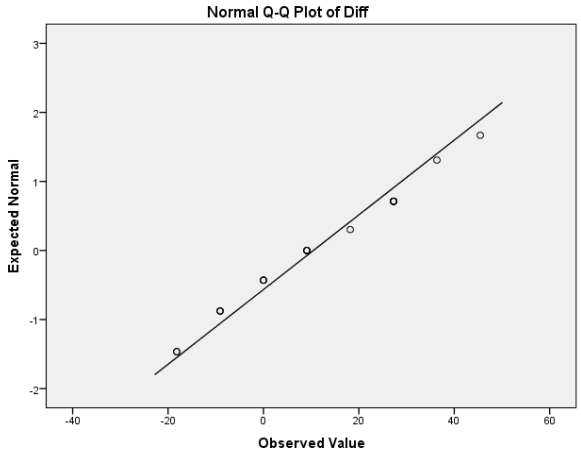


Figure 3. Normal Q-Q Plot of the mark difference between students' test scores

Figure 4. Boxplot of the mark difference between students' test scores

Table 1. *Paired sample t-test, mean and standard deviation for mean differences between pre-test and post-test scores.*

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pre - Post	-10.45455	18.48433	4.13322	-19.10548	-1.80361	-2.529	19	.020

A paired sample *t*-test was conducted to evaluate the impact of the intervention, peer assessment, on students' test marks and to examine the differences in the scores of the sample group from pre-test to post-test (refer to Table 1). There was a statistically significant increase in test marks from pre-test (M = 25.0, SD = 15.3) to post-test (M = 35.5, SD = 21.2), $t(19) = -2.529$, $p < 0.05$ (two tailed). Thus, the null hypothesis (H_0) is rejected and there was significant difference in students'

performance after the intervention. The mean increase in test marks was 10.5 with a 95% confidence interval ranging from -19.0 to -1.80. The eta-squared statistics (0.25) indicated a large effect size. This indicates that the difference is of practical significance. The raw scores for both pre-test and post-test were 11 marks; one mark for each subquestion. The students' overall marks were then converted into percentage. Overall, 60% of the participants in this study showed improvement in post-test scores after the intervention.

Figure 5 below shows the difference in the pre- and post-test scores. The largest improvement recorded was a positive change of 45.5% (5 marks increase), which the student initially did not manage to score any mark in the pre-test. The smallest improvement recorded was 9.1% change (1 mark increase). There were five students recorded with decreased performance in the post-test. The largest decrease in scores was only two marks decrease from her pre-test score. There were three students whose scores showed no changes in both pre-test and post-test. The student who previously scored the highest in the pre-test (10 out of 11, 90.9%) obtained an improved post-test score with an increase of one mark.

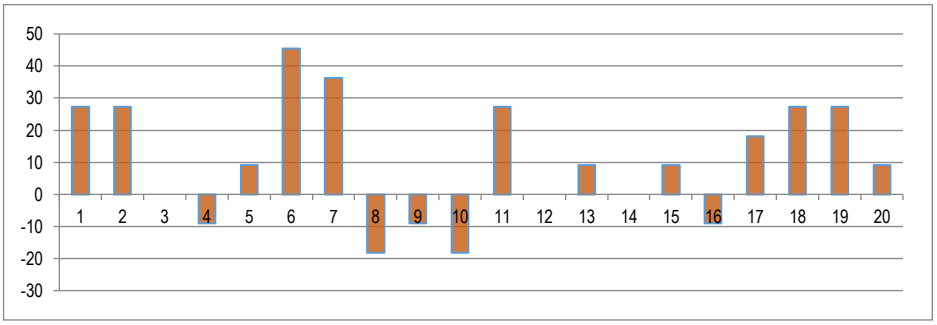


Figure 5. Difference in pre-test and post-test scores.

Table 2 shows the overall mean marks and standard deviations for both pre-test and post-test respectively. The scores for post-test are more spread out after the intervention compared to pre-test scores, as seen from the respective standard deviation values. Meanwhile, Table 3 shows the descriptive statistics of the students' scores in their pre-test and post-test following the intervention using peer assessment. There were only 20 students included in the analysis out of the actual 23 participants in this study due to absentees in either of the test administered. The comparison of test scores could then be made after excluding the absentees in order to ensure observable effect of the intervention. During the pre-test the highest score attained was 63.6%, while the lowest score was 0%. The mean mark for the pre-test was 25.0%, which is below the passing mark of 50%.

Table 2. *Mean and standard deviation for pre-test and post-test.*

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre	25.0000	20	15.29043	3.41904
	Post	35.4545	20	21.24854	4.75132

Table 3. *Descriptive Statistics for pre-test and post-test scores.*

	N		Mean	Std. Deviation	Variance	Range	Minimum	Maximum
	Valid	Missing						
Pre	20	0	25.0000	15.29043	233.797	63.64	.00	63.64
Post	20	0	35.4545	21.24854	451.501	81.82	9.09	90.91

Following the intervention, the highest mark attained in the post-test was 90.9%, while the lowest mark attained was 9.09%. This shows a slight improvement than the pre-test with every student seated for the post-test were now able to answer

successfully at least a question. The overall mean mark for the post-test was 35.5%. This is a noticeable improvement in the students' performance in post-test compared to in the pre-test. The change from the mean pre-test scores was 10.5%.

The rubrics were returned to respective students that were used in assisting them in making a revision of their classwork in individual setting. Both classwork were examined to identify any significant changes in the procedural steps or diagram work sketches before and after the intervention. The quantitative results (Figure 6) of the students' revised classwork show tremendous improvement in the quality and accuracy of their mathematical working of the problems. This shows that students utilised the feedback in the rubric in making revision of the work, although there were only few helpful qualitative feedbacks on improving mathematical understanding towards the topic.

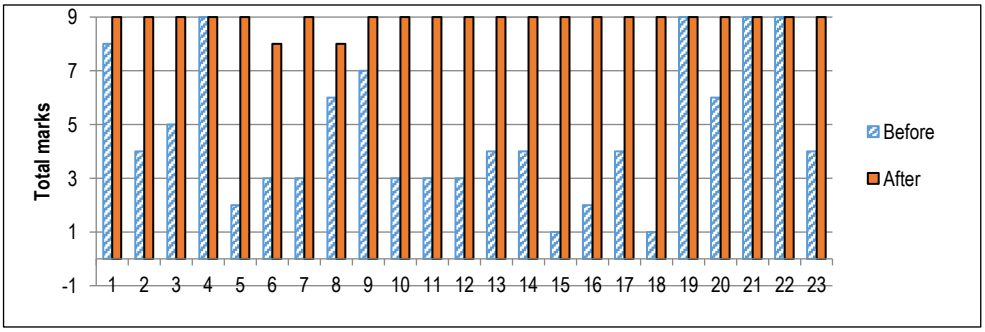


Figure 6. Classwork performance before and after revision of work using feedback from the returned rubric.

After the revision of their classwork, it could be seen that some students had shown improved mathematical reasoning in the work. Although the reasoning shown was often very brief and in short sentence, it was slightly accurate than before. As an example Farah previously stated 'parallel' to support her answer in Question 2b (Figure 7). After the revision of classwork, she wrote a more specific statement 'angle at alternate angle'. To state which angle property applied was not required in the question, however, this provided the opportunity to investigate the student' thinking and any possible misconceptions held.

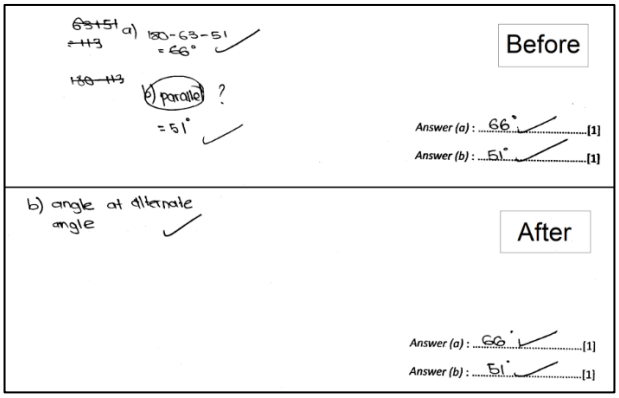
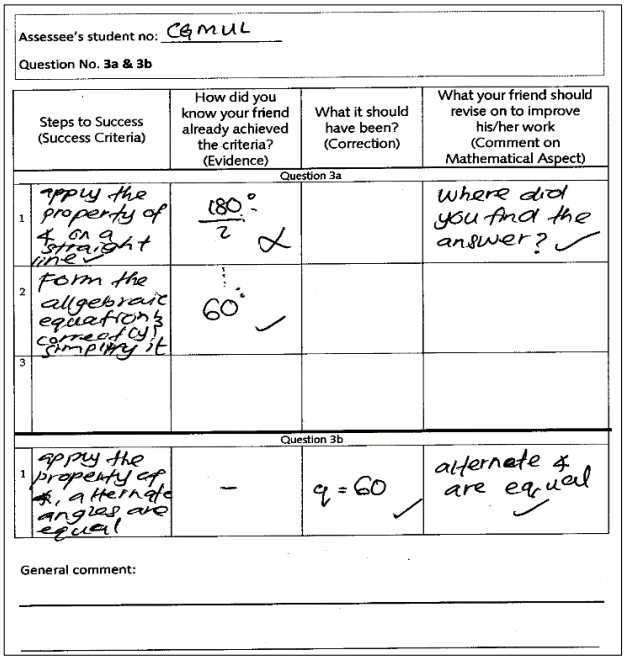


Figure 7. Sample work with improved reasoning.

Due to absenteeism during peer assessment, three students did not have an assessor for their work. Hence they received no feedback from peers. Despite the shortcoming, majority of these students were able to revise their classwork successfully without the aids of the written feedback. Perhaps the students' engagement in the discussion during peer assessment had memory effect on them.

The observation of rubrics revealed a few incorrect judgments and inaccurate mathematical explanations in the qualitative feedback. In the case of Wardah (a pseudonym), she successfully did the correct revision (Figure 9) for Question 3a despite

the inaccuracy in feedback she received as seen in Figure 8. Perhaps Wardah's engagement in the discussion activity with peers or the assessing task, made her to reflect on her and peer's work, thereby allowed her to have a better understanding of the solution for the particular problem.



Assessee's student no: C&MUL

Question No. **3a & 3b**

	Steps to Success (Success Criteria)	How did you know your friend already achieved the criteria? (Evidence)	What it should have been? (Correction)	What your friend should revise on to improve his/her work (Comment on Mathematical Aspect)
	Question 3a			
1	apply the property of ∠ on a straight line ✓	$\frac{180^\circ}{2}$ ✗		where did you find the answer? ✓
2	form the algebraic equations correctly simplify it	60° ✓		
3				
	Question 3b			
1	apply the property of ∠, alternate angles are equal	–	$q = 60$ ✓	alternate ∠ are equal ✓

General comment:

Figure 8. Inaccurate evaluation by the assessor for Wardah for Question 3a.

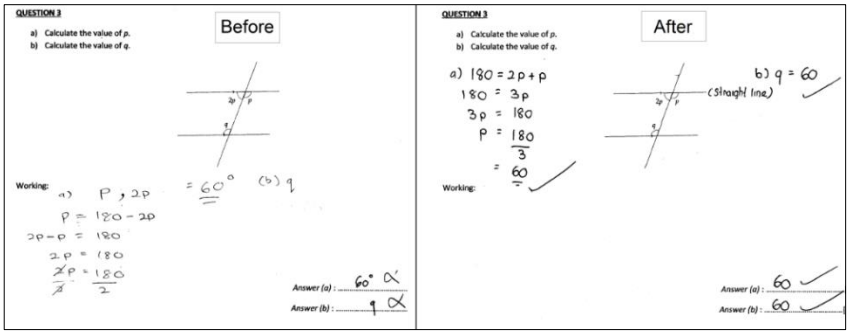


Figure 9. Wardah's changes in the classwork for Question 3a before and after revision given inaccurate feedback.

The correct mathematical solution provided by the assessor may have resulted in the drastic improvement in classwork revision. It was observed majority students followed and heavily depended on the solution given in the feedback. This includes copying a minor mistake made by the assessor. This case shows that it was not clearly evident whether students deeply reflected while revising their work with the feedback given in the rubric.

Students' perceptions on the application of peer assessment and its peer feedback in the learning of mathematics

A 25-item questionnaire was distributed to 23 students involved in this study. The questionnaire was distributed within the same week as the post-test. This multidimensional survey aimed to explore students' attitude and opinions on different aspects of peer assessment and towards the topic Angle Properties. The internal reliability of the questionnaire after

reversing the score for negatively worded statements had a Cronbach's Alpha of 0.919. The response from each item was coded and assigned a score according to its scale: Strongly disagree (1), Disagree (2), Neutral (3), Agree (4) and Strongly Agree (5). The negatively worded Items 1.1, 5.3 and 6.5 were reverse coded.

Table 4 shows the results of the responses from the questionnaire. Generally there was neutral and positive tendency of the participants towards the setting of success criteria. Although there were two participants (8.7%, Item 4.1) disagreed of liking to be involved in the deciding of success criteria prior to both training of peer assessment and actual peer assessment, there were no participants (0%, Item 4.2 and Item 4.3) of being against the two statements about the helpfulness of making success criteria explicit towards their subsequent understanding of the classwork and their ability in assessing their peers' works. Five participants (21.7%, Item 4.2) strongly agreed that this task had contributed to their understanding on the classwork.

Table 4. *Results of the questionnaire after reverse-coded on some items.*

Item	Statement	SD =1	D =2	N =3	A =4	SA =5	Mean (*M*)	Std. Dev. (*SD*)
1.1	The most difficult part of Mathematics is angle properties	1	5	11	6	0	2.96	0.82
1.2	I am good at angle properties topic	0	9	11	3	0	2.74	0.69
1.3	I like the topic of angle properties	0	1	16	5	1	3.26	0.62
2.1	The peer assessment training is sufficient to prepare me to assess my peer	0	4	6	11	2	3.48	0.90
2.2	I understand what my role and what I must do during peer assessment	0	2	3	14	4	3.87	0.81
2.3	Teacher's feedback on my assessment performance is useful to improve my skill on assessing peers.	0	0	2	10	11	4.39	0.66
3.1	I am aware and understand of the purpose of using peer assessment in mathematics classroom.	0	0	8	12	3	3.78	0.67
4.1	I like to be involved in the deciding of success criteria required for the classwork	0	2	8	11	2	3.57	0.79
4.2	The discussion of success criteria is helpful for me in understanding the classwork questions	0	0	8	10	5	3.87	0.76
4.3	I am able to assess my peer's work well when involved in deciding the success criteria	0	0	12	9	2	3.57	0.66
5.1	The rubric is easy to use	0	4	3	11	5	3.74	1.01
5.2	After the setting of success criteria, I am able to assess my peer's work	0	0	9	11	3	3.74	0.69
5.3	I find it difficult when writing qualitative feedback	0	0	14	6	3	3.52	0.73
5.4	I can assess my peer's work with fair	0	0	11	8	4	3.70	0.76
5.5	I feel more comfortable writing feedback when assessing my peers than giving marks	1	5	6	8	3	3.30	1.11
5.6	Assessing peer's work makes me more aware of key mathematical concepts in the topic of learning	0	0	14	5	4	3.57	0.79
5.7	I always reflect back to my work while assessing my peer	0	2	7	11	3	3.65	0.83
6.1	I understand the feedback given to me	1	1	4	15	2	3.70	0.88
6.2	The feedback given to me is accurate	0	1	15	6	1	3.30	0.63
6.3	The feedback is fair	0	1	10	9	3	3.61	0.78
6.4	The feedback given to me is helpful for me to improvise my work	0	1	3	11	8	4.13	0.81
6.5	I am unsure how to revise my work after reading the feedback	1	5	13	4	0	2.87	0.76
6.6	I understand the topic better after reading the feedback and making revision of my work	0	1	8	12	2	3.65	0.71

7.1	I enjoy giving peer feedback	1	6	6	9	1	3.13	1.01

From Table, 4, it is found that 39.1% of the students agreed that they find it difficult in writing qualitative feedback for their peers. However 60.9% of the students were undecided about the difficulty of writing qualitative feedback. Item 5.5 had a wide range of response from the students. There were 6 out of 23 respondents who disagreed with the statement of Item 5.5 and preferred giving marks than writing feedback for their peers due to uneasiness feeling. For Item 5.7, two students admitted that they were not always reflective and thinking back to their works while assessing their peer's work. On the other hand, more than half of the respondents agreed that they thought about their work while assessing peer's work. About 65% of the participants were unsure of the accuracy of the feedback given by their peers. There were varieties of responses from the students when asked whether they enjoyed giving peer feedback (Item 7.1). It was also the second item in the questionnaire that found the highest number of participants disagreed with the statement besides Item 1.2 and also with lower overall mean. For Item 7.1, 30.4% of students did not enjoy giving feedback to their peers. This result could reflect with the highly varying responses from Item 5.5, "I feel more comfortable writing feedback when assessing my peers than giving marks". Another factors that might contributed to the percentage of students disagreed with the statement were the easiness in using the rubric (Item 5.1) or perhaps the 'demanding' requirement to write feedback in the rubric for every step of success criteria that were not met by the assessee. On the other hand, Item 7.2 (M = 3.87) shows a higher mean than Item 7.1 (M = 3.13), indicating that students enjoyed receiving peer feedback more compared to giving feedback.

Overall the responses from the questionnaire show positive perception towards the use of peer assessment in the learning of Angle Properties with an overall mean of 3.53 and standard deviation of 0.81. The encouraging responses also include the reverse-coded of the negatively worded items.

Analysis of video recording

Analysis of the video recording of a classroom observation during peer assessment shows that the activity started off with minimal noise level. Interactive discussion among group members was evident and students were motivated to assess peer's work. In one case the teacher researcher allowed a student to seek assistance from other group to understand the approach to solving Question 3 in the classwork. Students cooperated well while working on the same task together. There were instances of students looking over each other rubrics with very minimal interaction. Off task and unrelated conversations were commonly heard as students made progressed further in the assessing task when the teacher researcher made a class round. The teacher researcher offered minimal assistance and only facilitated the task.

Result of the interviews

Each interview had a different set of six selected students, except for a student who happened to be selected to attend both interviews. The students were chosen for pre-interview on a responsiveness basis. Meanwhile, for the post-interview, the six students were chosen based on their difference of marks between pre-test and post-test which were coming from three categories; two from 'improved performance', two from 'no changes in performance' and two from 'decrease in performance'. The rationale for this was to have a varied responses and opinions coming from different abilities. Several themes emerged from the analysis of the interview codings, and the emerging themes from the pre-interview are as follows:

Use of peer assessment in classroom learning

Before the intervention, the students had never heard the term 'peer assessment' but have had experienced a peer assessment process informally through the marking of their peers' works. The student felt that assessing peer's work was helpful because when they understood the mistakes made in the work they could teach their peers. In other words, they could assist their peers that had difficulty in understanding or solving particular Mathematics problem and help them to improve their understanding by tutoring them.

Usefulness and reliability of feedback

All students confirmed in the interview that they had experienced receiving feedback from peers. However, students admitted that they occassionally read the feedback given regardless from peers or teachers and hence in utilising the feedback in revising their work as well. The students showed positive attitude towards feedback by perceiving it as a step towards confidence, a comment to enhance skills and a motivation to improve quality of work. Afina displayed positive mindset for learning growth as "*does not mean we are wrong forever*."

Majority of the interviewee believed teacher's feedback were useful than peer's feedback. The reason for the preference from the teacher was the reliability and the concern of accuracy of the feedback given by their peers. A few students showed no preference over the other. Farah commented that teacher gave detailed feedback compared to their peers. Despite that, she believed that the peer feedback would help them to improve their work and work revision if the feedback commented on aspect they need to improve.

The need of explicit assessment criteria and its alternative mathematical solution

Students were sometimes unable to fully utilise feedback given because they were not able to comprehend the mathematical working given by the teacher. When the performance criteria of an assessment were not explicitly stated, students were unable to meet the teacher's expectation. As Nurul said, "*we don't understand [what] the teacher want*". They further added on that they prefer detailed explanation consisting of step-by-step mathematical working and also a simpler approach to solving a mathematics problem.

Exemplary learning

From assessing the students' work, students believed that they could learn how the mathematical formula was applied and the different approaches their peers used to solve the mathematical problems. A student said she preferred the mathematical feedback to be demonstrated rather than solely explained verbally by the teacher. She further specified that it had to be shown rather than just writing on the paper.

Meanwhile, the emerging themes from the post-interview are as follows:

Advantages of peer assessment

Use of rubric and explicitness of assessment criteria

Five out of six students gave positive responses in the interview, which implied the usefulness of the use of rubric in improving their understanding. The use of peer assessment also helped students to recall on the mathematical terms that might be necessary for their mathematical reasoning. For instance, peer assessment helped them to revisit the names given for each of the angle property such as 'z-shape', which were stated as success criteria.

A student responded that the use of rubric helped to improve the skills on remembering formula and on solving mathematical problems. The listing of success criteria in step-by-step characteristics in the rubric acted as a guide for the students to complete the work. In addition, another student said that the list of success criteria help to improve and clarify their understanding as it provided them examples to follow.

The use of rubric helped to supplement mathematics working with an explanation. A student stated that it helped to identify the mistakes they made in test. In addition the rubric provided clear expectation for the work as a student said "*it can helps us more understand the property by looking at the rubric, how to solve…*".

Learning from others and knowledge sharing

The peer assessment is also a way for students to learn from their peers the different approaches to solving mathematical problems such as, in this case, on the topic of Angle Properties. An interviewee added that they could follow the approach used by their peer and hence they could understand better. Peer assessment was perceived as a medium for knowledge sharing with peers, as evident from the following responses in the interview:

"*It [is] also we can share our understandings to any friends*" (Amy)

"*The way we try to understand the angle properties is different, isn't it. And their way is also different. And we can also give which one is easier for them; [they can choose] either their method or our method."* (Safi)

"*And then we can know . . . follow what they did. . . And then we can remember and we can understand.*" (Afiqah)

Assessing peers' works allowed students to discern the mistakes in the work. In one instance in the interview, the researcher asked the student how they could identify mistakes in the work they had completed, which the student responded by noting the difference between the submitted work and the peer's work they were assessing. All interviewees agreed that group

discussion had helped them in understanding Mathematics better. An account from Amy implied that the discussion allowed them to explore different, simpler and easier mathematical strategy.

Disadvantages of peer assessment

Concern on anonymity and interpersonal sensitivity

Issue of anonymity was a concern for a student when assessing peer. An interviewee explained that their handwritings exposed their identity as an assessor and their weaknesses in the subject when their works were being assessed. Students disliked when their mistakes in the work became known. Issue of comfortability in giving qualitative feedback was also another concern, as it could possibly hurt their peer's feelings.

Reliability of peer feedback

There was an issue on reliability of feedback given by peers because of inaccuracy. A student was unspecified when asked regarding the helpfulness of peer feedback in making the revision of work because she had received an inaccurate feedback before. Other factor that affected the confidence in assessing was the different solutions offered by the students during the discussion that were often not in agreement with the teacher's solution. The reasons for the discrepancy was the criteria (and hence implying the solutions) suggested by the students were incorrect and hence not chosen as the criteria, or the question had alternative criteria which were also correct but not mentioned properly or written on the board by the teacher due to time constraint.

Issues pertaining success criteria

The interviewees were not confident in evaluating the work, particularly questions with few alternative approaches to solving. The responses from the interview suggested that majority were sometimes not confident in selecting their own criteria. Although the interviewees acknowledged there was an alternative approach or success criteria, the discrepancy between the teacher and students' decision in choosing criteria resulted in students' losing confidence. As Amy emphasised that it was difficult to be sure which of the answer was correct or not due to different saying from the teacher. The low confidence resulted from weak mathematical knowledge led to heavy dependent on teachers' final say. In addition, the interviewees were confused by the success criteria listed, as they were not able to comprehend what each criterion meant.

Discussion

The results from this study had provided insights on the effect of a student-centred learning approach through formative assessment. The quantitative result of paired sample *t*-test for difference in students' test marks showed that the intervention had significant effect on the students' performance in the learning of Angle Properties. Possible reasons that contributed to this improvement in test were the reflective cognitive activity that happened during any part of the peer assessment process. By exposure of different quality mathematical works to students through the assessing activity in a group, it encouraged students to reflect on their works while making judgement of the peer's work. This indirectly led students to measure their current level of understanding against other and make an initiation for a change towards improvement. The reflective practice had contributed to enhance understanding through learning from exemplary work (Langan & Wheather, 2003).

The three out of five students that were recorded decreased performance were among the absentees during the actual peer assessment. Subsequently, they did not assess any of the peers' work. Perhaps these students benefitted less from the peer assessment process specifically being the role as an assessor. This is because the learning gains from being an assessor are more significant than just being an assessee, as the assessing activity makes them self-reflective while they are comparing between their own works and their peers' (Logan, 2009; Tsivitanidou & Constantinou, 2016). It is important to note this study had provided opportunity on every participant to become both an assessor and an assessee at the same time, if they were present.

The discussion that was incorporated in the peer assessment through grouping had helped students in understanding the approach to solving a particular mathematics problem. As an example, Question 4ai seemed to capture students' interest during the peer assessment activity and more discussion was put into this question. The discussion allowed students to maximise the benefits of peer assessment. The interactions with peers on a productive discussion enabled students to share their thoughts and promote critical thinking (Piaget, 1971). In addition, the discussion promoted peer tutoring and

subsequently students' understanding on this particular question was embedded in their memory. Their memory retention was further enhanced with their roles as an assessor to write down the correction or feedback for this question to their peers. As Lin, Liu and Yuan (2001) stated that students are able to engage in important cognitive processes when writing feedback. Furthermore, Pugalee (2004) explained that writing assists students in critical or metacognitive thinking while engaging in the mathematical thoughts.

The use of rubric also indirectly acts as a medium for peer tutoring with others who were not assigned together in a group. This corresponded with a student's view towards peer assessment as a platform for knowledge or opinion sharing. This was consistent with the statements by Donaldson and Topping (1996) and Chan (2013) that peer assessment is a subset of peer tutoring activity.

The group discussion was lacking of explanation on the conceptual knowledge and often centred on the procedural knowledge. It did not contribute much in improving students' understanding of the topic, but the procedural steps to getting correct solution for the questions in the classwork. This was evident in Question 3 and 4bi of the post-test, which showed no improvement in marks, although there were similar questions in the classwork testing on the same concept knowledge. Although the students depended heavily on their peers as seen from the video observation and classroom observation, the assessing activity had shown to help in promoting self-reflection and awareness of their understanding (Langan & Wheater, 2003; Logan, 2009; Wood & Kurzel, 2008). This was evident in the improved performance on some questions in the post-test. This showed that students retained the knowledge constructed during the peer assessment activity and consequently their ability to apply the knowledge (transferability) in similar context. This could be seen from the changes in approach to solving problems as evident from the large improvement in post-test for Question 2a, 4ai, 4aii that had similarities with Question 2b and 3 in the classwork.

Analysis of feedback in the rubric indicated that students did not provide sufficiently helpful feedback towards their peers and often lack of Mathematical content. Factors such as concern of emotional sensitivity, weak mathematical knowledge in Angle Properties and even time constraint, perhaps contributed to the low quality of feedback and students' willingness in giving feedback in the rubric. In addition, students' proficiency in English Language limits the students' ability to express their thoughts qualitatively. Writing in mathematics is perceived as a demanding task in the aspects of language skill and mathematical knowledge (Huang & Normandia, 2009), which perhaps resulted in some students preferred giving marks than feedback. This agrees with the result from the questionnaire that a proportion of participants did not enjoy giving feedback. This was further supported from a response in the interview, which the interviewee admitted of disliking writing feedback but numerical working only. Students' reluctance to participate in the peer assessment perhaps was also another factor, as this possibly contributes to the less reliable assessment (Liu & Carless, 2006), in addition to their weak fluency in the subject.

The students' domain knowledge influences the reliability and the style of feedback given (Alqassab, Strijbos & Ufer, 2018; Van Zundert et al., 2012). Hence, the students' strength of mathematical knowledge influences the quality and the reliability of the feedback given. It was observed that majority of the qualitative feedback given by the participants did not contribute much in correcting the students' misconception due to sometimes incorrect judgement and lack of accurate mathematical content. This was understood as the participants were coming from class of mixed ability. This corresponds to the findings from the large amount of respondents in the survey were undecided about the accuracy of the feedback they received and also one similar response from the interview. It was noted that students were dependent on their peers in the group to write feedback as evident in the strong similarity among several feedbacks.

After the intervention, it was observed that the improvement in the post-test was attributed to questions that required simple direct application of angle properties such as the angle property on a straight line, the alternate angle property formed between parallel lines, the vertically opposite angle property and those without requiring formation of algebraic equation. This revealed the current geometric level of thinking of the students in this study.

Time factor such as one-hour lesson might have limited the students from using the opportunity in the peer assessment to reflect deeply on other's works. Peer distraction and motivation could influence the student's engagement in the reflective process while assessing the work. Despite the discussion of success criteria conducted earlier, it was expected that students would internalise the criteria and would be able to solve similar problems. However, the weak prerequisite knowledge they possessed unable to let them to understand some of the criteria listed that led to the correct solution. Consequently, the students were having difficulty in making sense of the flow of the mathematical working. With the poor

understanding of the criteria, this also affected their role as the assessor and consequently their ability to give differentiated feedback (Sadler, 1998). Time factor also seemed to be a concern when implementing the intervention using peer assessment approach especially when Mathematics lesson is bounded by syllabus content to be completed, because peer assessment was a time consuming process. An interviewee acknowledged the concern as they would be sitting for a public examination for students studying in the final year of secondary education and they were constrained by extra classes. This is consistent with the reports from several studies regarding time issue in classroom implementation of peer assessment (Chan, 2013; Falchikov, 2001; Langan et al., 2005; Tsivitanidou et al., 2018).

Generally students found peer assessment and the feedback received as useful in their learning regardless from the teacher or their peers. They valued peer assessment as an opportunity to learn the different approaches and strategies of their peers in completing the work (Logan, 2009; Tsivitanidou *et* al., 2018; Zevenbergen, 2001), in this case, the Mathematical problems. In summary, the result of this present study on the effect of students' performance confirms the findings of the previous studies in the learning of Mathematics at Secondary Education level (Chan, 2013; Chukwuyenum & Adeleye, 2013).

Conclusions

The result from the paired sample *t*-test to compare the means of students' pre-test and post-test marks had shown that the use of peer assessment had resulted a significant difference in the students' performance between both tests and there was an improved performance in the post-test. In other words, the intervention had positive impact on the students' performance in the learning of Geometry particularly on the topic of Angle Properties. In addition, the analysis of students' revised classwork after the feedback was returned had shown drastic improvement in the quality of their mathematical working. However it is important to note the revision was done with reference to the feedback in the rubric and that the feedback received may not be fully engraved in their understanding as it was found that the performance of the revised classwork did not fully reflect in the post-test. Despite that, the improved post-test scores indicated peer assessment had successfully made students becoming aware and reflective of their current understanding and subsequently their works.

The way in which the peer assessment was carried out indirectly plays a role in the students' learning. The discussion happened during the peer assessment had assisted students in understanding the approach to solve mathematical problems particularly the difficult questions from the classwork, as evidenced by the increased number of students in scoring similar questions in the post-test correctly. In summary, the intervention through peer discussion had positive impact on students' performance in the learning of Geometry, which promoted students' self-regulated learning and metacognition skills (Ahamad et al., 2018).

The findings from both interviews revealed that the students believed assessing peers' works allowed them to learn the mistakes made in the work and correct their peers by teaching. It was found that students occasionally utilise both teacher's and peer's feedback in revising their works. Despite that they preferred receiving feedback from the teacher and also showed positive attitude towards receiving feedback. The students perceived the peer assessment as a useful learning approach from which they could learn from their peer's works and the characteristics of accurate work through the criteria listed. Students showed positive attitude towards the use of rubric with success criteria listed. Negative perceptions only revolved around confidence in understanding and choosing the right success criteria, and those concerning anonymity in giving feedback. They were willing to have another session of peer assessment when there were no time constraints.

The quantitative results from the questionnaire showed an overall mean of above average. The outcome of the questionnaire was consistent with the responses in the interview. Analysis of video recording during the actual peer assessment showed that the students displayed positive behaviour through their interactions with their peers. The students were willing to discuss with their peers to assist them in the assessing task despite the difficulty they have. The group formation had contributed to this positive perception of the students as evident in the responses from students in the post-interview. To conclude, the multiple findings show generally encouraging responses that reflect students' positive attitude and perception towards the use of peer assessment as a platform for learning and knowledge sharing to improve their understanding in the topic of Geometry, that is, Angle Properties. Anonymity remained an issue despite names were being omitted from the works.

This study provides insights for the educators and researchers on the impact of peer assessment in the students learning. This study allows the readers to make evaluation how this approach could be implemented in the future classroom learning

particularly in the learning of Mathematics. Peer Assessment promotes student-centred learning by making students accountable of their learning through making judgement of the quality of different works presented with less direct instruction from the teacher. It is an approach that provides students the opportunity to reflect and link with their prior knowledge when assessing against the assessment criteria.

The finding of this study is consistent with other studies done previously in the learning of Mathematics. For the effective use of peer assessment would depend on the class ability; students' fluency in Mathematics knowledge in the area being assessed and the ability to express their Mathematical thoughts qualitatively. Students' confidence is also an important factor that has effect on how students would participate actively in the peer assessment task given. Students with weak knowledge in the topic of assessment are likely having lower confidence to assess their peers. More importantly, the effectiveness of peer assessment might result differently suppose it was done with higher degree of homogeneity in students' ability and even in a classroom of mixed gender. In addition, it is also important to note that this study investigated the impact of peer assessment on a closed-ended type of assessment, specifically, students' classwork. Different criteria and outcome of revised work might result suppose peer assessment is conducted on open-ended type of assessment such as Mathematics poster and presentation (Nor & Shahrill, 2014).

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Training Teachers for a New Era

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Abstract

This paper analyses a case study in which a university practicum tutor embarks on the adventure of setting their trainee teachers the task of designing a common technology-enhanced language project as a strategy to help them acquire the so-called Four Cs of 21st century learning. Thanks to the work of the US-based partnership for 21st century, many educational policies today advocate for including critical thinking, communication, collaboration and creativity at the core of modern curricula for primary and secondary education. It is therefore essential that pre-service teacher training programmes include proposals to guarantee that all future educators master these essential skills through a process of "learning by doing". Here we will present a hands-on experience in which, during their practicum seminars, a team of four pre-service English teachers worked collaboratively on the design of a project they would implement during their internship at four different schools. As the educational contexts varied and different age-group were involved, trainees had to be creative to find a way to meet the course requirements in each host classrooms. Gamifying their lessons and incorporating digital tools seemed the best solution to structure a dynamic project. During the planning stage they became critical thinkers who had to solve problems, good communicators as they had to understand and communicate ideas, collaborators as they learnt to work together to reach consensus and creators since they managed to design an innovative teaching project that provided their target primary pupils meaningful opportunities to use English with a real purpose.

Keywords: collaborative tutoring of student-teachers, four Cs of 21st century learning, pre-service teacher education, technology-enhanced project-based language learning.

1. Introduction

Teacher education programmes are expected to train professionals prepared to meet the challenges of the 21st century classrooms. Student-teachers should be given the possibility of acquiring theoretical knowledge on how learning takes places but also opportunities to establish crucial sound connections between theory and practice (Yost, Sentner & Forlenza-Bailey, 2000). This is, in part, why most educational programmes addressed to future teachers include a practicum component. The value of the experience is well accepted (see, for, example, Guyton & McIntyre, 1990; Haigh et al., 2006), but also questioned (Dobbins, 1996; Haigh and Ward, 2004). Aspects such as the length of the placements and their timing through the school year, the kind of support systems student teachers and school mentors should receive, the purpose and effectivity of practicum seminars with university tutors are, among others, challenged by the participants themselves (trainee teachers, schools mentors and university tutors).

To improve the effectiveness of school placements, student-teachers should be given opportunities to adopt an active role both as learners and as potential teachers. Involving them in the process of designing, implementing and evaluating classroom projects together with their school mentors and university teachers brings innovation to schools (Masats et al, 2007; González et al, 2008) and has a positive impact for all those involved. Real practice, for pre-service teachers experiencing this teacher training method, starts not only when they enter the teaching profession and have their own classes, but also during their internships. School mentors benefit from this practice because they have the opportunity of reflecting about teaching action and teaching practices with academics. University teachers have the possibility of observing (and helping fulfil the needs of) real teachers in real classrooms, which ensures teacher education programmes are updated and prepare future teachers to face the challenges of educating children in the 21st century.

Innovation at school is unlikely to occur if new teachers have not experimented innovation during their training. Teachers can only help learners develop 21st century skills if they have developed 21st century skills and are aware of how they managed to do so. Practicum experiences must be something else more than the mere provision of a practice setting in which student-teachers observe teachers in action and are given the opportunity to plan and implement a few lessons. It is important to get student-teachers to participate in course events designed to get them experience the kind of methodological approach one expects them to adopt as teachers (Dooly & Masats, 2011). In practicum seminars trainees have plenty of opportunities to reflect upon their own performance as teachers and about the practices of other trainees, but it is also necessary to involve them, as learners, in some sort of pedagogical action that may have an impact on them as teachers. Engaging future teachers in the project of designing a project to be developed during their school internships seems a good strategy to get them experience the ins and outs of project-based learning (Masats & Dooly, 2011) and gain know-how knowledge through the process, which, in turn, favours the development of 21st century skills. This paper shows an example of this type of practice.

We want to present a case study in which a university tutor sets the conditions to support four student-teachers while they are learning to work together and to take risks to plan a language project at their respective host schools. First, we will review the principles of project-based learning and how proposals sustained in this approach favour the development of the so-called 21st century skills (World Economic Forum, 2015). Then we will briefly present and analyse our training proposal through the voices of the participating student-teachers. We will focus on how the experience particularly contributes to the development of the Four Cs of 21st century learning (partnership for 21st century learning, 2006).

2. Project based learning as a methodological proposal to support the development of the Four Cs of 21st century learning

Curricular reforms in many countries around the globe reject teacher-centred content-based input practices and promote student-centred competence-based output approaches to learning (Mont & Masats, 2018). Competences can be described as sets of abilities, skills and knowledge individuals need possess to engage in the everyday situations one comes across in a global and wired society (Dooly & Masats, 2019). The Word Economic Forum (2015) coined the term "21st century skills" to refer to them and to grouped them into three categories. Their first category, foundational literacies, includes all competences and skills related to the acquisition and use of field knowledge needed to conduct everyday tasks (literacy, numeracy, scientific literacy, ICT literacy, financial literacy and cultural and civic literacy). Their second category, which they refer to as competencies, embraces the competences and skills one needs to develop to carry out those everyday tasks successfully and to overcome potential challenges. The partnership for 21st century learning (2006), refers to the competences in this group as the Four Cs of 21st century learning, as they all start with C: communication, collaboration, critical thinking and creativity. Finally, their third category embraces abilities related to character qualities such as curiosity, initiative, persistence, adaptability, leadership and social and cultural awareness.

Teachers need to be willing to innovate to include 21st century skills in their regular practices. Applying innovation at schools, though, is a slow process. In many foreign language classrooms today, teaching practices tend to be set on the principles of approaches developed during the 1980s (e.g. communicative language teaching, task-based learning), yet there are also teachers anchored in the use of techniques and procedures rooted in more traditional and outdated methods (e.g. grammar translation method). Project-based learning (PBL) is not a new approach to learning, as it derives from Dewey's notion of 'learning by doing' (Dewey, 1938), from the premise that children at schools should be engaged in solving tasks like those they would encounter when they are not at school. Yet, PBL is a still powerful teaching approach today because it structures learning through goal-oriented tasks (Beckett and Slater (2005), Fried-Booth (2002), and Stoller (2006), among others). That is, PBL "engages students in learning knowledge and skills through an extended inquired process, structured around complex, authentic questions and carefully designed products and tasks" (BIE, 2003:4). The need to address the challenge of designing, planning, and carrying out an extended project that produces a publicly exhibited output or final product (Patton, 2012) is what distinguishes PBL from other teaching approaches (Dooly, 2016) and why it offers learners great opportunities to develop 21st century skills (Masats, Dooly & Costa, 2009). As Mont & Masats (2018:94) suggest, "projects that are structured through goal oriented tasks offer a great opportunity to integrate learning as a social practice (collaborating, co-constructing knowledge, communicating, developing critical and creative thinking, etc.) and as a means to favour the development of life skills (leadership, social skills, initiative and flexibility), while learners develop linguistic competences, audio-visual competences, digital competences and the competences linked to the acquisition of knowledge related to specific areas of study."

The development of 21st century skills is only possible if technologies are meaningfully used in the classrooms on a regular basis (Lambert & Cuper, 2008). PBL fulfils well the premises of the communicative language teaching approach (Dooly, 2013) and the principles of learning by doing (Dewey, 1938), but also the need to integrate technology into classroom practices naturally. This is why current trends in TEFL advocate for the adoption of the principles of the so-called 'technology-enhanced project-based language learning' (Dooly & Sadler, 2016). Within this perspective, learners become active users of technology not mere recipients of technology. Children today, thanks to being technology users, are good at "multitasking and parallel processing, taking in information and making decisions quickly (at "twitch-speed"), understanding (i.e., "reading") multimedia, and collaborating over networks" (Prensky, 2003:2). Learners, then, need to use technology to search, transform and transmit information, to understand and create all sort of multimodal texts and to play to learn. Digital game-based learning (Prensky, 2001), the use of real digital games in the classroom, and specially gamification, using game-related elements in a nongame situation (Deterding et al., 2011), are slowly getting into classroom practices as strategies to promote students' engagement and motivation. The inclusion of digital game-based learning and gamification in technology-enhanced project-based language learning proposals also serve the purpose to help learners' develop their 21st century skills because, as Dicheva et al. (2015:75) suggest, "the use of educational games as learning tools is a promising approach due to the games' abilities to teach and the fact that they reinforce not only knowledge but also important skills such as problem-solving, collaboration, and communication".

Finally, the use of technology-enhanced project-based learning in teacher education is necessary because, as Howards (2002:343) suggests, it fulfils "the dual goals inherent in teacher education". That is, instructional proposals in teacher education should enable student-teachers to transfer what they learn in methodology courses to their teaching practices through the design and implementation of classroom projects that help learners transfer what they learn at school to their everyday activities. This means, in the first place, that for student-teachers to learn how incorporate the principles of technology-enhanced project-based language learning in their teaching practices during internships, university teachers should create a context in which they first can learn by doing or, as Dooly and Masats (2011) propose, they should participate in a project about project designing. Here we present one example.

3. The study

Teacher education programmes should be designed to foster the development of student-teachers professional competences and to prepare them to teach effectively at schools. This is easily achieved during school internship as trainees need to make sound decisions, take risks, be creative to transfer theory into practice, learn to communicate with children and to adapt to a new environment. The case study we present here aims to corroborate our hypothesis that the accomplishment of these actions sets the perfect scenario where future teachers can develop 21st century skills, especially if their university teachers and school mentors challenge them to work in joint collaboration with their peers to design their intervention at schools following the principles of technology-enhanced project-based language learning and including gamification in it.

Participants in our case study are a team of 4 pre-service English primary teachers and their university tutor who met once a week to prepare their school internships. One of the main objective of this seminars is to guide the student-teachers through the process of creating, planning, implementing and evaluating a teaching unit. The innovation in this case study came with the tutor's idea of joining forces and working together in the creation of a common shared teaching unit they would all implement in each of their practicum schools during their internship. Trainees accepted the proposal which, from the very beginning, was a major challenge for them. Not only were they doing their internships at different schools and had different school mentors with diverse teaching styles, but they were also expected to cater for the needs of various age-groups, since they were not placed in the same years and, thus, the teaching objectives they had to attain with regards to language contents varied from one school to another.

During the face-to-face practicum seminars at university and on several online meetings student-teachers and their university tutor found a very creative way to meet all the challenges. They decided to gamify their joint class project and created a plot in which a fictional very rich Australian woman, Rose Mary Connor, impersonated by the university tutor, needed the help of the primary students in the four schools to find out a robbery in her house in Sydney while she was on vacation in Holland. She wanted to know who the thief was, what was stolen, at what time the robbery took place and where were her belongings hidden. Each school was in charged to discover one of those mysteries and cooperate to solve Rose Mary's case.

The corpus will use to validate our hypothesis is composed of data from various sources. We transcribed our practicum seminars and the session student-teachers conducted to present their projects to other teams of student-teachers. We have the project rationale the pre-service teachers' websites, the emails exchanged among all the participants and feedback from the primary students who solved Rose Mary's case.

4. Findings

Schools internships offer pre-service teachers supervised teaching experiences that help them understand the complexity of being a teacher. Yet, the experience needs to be complemented with supervision proposals in which teacher educators foster the development of student-teachers' professional competences to guarantee that pre-service teachers would become efficient professionals in due time. In the case study we present here, student-teachers valued the weekly practicum seminars at university positively because their university tutor presented them varied tools and resources, encouraged them to share what they were learning at schools and created a space in which they were given the opportunity to learn about planning a project, a teaching unit, together. This is how one of the teacher trainees, Txell, describes them:

Extract 1. Txell's personal reflections in her online portfolio on the role of seminars

> *In this learning process, the UAB seminars had an important role. Seminars provide a great amount of useful tools and resources that can be used in the lessons in different ways. So, not only we had the tools but also a wide range of different possibilities of use. But, all this knowledge would not have been possible without our teacher, who was essential during the whole process. I have learnt a lot from her, not only from her resources and strategies, but also from her engagement and enthusiasm towards teaching, and her involvement in our teaching unit. UAB seminars were a space for sharing, and therefore, learning from each other. They were essential in order to solve questions about our teaching unit and change things to improve it.*

As we can see, one of the things Txell appreciates the most was the fact that she could learn with her peers and that they received support from their university tutor, who, as she states, was fully involved in the challenge she had set for them. As we said earlier, getting student-teachers acquire the principles of project-based learning by designing, planning, implementing and evaluating one true project is a nurturing experience (Masats & Dooly, 2011) and sets the grounds for ensuring student-teachers would develop the so-called 21st century knowledge, skills and competences that will enable them to act socially in an effective and reasoned manner. To examine how this is done, we would focus on how each of the 4Cs for 21st Century skills –communication, collaboration, critical thinking and creativity– (partnership for 21st century learning, 2006) were put at play.

4.1. Communication

Teacher immediacy behaviours have traditionally been referred to as those verbal (calling students by name, encouraging students' input, being humorous, etc.) and non- verbal (e.g. eye contact, nodding, smiling, etc.) indicators used by educators to foster communication. Research has shown they have a positive impact on student learning (Myers, 2002) because they increase students' motivation (Christophel, 1990) and satisfaction (Hackman & Walker, 1990). However, in learning environments in which communication is also mediated by computers, instructional immediacy needs to be redefined. Any behaviour that brings teachers and students closer together in terms of perceived distance among them is a clear indicator of immediacy. Creating an atmosphere in which student teachers feel at ease because they perceive that their university tutor shares and cares is a sign of instructional immediacy and would undoubtedly foster communication bidirectionally for multiple purposes (sharing ideas, informing, instructing, reaching consensus, making suggestions, persuading, etc.). We can observe that in extract 3.

Extract 2: E-mail from the student-teachers to their university teacher (Maria)

> *Hello, Maria!*
>
> *Yes, we are going to work together and we are so excited about it* 😊
>
> *In fact... we would like that you could participate in our Teaching Unit too, so we thought about asking you for a little favour.*
>
> *Would you like to be our rich Rose Mary from Australia, who has lost her precious treasure?*

We could record the video tomorrow, after talking about the Teaching Unit (we will finish before 18:30). If you want, you can bring some rich and snob complements (we will do the same).

Our proposal for the script is this:

"Dear all, my name is Rose Mary Connor and I am from Australia. Now I am visiting my family in Holland. Yesterday I received a call from my alarm insurance company explaining that someone has entered my house and has stolen something. That is why I ask for help. I need brave volunteers to uncover the thief, what he or she has stolen from me, where he or she keeps my possessions and when the robbery occurred.

If you feel brave enough to help me, I beg you to send me an email introducing yourselves to the following address: rosemaryconnor.australia@gmail.com

I appreciate your effort and I hope we can solve the case with collaboration"

Thanks so much! See you tomorrow ☺

Helena, Mar, Sònia and Txell

In the seminar before this email, the university tutor had suggested her trainees that they could work together to design a joint project as the teaching unit they had to implement at their schools. They were not very enthusiastic with the proposal at the beginning, but they talked about this after the class and they came across with an idea. The mail is interesting because we can see that trainees feel at ease when making proposals and instructing their tutor on what they would love her to do. Communication competence was first developed through interpersonal face-to-face and computer-mediated exchanges between trainees and trainees and their trainer. This procedure was also followed by student-teachers to promote real communication when they engaged their groups of English primary learners in a technology-enhanced language project. Interpersonal communication at school was also face-to-face between each trainee and her group of students, but it was also digital when the groups contacted one another or the fictional character (real to them) that had set them work together (see extract 3 in the next section). In this case, trainees used various multimedia formats to get their pupils to communicate: they received emails and videos from Rose Mary, they had a private blog to share their findings with other groups, they were creating videos, uploading images or producing texts for their blog, etc. Primary pupils learnt English while solving clues and unveiling secrets about the robbery. They developed language skills for a wide range of objectives: they were using English to inform Rose Mary about their first ideas, to instruct on how to be safer, to motivate others to help them solve the case… In short, communication was essential because it fostered collaboration.

As we have seen, immediacy between the student teachers and their tutor is, in part, what made the project work. Immediacy set the ground for creating an environment in which communication made learning possible, triggered collaboration and empowered future teachers as we can see in extract 3.

Extract 3. Mar's personal reflections in her online portfolio on their teaching unit

This teaching unit originated from the desire of creating a MEANINGFUL and ENGAGING project as the last step before becoming real teachers. Moreover, it has a special value because it has been designed and carried out by four primary education students...Together, we adapted this adventure to different ages and contents which has end up in a transdisciplinary and very powerful teaching unit!

To Mar, one of the members of the group who had the idea of planning a joint project, being able as student teachers to create a 'meaningful and engaging project' was the last step into the profession and what would enable them to become 'real teachers'. Mar also acknowledges the importance of working together with others.

4.2. Collaboration

Learning as a situated social activity (Lave & Wenger, 1991) starts when trainees decide to work together, to collaborate, to fulfil the same objective. This is how Sonia, one of the trainees, reflects upon the advantages of working with others.

Extract 4. Sonia's personal reflections in her online portfolio on their teaching unit

First of all the ones that joined this idea were Txell & Mar trying to link the topics in the school in the same teaching unit doing it in an interactive way as a game. Later Helena & I joined them because we thought it was a really

enriching experience and a unique experience because we will have time on the future to think and plan teaching units alone. So we accepted the challenge and we became a team. […] Everybody's participation was essential in order to come up with a nice teaching unit. Our main objective was to link our topics in order to create an engaging teaching unit, that motivates children to learn English. Which was achieved, children showed lot of interest towards the teaching unit, and usually when they saw me around the school asked about Rose Mary or if she had sent us an e-mail. […] Going back to the way we worked, I am sure that working alone this result would not have been possible, four brains have better ideas than only one. Co-teaching requires lot of time in order to make decisions about what is going to be done and how; in our case, due to time and distance, the meetings were done by phone calls and Skypes, which were really useful not only for the common parts of the teaching unit but also for the specific ones of each school. We had the support of the others, even that some sessions were different for each school, we more or less knew what the others were doing and therefore it was possible to help each other and give ideas about the specific sessions, feeling with this more secure.

Sonia clearly describes a relationship of 'positive interdependence' (Johnson et al, 1998) among the four trainees, a characteristic trait of cooperative and collaborative learning. Positive interdependence occurs, as it is the case here, when learners are all aware that one of them could not succeed if the other three failed. Consequently, they took a great effort in making sure the learning needs of all primary groups involved were going to be met, so they work for a common objective but also to help others accomplish their individual goals as teachers. Interestingly, communication and collaboration were also the gears that made the school project work. Children were motivated because they were communicating with Rose Mary (as we can read in extract 4 above) and collaborating with the groups in the other schools to solve the challenge she had set to them.

4.3. Critical thinking

Student-teachers came up with the idea of designing a joint project in one of the seminars but, in the context of our case, accepting to carry out the plan implied agreeing to be eager to face problems and find solutions to solve them. As we can see in extracts 5 and 6, the departing point was not easy.

Extract 5. Txell's personal reflections in her online portfolio on their teaching unit

This project started with a crazy idea during our Practicum meetings. What if we challenged ourselves to do the same teaching unit in our four schools? What if we did a telecollaborative project? […] we did not have the same schedules, so the lengths of the sessions were not the same […] we were kind of dealing with all this, but we were always following the same chronological order and the same events […] I decided to implement it in the fourth grade. My requirements were to revise the professions that they had been previously working during the third term.

Extract 6. Helena's personal reflections in her online portfolio on their teaching unit

The students were not used to work by projects because the school follows a traditional approach and English is taught through books.

Several were the challenges student teachers had to meet to turn their plan into a teaching action. As regards to time management, they had to solve the problem that English was not scheduled at the same time in all the schools. Besides, as they were not assigned to the same age-groups the number of hours devoted to English would also vary from one school to another. In terms of the organisation of learning, each school mentor had a personal teaching method and a syllabus to follow, this meant that not all children were familiar with the project-based learning approach or were expected to access the same type of linguistic contents. Overcoming these barriers was possible because during the seminars (and through personal online correspondence among the four trainees), student teachers engaged in processes of anticipating problems and solving them beforehand, that is, critical thinking played a key role during the planning stage of the joint project. Halx & Reybold (2005) argue that educators who want to engage their students in critical thinking need to promote discussions in their classrooms and allow students to freely express their thoughts. We believe this was the situation in this practicum seminars, as Txell had claimed '*They were essential in order to solve questions about our teaching unit and change things to improve it'* (see extract 1 above).

Critical thinking was also encouraged during the phase of evaluating the work done. Student teachers were satisfied with the results, but they could also reflect upon what they could have done differently. We can observe that in extract 7.

Extract 7. Sònia R. highlights her own opinion about the experience:

> *Even though I am happy with the results achieved I am aware that lots of things could have been better and have to be improved regarding to my part, such as the adaptation to the level and make the explanations clearer, because I think that sometimes some children had difficulties to follow the lesson."*

Being able to recall one's actions, analyse and evaluate them to promote change is the first step into reflective teaching, a skill these learners have also put into practice and are still encouraged to do so[1].

4.4 Creativity

Communication and collaboration allowed student-teachers to engage into critical thinking together, as they had to analyse the teaching contexts in which they were going to implement their project, anticipate potential problems and reason to solve or to minimise them. However, critical thinking lead trainees into creative thinking. After having agreed upon how, as a group, they would solve the contextual and organisational challenges they had to face, each had to adapt the solutions to their own situation, which sometimes meant creating alternative plans. We can see that in extracts 8 & 9.

Extract 8. Sònia presents the project to another group of student teachers.

> *The school asked me to work the past simple, so what I did was to create a story that was the personal diary of the neighbour, because Rose Mary in the video said that the neighbour was going every day to her house to feed the cat and is the one that found the robbery. So, I wrote the personal diary but I didn't write the days, so they had to put this in order, but also I took off the verbs, some of the verbs in the past.*

Extract 9. Txell presents the project to another group of student teachers.

> *Our seven session […] is like a recap of everything we have done in our teaching unit and we have put all the videos together and also Rose Mary Connor's video thanking us for helping her, so this will be like our ending session. Also, with the reward, because I do not know if you have noticed it but here it says there is a reward. And all children were saying, reward, reward. What's a reward? She is very rich, she must give us so money or something (laughs). No, it's not that. This is mostly sweets or candies and for those who cannot give food at the school, for example Sonia, she has created this wonderful certificate for her pupils.*

Creativity, though, is not a skill to be cultivated solitarily. Student teachers in this study were also creative when they decided to include gamification as the resource that would allow them to design and implement, synchronously, a single project in four distinctive learning environments. Davis et al. (2013) argue that game-based teaching approaches construct creative environments that foster pupils' attainment of learning objectives and the development of teachers' professional competences.

Conclusions

In this paper we present a case study in which a university tutor sets their student teachers the challenge to design, plan, implement and evaluate a gamed-based technology-enhanced language learning project targeted at four groups of primary learners from the schools that host them during their practicum internships. By analysing the students' reflections after the process is completed, we can understand how practicum seminars, weekly meetings between small groups of students and a university tutor to prepare future teachers to participate in school internships, can help build bridges between theory and practice. When student teachers are given the possibility to take an active role in their training proposal they can become agents of innovation and change, especially if the Four Cs of 21st century learning (communication, collaboration, critical thinking and creativity) are developed through a process of learning by doing.

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[1] The four trainees, now novice teachers, were encouraged to present their experience at APAC, a local conference targeted at English teachers in Catalonia. Their paper was accepted and will be presented in February 2019.

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Technology as a Motivational Factor in Foreign Language Learning

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Abstract

It is a common belief that engagement and motivation are crucial factors in learning and especially in language learning. In particular, increasing motivation can lead to the mobilization of students' personal, cognitive, emotional and behavioral resources and, consequently to better learning results. As digital technology has become more sophisticated, its tools and applications can be used in and outside the classroom, in both formal and informal settings, in order to increase students' motivation. Amongst the various factors -tools, methods or strategies- that can lead to increased motivation, this paper examines the role of technology as a motivational factor in foreign language learning. The relationship between the use of technological means such as web tools and services, digital games, mobile apps or communication tools and motivation in language learning context, has been studied extensively, with a wide variety of approaches, and within the framework of several language learning applications. In order to determine the real impact of technology on learners' motivation, an extensive literature review focusing on studies that have examined the impact of technology use in language learning and teaching on motivation to learn, has been carried out. Furthermore, this paper discusses the concept of motivation in learning context and the relationship between technology and language learning, summarizes some of the numerous studies and researches on this subject, presents a synthesis of the studies examined, and formulates conclusions and perspectives for effective integration of technology as a motivational tool / factor in language learning context.

Keywords: language learning technology, motivation.

Introduction

Nowadays technology is not any more a privilege for the minority of students but it is accessible to all the students, as it has become considerably cheaper. Technology is ubiquitous and, hence, the wealth of the world's information can be easily accessed through a variety of devices. According to recent statistics, 5 billion people worldwide use mobile devices (eWeek, 2017). The growing use of mobile devices (personal digital assistants-PDAs, mobile phones, iPods, laptops, Tablet PCs) and wireless technologies (Wi-Fi, Bluetooth, GPS, 3G, 4G, satellite systems), enable the user to access any type of training and instructional material from anywhere and at any time.

Today's students, who are considered digital natives, are familiar with any type of technology and they are highly skilled at multitasking in the modern information era where ubiquitous connections are now possible. Millennials interact continuously and seamlessly with technology and this is affecting both how they want to learn and to be taught in any level of education, and, the teaching and learning practices used. They use technology as an integral part of everyday life, both in formal and informal learning contexts, not for the sake of technology but as a fundamental tool to access information and communication, as a basic element of everyday life and as an essential tool for their existence (Prensky, 2007, Housand and Housand, 2012, Thomas, O'Bannon, and Bolton, 2013).

Research has shown that technology-enhanced environments can increase students' motivation and engagement and improve students' productivity (Prensky, 2007; Roblyer & Doering, 2010). But is this the case in the foreign language learning context? What is the real impact of technology on learners' motivation? In this paper, we tried to answer this

question by examining the results of previous research carried out in the field of foreign language focusing on the impact of technology use in language learning and teaching on motivation to learn.

Technology and Motivation in Foreign Language Learning

The integration of digital technology into foreign language teaching and learning is not an innovation. However, the advent of Web 2.0 and the great variety of tools that are more numerous and easier to access and handle seem to have given it an accelerating effect. This integration has changed teachers' pedagogical practices and renewed learning strategies among learners.

Actually, as Lamb states, *"… developments in digital technology are probably the most prolific source of innovation in L2 teaching methodology in contemporary times, at least in western or developed world contexts, and the motivational properties of each innovation are usually considered an important aspect of its instructional qualities …".* (Lamb, 2017: 30).

In the context of an action-oriented approach, as proposed by the Council of Europe, the solid ground of the use of technology is that one can learn by action, by experience, "by doing". The use of technology has two main purposes: to facilitate the transfer of what is learned outside the school, in other social contexts, and motivate learners by engaging them in the proposed learning tasks and activities.

According to Brophy (2004: 3) *"… motivation is a theoretical construct used to explain the initiation, direction, intensity, persistence, and quality of behavior, especially goal-directed behavior…".* Motivation is important because it helps to determine whether a learner persists in a course, the level of engagement shown, the quality of work produced, and the level of achievement attained (Maggie Hartnett, 2016: 13). Motivation is the "tensor" of the original forces, internal and external (situational, contextual and global), directed or not by an aim that influences an individual cognitively, emotionally or behaviorally (Karsenty, 1999).

Lamb (2017, 30) listed the main motivational benefits of using technology in foreign language learning:

Greater autonomy and individualization;

Enhanced opportunities for communication;

Identity development;

Recognizing and utilizing learners' existing IT skills;

Content-based instruction;

Intercultural content;

Designing motivating tasks;

Increasing the relevance of the L2;

Alternative forms of assessment.

The growing amount of research evidence has shown that teachers and researchers have used a variety of software and applications in order to face motivational challenges. We have grouped the results of our literature review into four parts according to the type of technology used: Web tools, services and applications, games and MUVEs, communication tools and mobile technologies.

Literature Review

In the following section, we will briefly present and summarize some of the numerous studies and researches on how the use of various technological means can reinforce and maintain learners' motivation and increase their engagement in the educational process.

Web tools, Services and Applications

The relationship between Web 2.0 tools and motivation has been studied extensively. According to Terrell (2011) access to online tools (wikis, avatars, games, interactive stories), increases English Language learners motivation to practice

English outside the classroom. Furthermore, as McLoughlin & Lee (2008a) argue, Web 2.0 tools appear to motivate the individual to link personal interests to broader social networks, participating, thus, in a dynamic community that provides feedback and reciprocity. The following studies relate to specific web 2.0 services and tools:

Mazer, Murphy and Simonds (2007) carried out a study in order to explore the impact of teacher self-disclosure on Facebook on student motivation, affective learning and classroom climate. The results of the study confirmed that this practice may lead students to higher levels of anticipated motivation and affective learning and to create a more pleasant classroom climate.

Shih (2011) also studied the effect of integrating social networks (in that case facebook) in a College English writing class, using a blended learning approach and peer assessment. The findings demonstrated that using cooperative learning, this facebook integrated instruction could also significantly enhance students' interest and motivation.

Lee, McLoughlin and Chan (2008b) experimentally used the production of podcasts to better prepare their students for the content of the course. The conclusion was that the students-producers found the task both challenging and motivating, as evidenced by the quality and intensity of their interaction and by the successful production of the podcasts.

Mahoney (2014:36, cited by Richards, 2015) investigated the use of blogging in a writing course. The results showed that this has a highly motivating effect on students.

Wilkinson (2016) used media sharing services to increase the motivation of students. The study confirmed that the public exposure of student work (eg publishing to YouTube) drives them to do their best.

Sun (2009), in an experiment on the effectiveness of voice blogs, concluded that voice-blogging can increase learning motivation, authorship, and development of learning strategies, as it encourages students to present themselves, exchange information and connect to peers.

Yang & Wu (2012) developed a Digital Storytelling (DST) program to investigate whether it has an impact on academic achievement, critical thinking, and learning motivation of senior high school students learning English as a foreign language. The results after a period of 6 months showed that the participants achieved a better level in English language, but also showed improvement in critical thinking and learning motivation, especially for task value and self-efficacy. Yang & Wu also refer to other studies (eg. Pintrich et al, 1993; Pintrich, 1999; Robin, 2005, 2008; Sadik, 2008; Van Gils, 2005), that lead to the general conclusion that DST can trigger users' interest, increase their cooperative skills, and help them improve in foreign language.

Games, Video Games and MUVEs

Many researchers argue about the benefits of using video games in education. Games can be used in a variety of learning approaches, and they are able to motivate and engage the students in the learning process:

O'Neil, Wainess and Baker (2005) argue that when learning content is combined with game elements, motivation of the learner is positively affected as games offer high level of interaction.

Randel, Morris, Wetzel and Whitehill (1992) state that competitive games motivate via challenge, fantasy and curiosity (Randel et al. 1992).

Bisson and Luckner (1996), argue that games create a complete, interactive, virtual playing environment, which offers an immersive experience and motivate users via fun, challenge and instant, visual feedback.

Mitchell and Saville-Smith (2004) claim that well-designed computer games are engaging and seductive, and motivate the player to continue using rewards and feedback.

Prensky (2007), Kirriemuir & McFarlane (2003) and Susi, Johannesson and Backlund (2007), agree that the desire to win, challenge and set goals that characterize games, implies an increase in user motivation.

Rosas, Nussbaum, Cumsille, Marianov, Correa, Flores and Rodriguez (2003) investigated the effects of introducing educational video games into the classroom and noticed positive effects on learning, motivation and classroom dynamics.

Mitchell & Saville-Smith (2004) believe that video games can stimulate the enjoyment, motivation and engagement of users and promote the development of various social and cognitive skills.

Woo (2014), carried out a survey among 63 university students for 8 weeks in order to find out whether Digital Game-Based Learning supports student motivation and cognitive success. The results showed that, using the online game, motivation and cognitive load exhibited a significant canonical correlation with performance.

Liu & Chu (2010) studied the ways in which ubiquitous games influence English learning achievement and learners' motivation. The research concluded that integrating ubiquitous games into the English class can result in better learning outcomes and motivation than the use of a traditional method.

Several other studies (Papastergiou, 2008; Tüzün, Yilmaz-Soylu, Karakus, Inal and Kizilkaya (2009) have concluded that GBL can improve learning motivation, attention and interest.

MUVEs provide students with an opportunity to visualise and engage with complex learning systems in a setting that is motivating and engaging (Kennedy-Clark, 2009).

Wehner, Gump and Downey (2011) investigated the effect of learning a foreign language (in that case Spanish language) in a virtual world (in that case Second Life) on the motivation of users. Results demonstrated that virtual worlds can increase student motivation, lower their anxiety and help them learn a foreign language.

Connoly, Stansfield and Hainey (2011) developed an Augmented Reality Game to investigate if AR Games can increase student motivation in foreign language learning. ARG project was part of a European Commission Comenius project and involved 6 European partners, 328 14–16 year old students and 95 language teachers in 17 European countries. The students who participated in the research believe that they developed not only motivation but also cooperation, collaboration and teamwork skills.

Other software applications, tools, and learning activities have also been used to motivate students. Mullamaa (2010) investigated the ways of using a web-based environment (in that case the Blackboard LMS) in creating study materials for teaching English and Swedish (ESP and terminology) courses. Research has shown that the use of this environment improved cooperation among students and increase their motivation. Finally, Norbrook & Scott (2003) believe that quizzes are also capable to increase students' motivation.

Communication Tools

The potential of technology to increase motivation through synchronous or asynchronous communication has also been thoroughly explored:

Sun (2009) refers to several researches concerning the possibilities of CMC (Computer Mediated Communication). Results have shown that carefully prepared textual or audiovisual communication activities, both synchronous and asynchronous, can foster learner autonomy and enhance student motivation (Beauvois, 1992, 1998; Godwin-Jones, 2003; González-Bueno, 1998; Kern, 1995; Pellettieri, 2000; Shield & Weininger, 1999, all cited by Sun, 2009).

Alamer (2015), investigated the possibility of using the instant messaging application WhatsApp in L2 learning. Feedback showed that informal use of such application can foster their motivation to learn an L2.

Freiermuth & Huang (2012) examined in detail the motivation of Japanese students of English as a foreign language (EFL) who chatted electronically with Taiwanese EFL students using online synchronous chat software. The results reveal that students can be highly motivated when they participate in well-designed synchronous online chat tasks.

Freiermuth & Huang (2012) referring to a number of related studies, argue that CMC is naturally attractive as a tool, as students seemed highly motivated by the activities. (Beauvois, 1995, 1999; Chun, 1994; Darhower, 2002; Freiermuth, 1998, 2001; Freiermuth & Jarrell, 2006; Kelm, 1992; Kern, 1995; Meunier, 1998; Warschauer, 1996, 1997; Warschauer et al., 1998 all cited by Freiermuth & Huang, 2012).

In another published research, Mayer pointed out that text messaging improves motivation (Mayer, 2002)

Mobile Technologies

Nowadays, the main trend seems to be the exploitation of mobile technologies. M-learning uses mobile computing technologies to enhance learning and therefore has an excellent potential to motivate learners as it is available anytime, anywhere and provides learners with rich, real-time, convenient, collaborative, contextual and continuous learning experiences, both inside and outside the classroom (Kukulska-Hulme, 2005). Indeed, the latest generation of smartphones offers great possibilities to deliver multimedia content, location-based learning materials, and serious games to enhance the learners' enjoyment and motivation (Claudill, 2007). Foreign language courses developed for smart-phones, encompassing video clips, exercises, and other useful tools, are, according to the users, highly motivating Chinnery, 2006). This is a common belief among many researchers who argue about the benefits of using mobile technologies in education:

Burston (2013) analysed some 575 works that was conducted relating to MALL (Mobile Assisted Language Learning) and conducted from 1994 to 2012. Among those publications, were 360 descriptions of projects concerning the use of mobile technologies in language learning and covering a variety of topics concerning MALL. Some of these applications studied the motivational effects of MALL applications in students (all cited by Burston, 2013): Chan et al (2011) explored the use of podcasting to support the learning of L2; Chiang (2012) investigated the effect on subsequent motivation to do extensive L2 English reading comparing Kindle ebook reader and printed materials; Gjedde & Bo-Kristensen (2012) conducted a lifelong learning project in which adult L2 learners complement classroom instruction using mobile phones to take textual notes, capture photos and videos, and make audio recordings; Hung & Young (2007), reported on the rationale of designing a PDA-based L2 English vocabulary acquisition game aiming to help elementary school students learn English words through collaborative and competitive group learning activities; Hung et al (2009) explored the effectiveness of a tablet PC-based Wireless Crossword Fan-Tan Game (WiCFG) on L2 English vocabulary acquisition; Kim & Lim (2010), explored how Twitter can be utilized to increase the motivation of L2 English students to write in English. Lan et al (2007), developed a tablet-PC based peer-assisted learning system (MPAL) to support the collaborative acquisition of L2 English reading skills; Lin et al (2008), studied the effect of hand-drawn sketches using the Group Scribbles application on web-linked tablet PCs to support the in-class collaborative learning of L2 English vocabulary by primary school children; Lin et al (2007), designed and tested a mobile-based system intended as a textbook complement; Liu & Chu (2010) reported on the use of location-aware HELLO language learning system; Song (2008), developed an hybrid website + mobile phone SMS vocabulary learning program; Yamada et al (2011), reported on the effectiveness of a smartphone + web server program on the improvement of L2 English listening comprehension. In all of the above MALL projects, there has been less or more positive effect on the motivation of users thanks to the use of mobile technologies.

Huang, Yang, Chiang and Su (2016) developed a 5-step vocabulary learning (FSVL) strategy and a mobile learning tool in order to investigate their effects on the learning motivation and performance of their (80) students in English as a foreign language (EFL). The results showed that the learning motivation and performance of the students that used the mobile learning tool were superior to those of students taught via the traditional learning tools. This study also found that the learning approach did not significantly affect students' motivation to learn the teaching materials, which leads to the conclusion that the increased motivation is due to the mobile tool.

Sandberg, Maris and De Geus (2011) conducted a survey on the added value of mobile technology for learning English as a second language for primary school students. The results showed that the use of the mobile application motivated users and increased the total learning time with obvious benefits to their learning. The conclusion is that that formal school learning can be augmented by learning in an informal context, outside school, due to motivation created by the mobile app.

In a study conducted at Middlesex University in the UK, mobile learning activities (3D simulations) which encompass quiz and game functions were incorporated into certain sections of anatomy courses. The results were positive, as students found the iPAD educational app fun and motivating (Adams Becker, Cummins, Davis, Freeman, Hall, Giesinger and Ananthanarayanan, 2017)

Thornton and Houser (2005) used mobile phones to teach English at a Japanese university, comparing web-based with SMS-based learning. The results of this study showed that the SMS-based lessons had been more effective because the use of mobile phones motivated the students to rehearse more frequently, which resulted in better retention of the material.

The JISC Case Studies in Wireless and Mobile Learning, which reviewed innovative practice in the United Kingdom, identified a number of benefits to 125 learners, including increased engagement and motivation. In that case, the use of

mobile technology served as a motivator, since the variety of media and self-pacing attributes encouraged students to engage with learning material (Kukulska-Hulme, 2005).

Technology Based Learning Activities

As can be deduced from the numerous studies presented in the previous paragraphs, the use of technologies can, beyond any doubt, increase the motivation of users, make them follow the courses with more interest, and engage more actively in the learning process.

As far as language learning is concerned, the use of technologies involves a variety of tools and strategies. In foreign language classroom, properly designed activities for presentation, practice, assessment, testing, reference, communication or simulations, but also for creation, production and publishing are used by students.

It is a common belief among the researchers who investigate the effectiveness of technology use in FL learning / teaching that learning activities supported by technology can promote motivation by engaging students in activities which are enjoyable and fulfilling (Huang et al, 2016; Golonka et al, 2014). However, although the use of all these technologies can guarantee an increase in motivation, it does not necessarily guarantee better learning outcomes. Golonka et al, claim that it is unclear whether technology by itself actually improves students' learning.

As this is the crucial issue and the ultimate goal of teaching, the challenge is to use technology in such a way as to make the best possible use of the very positive attitude and motivation it brings to users. In this context, designing activities to achieve the best pedagogical use of technology is crucial.

According to Yang & Wu (2012), technology-based activities must have clear objectives that incite students' interest and, thus, increase their willingness to participate. Respectively, Ushioda (2011) claims that defining and monitoring targets can help learners develop self-determined behavior, conform to the wider requirements, and consequently, achieve better results. In the same spirit, Adams-Becker et al (2017) believe that the connection between coursework and the real world must be easily identifiable by the students, as it helps them to understand how the new knowledge and skills will impact them.

Concluding from the views outlined above, the integration of technology in well-designed and prepared activities increases motivation of both teachers and learners, and leads to improved performance and better learning results (Atkinson, 2000). However, it is obvious that pedagogical relevance is an important driving force (Sun, 2009). Choosing a method that supports active learning experiences (such as project-based learning), seems to be important as well. Derntl & Motschnig-Pitrik (2005) reach the same conclusion, by arguing that the blended learning approach in particular, can enhance students' motivation to participate actively in class and, thus, improve learning.

Conclusion

As is evident from the data presented above, the use of technology in the foreign language classroom can undoubtedly have a positive effect on increasing students' motivation and eventually lead them to better learning outcomes (Woodrow, 2017). Actually, this does not only apply in the context of institutionalized education, but it seems to be true for learning outside the classroom. Several researches concerning Self-Regulated Learning, concluded that ICT can increase students' motivation in self-directed learning aspects of informal learning when using online learning resources (Lucas & Moreira, 2009; Song & Bonk, 2016). Lai & Gu (2011) also observed students' use of technology for language learning in Self-Regulated Learning (SRL) scenarios. The results reflect a clear increase in participants' motivation when they used technology to achieve their learning goals.

As digital technology is progressing and becoming more sophisticated and, at the same time, simple to use, its tools and applications are increasingly becoming part of everyday life and, of course, education in both formal and informal settings.

Having proven that the use of technology in language learning is an important factor in order to increase student motivation, future research should concern the integration of technologies into learning activities that have the appropriate pedagogical approach to exploit their potential and lead learners to higher learning outcomes.

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What Role Do I Play in My Learning? A Study on the Academic Engagement of Higher-Education Students

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Abstract

The study of academic engagement has gained international visibility due to various factors operating in the social environment, such as fragmentation, 'liquidity' in interpersonal relations, etc., which end up affecting the persistence rates in studies, or its manifestation in an increasing rate of desertion in higher studies on the part of Argentine students. This research has been carried out within this framework, where 350 students of University and College education, who are enrolled in technical, humanistic-pedagogical and economic studies, completed the Academic Engagement Scale (Daura & Durand, 2018) with the purpose of analyzing, on the one hand, their level of involvement with their studies; and on the other hand, inquiring on the existing connection with demographic variables.

Keywords: academic engagement, measuring devices, higher education.

1. Introduction

We live in a social context featured by fastness, superficiality, successfulness, seduction, instability, consumerism, the lack of a sense for which to live, and the questioning of ideas (Bauman, 2013)

Faced with this, in the educational field some thinkers, academics, researchers and pedagogues come up, as beacons lightning the road and acting as a gust of air that oxygenates, and they try to give light and provide solutions for improvement to what at first glance seems negative and even destructive.

Among the topics widening the horizon is the academic engagement, a meta-construct which investigation is introduced even with a certain paradox, if we take into account the above-mentioned environment and the meaning of the first term that makes it up. Admittedly, undertaking a commitment entails complying with the word given, being loyal and honest to oneself and to others, taking responsibility for the decisions made. At the same time, the engagement may be personal and collective and, in the school or academic path, it entails assuming a specific role; to this extent, it is colloquially said that a student or an institution are committed when they carry out the tasks concerning them.

To this extent, its study and analysis is valid if it is considered in connection with the serious problem of desertion. It is widely- known that the graduation rate of the Argentine university system is one of the lowest in the region and in the world; out of 100 students being admitted at the public education sector 74 do not graduate; while in the private sector, for the same number of students, 58 do not finish their studies. As regards the further education level, 55% of students who enroll at teacher training centers drop out in the first year of studies, and the graduation rate does not exceed 30% (Centro de Estudios de la Educación Argentina, 2018; Fernández, June 5th, 2018; Marcó del Pont, November 7th, 2017). Even those who are most critical of the educational and economic policies adopted last year say that more than 19,500 students dropped out of school in the 2017 academic year (Fdel, Jan, 31, 2018).

Within this framework, the present study is made, with the participation of 350 University and Further-Education-Level students who are taking technical, humanistic-pedagogical and economic studies in the province of Buenos Aires and in the Autonomous City of Buenos Aires (CABA), who completed the Academic Engagement Scale (Daura & Durand, 2018)

with the purpose of analyzing, on the one hand, their level of involvement with their studies; and on the other hand, investigating the existing connection with demographic variables.

To this end, firstly, after introducing a brief theoretical framework on the main study construct, in which such construct is defined and some of the research devices that were designed to evaluate it are described, the results achieved with the selected sample are discussed in detail.

2. Theoretical Framework of Reference

What is the academic engagement?

Involvement, responsibility, mission, agreement, treaty, are synonyms used to refer to the commitment. If we delve into its etymological root, it comes from the Latin term compromissum, which has two prefixes. The first, 'com', comes from the Greek koinos, which means common, joint; while the second, promissus, means promise. Thus, the term, in its affirmative and positive meaning, is "an undertaken obligation; [a] given word" (Real Academia Española, 2018, w.p.) it can also be considered as a joint promise made between two parties.

The commitment is also connected to the academic field, from the translation of the construct that in English is called academic engagement, which began to be studied in the Anglo-Saxon environment as a turn or change of focus on research regarding desertion and student retention.

Its meaning already states the interaction unfolding between two parties which are supposed to undertake a responsibility facing the decision making process and the resulting actions. In connection with the school or academic environment, the main characters in this interrelation are the learner and the educational institution, represented by the heads, teachers, tutors and other members of the institution.

It is precisely in this inter-play that one of the theoretical models used as a reference to explain the construct is anticipated. Specifically, the socio-cognitive theory, in which both the student and the educational organization are considered to have a leading role in the learning process and in the connection established between them.

Although there are many definitions of academic engagement, in this model it is understood as the process where the students and the teaching institution are involved, in which the former invest time and energy to carry out academic activities, and the latter strives to implement effective educational practices (Kuh, Cruce, Shoup & Kinziey Gonyea, 2008). From this approach, the cognitive, affective-motivational and behavioral factors that intervene in the academic commitment are taken into account, which constitutes one of the most in-depth models for understanding the construct.

Fredericks, Blumenfeld and Paris (2004) specify the peculiarities of these three variables from the description of how they are seen in students (Table 1).

Table 1.

This model offers a very comprehensive vision of the construct, which allows us to approach it in an overall manner and to offer a better support to the student, as well as to the teachers or to each educational institution in order to promote it.

However, since it is a concept crossed by multiple variables that give a higher level of complexity to its approach, it is necessary to consider how to measure it in order to obtain the information necessary to assess it objectively.

How to assess the academic engagement? Some instruments designed…

Fredricks and McColskey (2012) and Veiga, Reeve, Wentzel & Robu (2014) thoroughly describe the tools used to deepen the study of academic engagement. These include self-report scales, grading scales, interviews, and class observations. Although all of them offer advantages and disadvantages, generally speaking, Likert scales are the most frequently used because they allow us to obtain information that is not directly noticeable, and that refer to the students' perception of the object of study.

Many of the existing surveys explore the three variables recognized in the socio-cognitive model, while others focus on two or only one aspect. In addition, some surveys designed for the secondary education level are highlighted, such as the School Engagement Measure (SEM) (Fredricks, Blumenfeld, Friedel & Paris, 2005). Others apply only at university and postgraduate levels: the Motivation and Engagement Scale (MES) (Lifelong Achievement Group, 2013), the Academic

Involvement Questionnaire (QEA) (Abello Riquelme, Díaz Mujica, Pérez Villalobos, Almeida, Lagos Herrera, González Puentes & Strickland, 2012), the Questionnaire of Academic Experiences (QVA) (Almeida, Ferreira & Soares, 1999), the Survey of Well-being in an Academic Context (UWES-S) (Schaufeli & Bakker, 2004).

At the same time, the importance given to the study of the construct had an impact on the implementation of programs aimed at obtaining unbiased information on the involvement of students in different countries, the results of which are used to make improvements in the education system. Within the context of these programs, the following research instruments were designed and are still being implemented: the National Survey of Student Engagement (NSSE) (Indiana University School of Education, 2016), which is applied in university institutions in the United States and Canada; the Australian Scale on Student Engagement (Australian Council for Educational Research, 2016, which is used in the southwestern region of Oceania; and the scales for undergraduate and graduate students in Great Britain and Northern Ireland (Higher Education Academy, 2015a; Higher Education Academy, 2015b).

3. Methodology and Procedures

3.1. Sample

A sample of 350 first-year college and university students was made.

An exploratory and descriptive investigation was carried out because the variables to be analyzed were observed as they happened in their natural context at a given moment.

3.2. Purposes

- Analyze the level of academic engagement of students in university and college education.
- Examine the existing connection between academic engagement and various socio-demographic variables, especially, gender, type of institution and type of studies.

3.3. Instruments

Socio-demographic Questionnaire

A questionnaire was designed to collect information regarding the gender, age, institution and studies of the subjects who took part in the study.

Academic Engagement Scale

It is an instrument designed and validated in previous studies (Daura & Durand, 2018; Daura, in press) in accordance with the approaches of the socio-cognitive theory (Fredricks & McColskey, 2012; Trowler, 2010); it has a Likert scale format and is made of 56 items, with five answer options ("0", which means "completely wrong", "1" "wrong", "2" "neither true nor wrong", "3" "true" and "4" "completely true").

The instrument is divided into three sections, which, in turn, are made of 13 variables that are defined and distributed as described in the following table (table 2).

Table 2

3.4. Procedure

The appropriate permission was requested from the authorities of the institutions taking part in the study; likewise, the students who completed the questionnaires were provided with information about the purposes of the work, the confidential and voluntary nature of their participation, and were given a document which they signed giving their consent.

The time taken to complete the instruments ranged from 40 to 60 minutes.

The scores of the Academic Engagement Scale were obtained by adding the subjects' choices and converting the figure to scale 10.

The data was processed using the program SPSS -Statistical Package for the Social Sciences - version 23.0.

4. Analysis of Results

4.1. Descriptive Statistics of the Academic Engagement Scale

A descriptive analysis was made (minimum score, maximum score, population average and standard deviation) of the scores obtained by the students in the Academic Engagement Scale.

Table 3 shows the scores achieved in the Motivational Engagement section, among which the average of the variables Task Assessment and Intrinsic Motivation stand out, which would make them capable of assessing the contents and learning activities proposed by the institution, and of showing an interest in acquiring new knowledge.

At the same time, the students show a high level of anxiety, an effect that could be connected with the initial moment of the studies in which they currently are, a situation that usually generates uncertainty, and the need to adapt to a new, demanding and unknown environment.

Table 3

As for the descriptive statistics in the Cognitive Engagement section (table 4), the students stand out in the Organization variable, which would make them capable of selecting and organizing the important ideas of the contents learnt; and in the Extrinsic Regulation section, which would lead them to follow the guidelines and suggestions offered by the teachers, an issue connected both with the moment of their studies in which they currently are, where they would need to rely more on the experience of other people more skilled to guide their learning, as well as their autonomy and the achievement of good academic results. In fact, previous studies show how the students who are more adjusted and committed to their learning tend to rely more on their environment, to seek help from other people and to make all the necessary enquiries with sharpness and sagacity (Donolo; Chiecher, Paolini & Rinaduo, 2008; Fernández Jacquez, 2015; Fredricks; Blumenfeld; Friedel & Paris, 2005; Pintrich, Smith, García & Mc Keachie, 1991; Zimmerman & Schunk, 1989).

Table 4

As regards the descriptive statistics in the Contextual Engagement section (table 5), the average scores obtained in the variables, Positive Assessment of the Institution and Feelings of Belonging stand out, which show that students appreciate the actions carried out by the institution of which they are part of, in order to include them, which leads them to express greater interest in participating in the proposed activities and to feel part of it. These effects are linked to the "contextual model of academic engagement" of Lam, Wong, Yang and Liu (2012), in which it is argued that, as students increase their commitment to the institution, they develop more positive feelings towards it, towards the people with whom they interact (classmates, teachers, family members) and towards their own studying ability.

Table 5

In order to analyze to which extent the academic engagement can be explained by various socio-demographic aspects, subsequent analyses of variances (ANOVA one way) were made, in which, as dependent variables, the average scores reached by the sample in the variables of the Academic Engagement Scale were taken into account and, as an independent factor, gender, institutional level and type of studies were considered.

4.2. Comparison of the sections of the Academic Engagement Scale according to gender

Regarding the gender of the subjects who took part in the study, as a result of the variables analysis made, we notice that in the motivational section (Figure 1) significant differences were found for the women in the Task assessment ($F = 25,927$, $p < 0,001$) and Intrinsic motivation variables ($F = 14,979$, $p < 0,001$); on the other hand, they scored less favorably on the anxiety variable ($F = 3.168$, $p < 0.076$), which is close to statistically significant figures. These effects, in addition to agreeing with those reached in previous studies (Parada Contreras & Pérez Villalobos, 2014; Parra & Pérez, 2010; among others), respond to the unique profile of women, which is evidenced by greater responsibility, interest in the studies, dedication and effort to achieve academic goals and the involvement in the institutional context to which they belong.

Figure 1.

In connection with the cognitive engagement section, women also outperform men in the Organization (F = 19,084, p < 0,001) and Time and Effort Management variables (F = 7,0469, p < 0,008). In the Extrinsic Regulation variable, although differences close to statistical values were found, women also benefited (Figure 2).

These effects reinforce the results reported in the motivational engagement section, and evidence the ability of students to organize new knowledge, manage the time and effort needed to study, and the need to rely on instructions and suggestions from other experts (such as teachers) in order to implement learning activities. The latter may also be supported by the increased anxiety shown by women.

Figure 2.

Finally, in the Contextual Engagement section, women, compared to men, also achieved better scores in the Appreciation of the Institution (F = 4.0189, p < 0.046), Tutoring and Teaching (F = 15.062, p < 0.001), and Feelings of Belonging variables (F = 3.6118, p < 0.058), which could be an indication of how involved they are with the institution where they are studying (Figure 3).

Figure 3.

4.3. Comparison of the sections of the Academic Engagement Scale in terms of the institution of belonging.

The same analysis was made in order to confirm whether there are statistically significant differences in the scale of engagement based on the institution of belonging. To this extent, the sample was divided into two subgroups: University Level, made up of 225 students enrolled in university studies; and College Level, made up of 125 students enrolled in studies conducted by Teacher Training Institutes.

In the motivational engagement section (Figure 4) we noticed some interesting results that benefit college level students in the Task Assessment (F = 10,120, p < 0,002) and Intrinsic Motivation variables (F = 11,833, p < 0,001); and university level students in Extrinsic Motivation (F = 18,443, p < 0,001) and Anxiety variables (F = 4,523, p < 0,001). These effects could indicate the presence of two types of motivational engagement profiles which, in the case of students undergoing college studies, could be deeper and could be evidenced by the appreciation of the contents and activities offered by teachers and tutors, as well as by the interest in acquiring new knowledge. On the other hand, in university students, the motivational engagement could be superficial, insofar as it would be directed towards acquiring new knowledge to satisfy external motivations, without worrying too much about the repercussions that this might have.

These results are consistent with other factors that are not analyzed here, such as, for example, the socio-economic level of the sample that took part in the study or the place of residence and proximity to the institution in which the studies are taken.

Figure 4.

In the cognitive engagement section (Figure 5), college students were favored in the use of Deep Strategies (F = 4.523, p < 0.034); while university students had a greater command of Basic Strategies (F = 3,823, p < 0,051), Extrinsic Regulation (F = 2,902, p < 0,089) and Time and Effort Management (F = 4,676, p < 0,031). These effects show that, while college students could have a greater ability to think reflexively and critically, make decisions, and accept the opinions of others, the performance of the commitment in this regard could be undermined by the failure to take advantage of the guidance provided by teachers or other experts, as well as by a reduced willingness to make the effort and organize the time needed to study; one might even think of these effects as a result of the influence of the institutional context, which in the case of these students offered less personal support.

Figure 5.

The last idea pointed out is based on the results obtained in the Institutional Engagement section (Figure 6) in which, although statistically significant differences were only reached in the Feelings of Belonging variable, in favor of university level students (F = 94,312, p < 0,001), the scores obtained in Positive Assessment of the Institution and in Tutoring and teaching also benefitted this group of students.

Figure 6.

4.4. Comparison of the sections of the Academic Engagement Scale according to the type of studies.

A new analysis of variances was made to confirm whether there are differences in the variables that make up the Academic Engagement Scale depending on the studies. For this purpose, the students sample was organized into three types of studies, in which case the supporting epistemic area was considered:

• Technical studies: 100 students enrolled in Industrial Engineering and Computer Engineering were recruited here.

• Humanistic-pedagogical studies: a group made up of 78 students who were enrolled in Psychology, bachelor studies in Psychopedagogy, History, Higher Education and Primary Education.

• Degrees in Economics: in which 111 students studied Bachelor of Business Administration, Bachelor of Agribusiness, Public Accountancy and Professorship in Economics.

In connection with motivational engagement, in the Task Assessment variable, the scores achieved benefit students who take Humanistic and Economic studies e ($F = 5.538$, $p < 0.004$) ($X = 7.44$ and $X = 7.45$, respectively). Likewise, Humanistic students also obtained the highest score in Intrinsic Motivation ($F = 8{,}001$ $p < 0{,}001$) and in Anxiety ($F = 3{,}326$, $p < 0{,}037$); the latter effect does not benefit them and may be strongly influenced owing to the fact that the group is made up of a greater proportion of women.

Figure 7.

In the cognitive engagement section (graphic 8), students of humanistic programs outperformed others in the deep Strategies variables ($F = 8{,}132$, $p < 0{,}001$); these same students, along with those of Economic Studies, also reached the highest score in the Organization variables ($F = 7{,}924$, $p < 0{,}001$), proving to be more efficient in carrying out critical and reflexive reasoning, as well as incorporating new knowledge with the previously learned one.

Figure 8.

Finally, in the contextual engagement section (Figure 9), those who stated to have a greater connection with teachers and tutors are the students of Humanistic Studies, an effect which may be influenced by the fact of an affinity as regards the inherent duties of the future professional' role. ($F = 4{,}912$ $p < 0{,}008$), or with the interest in learning from other people who are more expert. On the other hand, students of Technical Education were ahead of others in the Feelings of Belonging variable ($F = 9{,}807$, $p < 0{,}001$).

Figure 9.

Conclusion

We believe that academic engagement implies the fulfillment of a promise made by two parties involved in the educational process: the student and the institution to which he or she belongs. The promise at issue concerns an academic goal that binds and connects these parties even closer, and that is related to starting and completing studies as successfully as possible. The scope of this goal implies challenges for both parties, which may be properly faced as long as dialogue and interaction are fluid and encourage mutual knowledge. On this basis, the study of academic engagement surpasses the approach of desertion and student retention, which concepts preceded it, and with which it shares some common questions, on the one hand, what are the reasons that influence students to drop their studies?, and on the other hand, what are the variables that encourage students to remain in the institution where they are studying?

We reassert that academic engagement has a unique focus in as much as it is based on interaction, on the participation that takes place between the student and the institutional parties, and is therefore process-based. It is not focused on identifying the consequences of the resulting failure - dropout of studies - or on the factors that help retaining the student, but on strengthening that relationship. This view makes the construct have an approach that, besides being preventive, is more customized; this idea supports, on one hand, the assertions made by Fredricks, Blumenfeld, Friedel and Paris (2005) regarding the existing relationship between academic engagement and self-regulated learning, and on the other hand, the assertion made in previous works on the "co-regulated customized spiral of learning" (Daura, 2013a, 2013b, 2017), a theoretical model which explains that at higher levels of support and advice provided by teachers, students improve the motivational and cognitive strategies they use in order to learn.

In accordance with these assumptions, this paper examines the results of a research conducted on 350 students of university and college education in Buenos Aires City and Buenos Aires Province, in order to measure their levels of academic engagement and connect these results with various socio-demographic variables. To this end, a questionnaire was administered in order to obtain information on gender, studies, and educational institution; as well as the Academic Engagement Scale (Daura and Durand, 2018).

As a result of the subsequent analysis, it was observed that the students who took part in the study, at the motivational engagement level, stand out for having a greater appreciation of the learning contents and the interest in grasping these contents. At the cognitive level, they stand out for organizing new knowledge and tending to follow the guidance offered by teachers; finally, at the contextual engagement level, for appreciating the institutions they are part of, and for having a feeling of belonging to them.

In this regard, the results obtained, although very positive, indicate the need to guide students so that they may develop a higher level of regulation of anxiety; and that they may make a greater use of deep thinking strategies as well as time management strategies to study. In addition, at the institutional level, tutorial strategies or academic counseling oriented to guide students' learning and favor their participation in the institution should be improved.

Connecting these results to demographic data shows that women have higher levels of motivational engagement; a greater cognitive engagement in the Organization, Extrinsic Regulation and Time and Effort Management variables; and a greater contextual engagement. These effects could be associated with previous studies on self-regulation and academic success, which evidence that women tend to show higher levels of performance (Meza Cano, de la Rosa Gómez, Rivera Baños & González Santiago, 2018; Ndirangu, Muola, Kithuka & Nassiuma, 2009; Suarez Riveiro, Ayana Nieto & Gómez Veiga, 2016; Vrugt & Oort, 2008; just to mention a few).

On the other hand, College students stand out for achieving better scores in all motivational variables; an effect that was reversed in cognitive variables, where they only reached the highest score in Deep Strategies and in contextual variables. Although it would be convenient to go deeper into the influence of age on these results, it is possible to assume that the higher levels of motivational engagement of students in college institutions will be associated with vocational variables. Indeed, the studies pursued by these students have a pedagogical orientation that is strongly related to both service and the desire to guide others to develop their full potential.

A similar result was observed when comparing the sections of the scale of academic engagement by type of studies, in which analysis the students of Humanistic Sciences were benefited both in motivational engagement and in two important variables of cognitive engagement, as well as in the Tutoring and Teaching variable in the contextual engagement section.

According to these results, it would be convenient, in future researches, to delve into the incidence of age in the development of academic engagement, on the existing differences between studies with pedagogical and humanistic orientation in connection with students' involvement. Likewise, it would be beneficial to compare these results with qualitative information obtained through interviews, focus groups, and life experiences, through which the subjectivity of the parties involved could be examined in greater depth.

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Tables

Table 1.

Characteristics of the variables that make up the academic engagement

	Variable	Manner in which it shows in students
Academic engagement	Behavioral Engagement	Compliance with rules of co-existence established in the classroom and in the institution in general: • Paying attention, • participation, • respectful acceptance of other people's ideas and • effort regulation
	Emotional engagement	Intrinsic motivation Extrinsic motivation Task appreciation Anxiety regulation Regulation of other negative emotions
	Cognitive Engagement	Thought elaboration Meta-cognition Critical or reflexive thinking Organization

Source: own elaboration from Fredericks, Blumenfeld and Paris (2004)

Table 2. Description of the 13 extracted variables

Section 1. Motivational Engagement: made of 17 items, it studies four motivational affective components	
Task Assessment	It shows the usefulness, the importance and value given to the contents, and to the learning activities given in the institution.
Intrinsic Motivation	It shows the interest in learning the contents and/or bibliographic material suggested by the institution.
Extrinsic Motivation	It shows an interest in studying in order to satisfy external motivations (such as getting good grades, obtaining recognition from others), and to learn on the basis of the guide provided by the context
Anxiety	It shows the anxiety felt in stressful situations of academic life, such as an examination.
Section 2. Cognitve Engagement: made of 27 items that study the cognitive strategies used to learn, by means of the following variables:	
Deep Strategies	It shows the extent to which elaboration strategies are used and the extent to which prior knowledge is used in order to solve problems, make decisions, conduct critical assessments, and accept the opinions from others.
Basic Strategies	It shows the extent to which review strategies are used to learn to re-read class notes, memorize key words or concepts).
Organization	It shows the ability to select and organize the important concepts of the studying material.
Extrinsic Regulation	It shows the strategies applied by the subject when adjusting to the indications made by the teacher.
Management of Time and Effort	It indicates both the personal willingness to strive for academic work, even when difficult, and the ability to organize the time needed to study
Team Work	It shows the willingness to work and learn as a team in the institutional environment.
Section 3. Contextual Engagement: made of 12 items that assess the actions the institution carries out in order to support the student and promote his/ her academic involvement, as well as the participation of the latter in the activities proposed by the institution and his/ her identification with the moral standards fostered by the educational institution. Such items are distributed in the following variables:	
Positive Assessment of the Institution	It indicates the extent to which the student appreciates various actions that are carried out on the part of the institution to promote different skills and encourage integration among students.
Teaching and Tutorship	It shows the extent to which the actions carried out by tutors and teachers are appreciated in order to facilitate students' learning and encourage their participation in the institution.
Feelings of belonging	It assesses the feelings of belonging that the student has and that are promoted by the institution by means of various academic activities.

Source: Daura and Durand (2018)

Table 3

Description of the Motivational Engagement section

Variables of the Motivational Engagement section	Students	Minimum Score	Maximum Score	Average	DS
Assessment of the task	150	2,81	10,00	**7,40**	1,42
Intrinsic Motivation	150	1,88	10,00	**6,92**	1,81
Extrinsic Motivation	150	0,00	10,00	6,05	2,00
Anxiety	150	0,00	10,00	5,03	2,18

Source: own compilation

Table 4

Description of the Cognitive Engagement section

Variables of the Cognitive Engagement section	Students	Minimum	Maximum	Average	DS

		Score	Score		
Deep Strategies	150	1,25	10,00	6,25	1,54
Basic Strategies	150	0,00	10,00	4,41	2,31
Organization	150	0,63	10,00	**7,20**	1,80
Extrinsic Regulation	150	0,00	10,00	**6,59**	1,69
Management of time and effort	150	0,50	10,00	5,73	1,86
Team work	150	0,83	10,00	6,10	1,74

Source: own compilation

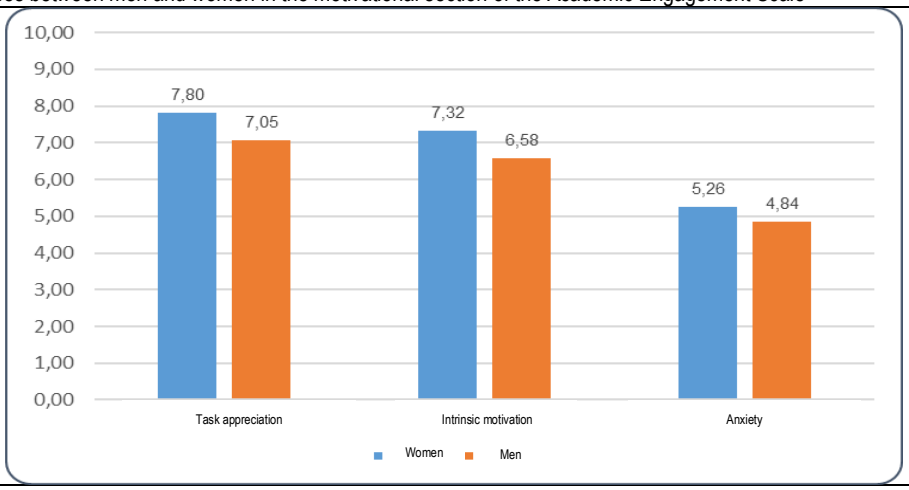
Table 5
Description of the Contextual Engagement section

Variables of the Contextual Engagement section	Students	Minimum Score	Maximum Score	Average	DS
Positive Assessment of the Institution	150	1,25	10,00	**6,98**	1,74
Teaching and Tutorship	150	0,00	10,00	4,57	2,18
Feelings of belonging	150	0,63	10,00	**5,42**	1,70

Source: own compilation.

Figures

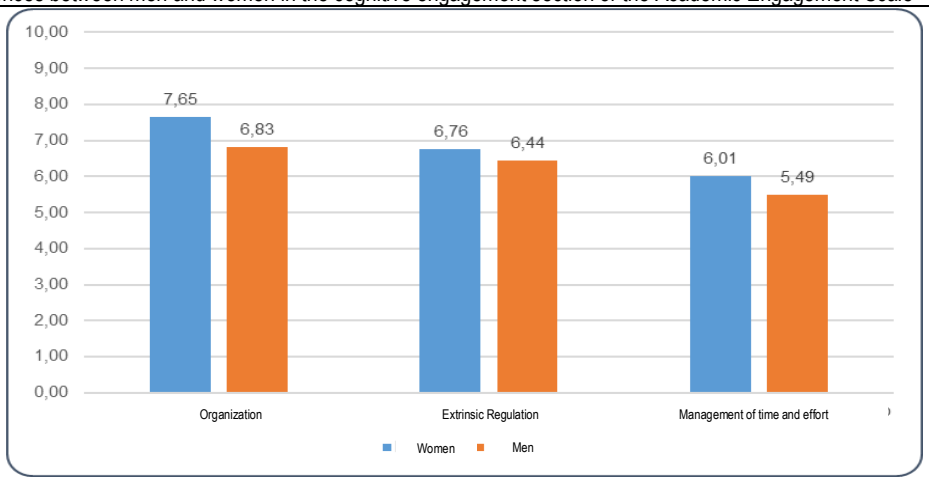
Figure 1.
Differences between men and women in the motivational section of the Academic Engagement Scale



Source: own compilation

Figure 2.

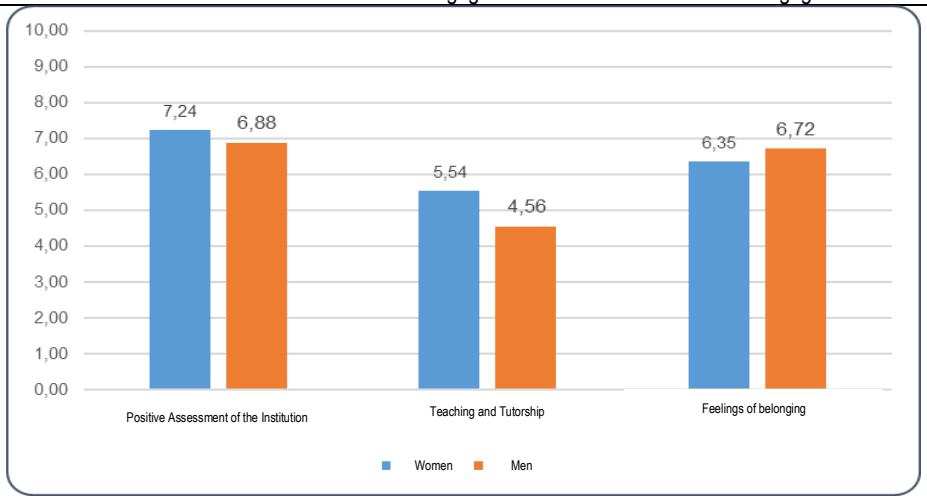
Differences between men and women in the cognitive engagement section of the Academic Engagement Scale



Source: own compilation

Figure 3.

Differences between men and women in the contextual engagement section of the Academic Engagement Scale.



Source: own compilation

Figure 4.
Differences between university and college students in the motivational engagement section of the Academic Engagement Scale.

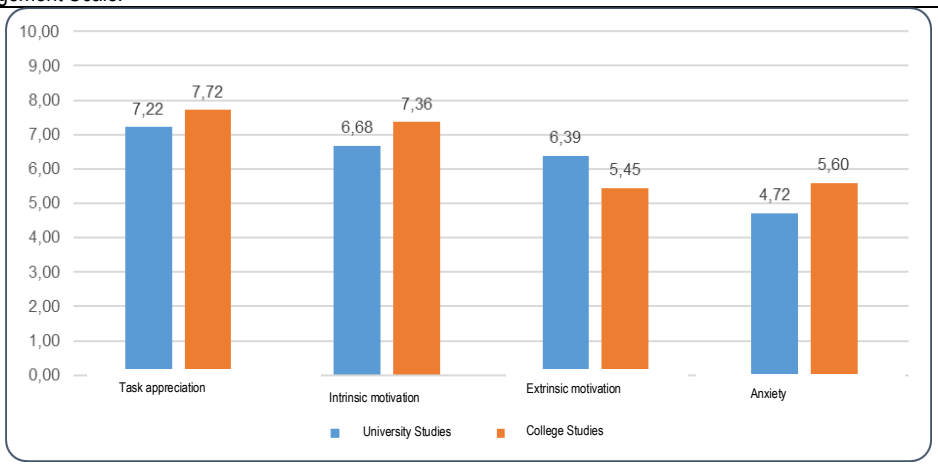


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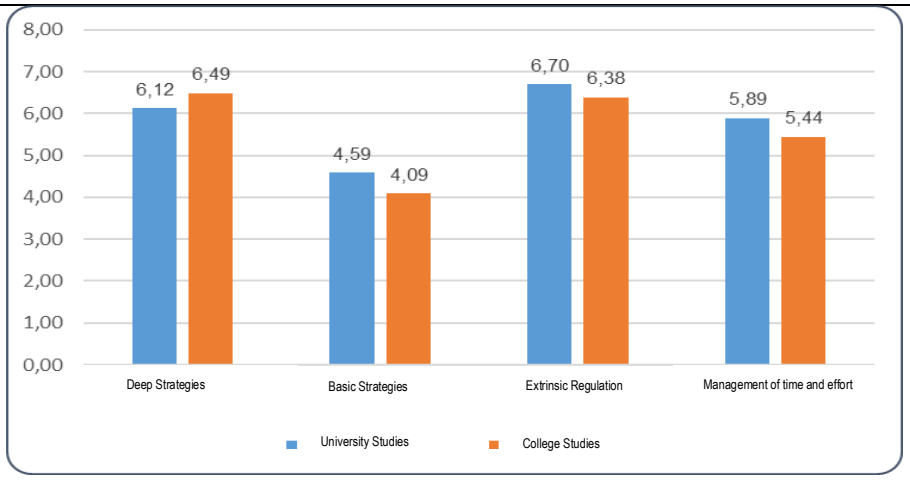
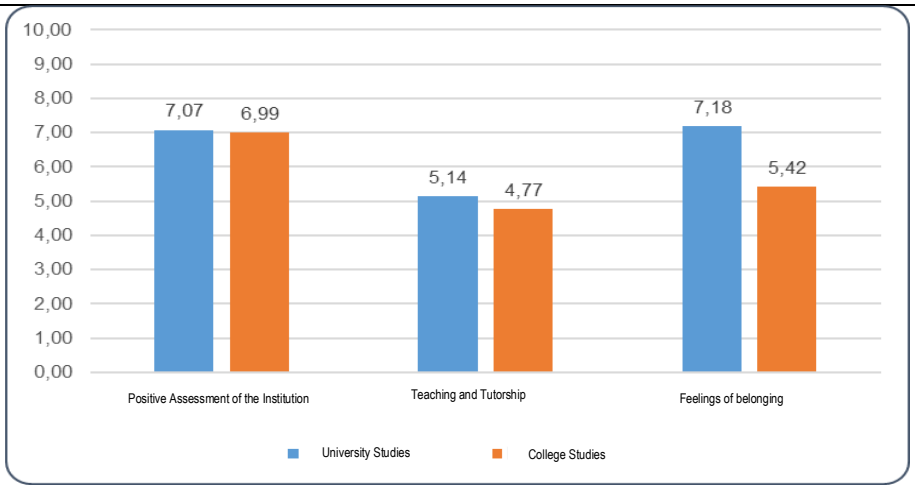
Figure 5.
Differences between university and college students in the cognitive engagement section of the Academic Engagement Scale.



Source: own compilation

Figure 6.
Differences between university and college students in the contextual engagement section of the Academic Engagement Scale.



Source: own compilation

Figure 7.
Differences according to the type of studies in the motivational engagement section of the Academic Engagement Scale

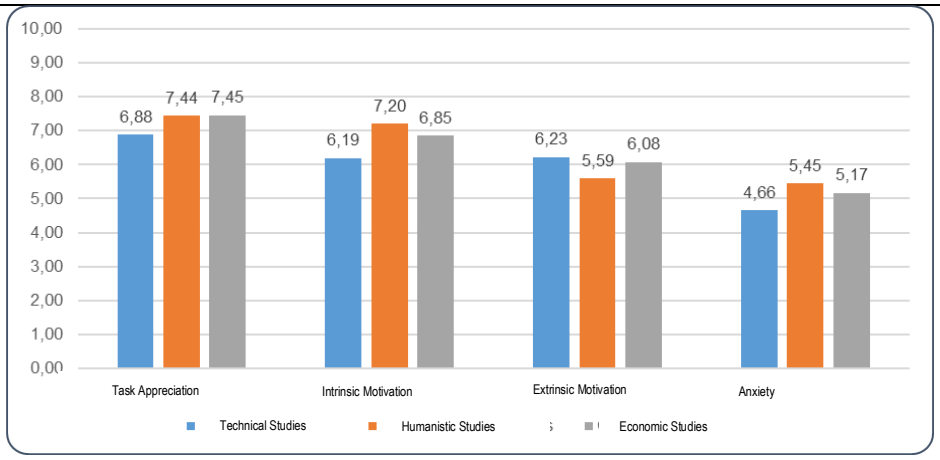


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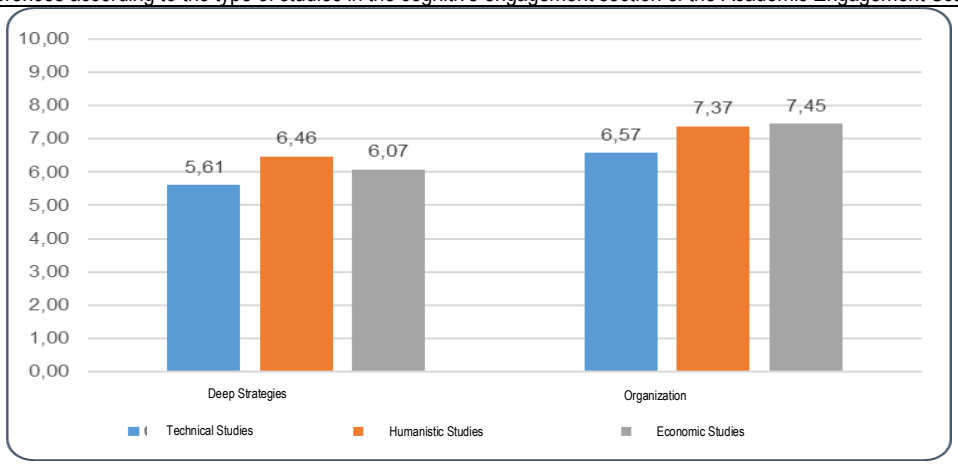
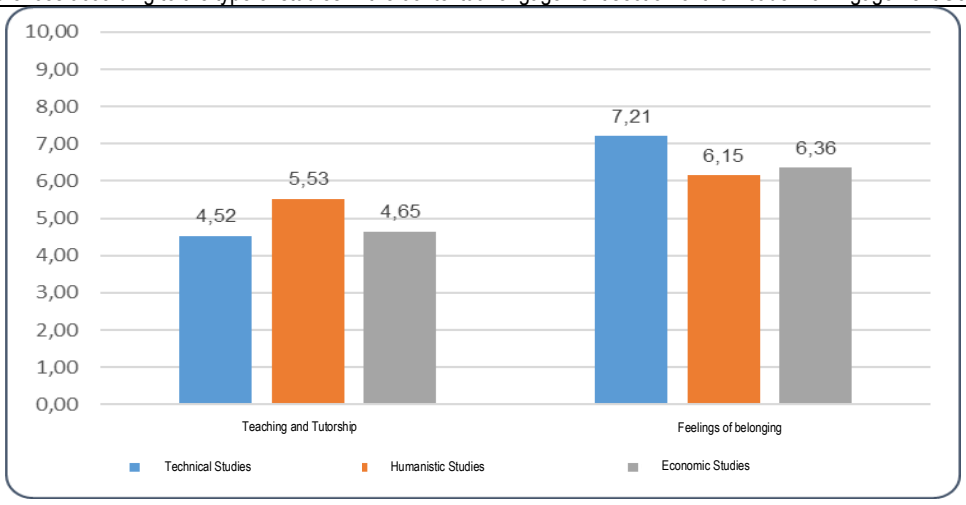
Figure 8.
Differences according to the type of studies in the cognitive engagement section of the Academic Engagement Scale



Source: own compilation

Figure 9.
Differences according to the type of studies in the contextual engagement section of the Academic Engagement Scale



Source: own compilation

Meaningful Learning and Effectiveness in Virtual Learning Spaces

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Abstract

Contemporary educational practices impose challenges and necessary changes in teaching and learning processes in which cyberspace and virtual contexts become places of learning. Affection, emotion, perception, and imagination compose the construction of meaningful adult knowledge. Such theoretical assumptions become fundamental for teaching and learning processes in virtual contexts in the online or distance modality. We adopted a qualitative analysis of the data of the postings in the forums and individual records of the students of the Course Methods of Studies for Distance Learning. The affectivity in virtual environments is a resource of great relevance to enhance the processes of teaching and learning. The study revealed that affectivity occurs to the extent that the student's needs are met, and he can construct knowledge in a meaningful and conscious way.

Keywords: Affectivity. Significant learning. Distance education.

Introduction

Contemporary educational practices impose changes that are necessary for 21st-century education, especially as regards teaching and learning processes in increasingly virtual contexts, where cyberspace also becomes a "place" for learning. The cyberspace, in a fluid perspective, pointed out by Bauman (2007) is a powerful resource for the expansion of learning to other means, in virtual contexts and online education emerges as a modality with the capacity to promote important transformations in the field of knowledge and teaching and learning processes that occur increasingly in a collaborative way and through digital resources.

Technology-mediated communication gains strength in interactive relationships in educational processes insofar as resources and tools are used with pedagogical intent and allow new configurations for the construction of knowledge and the development of collaborative works.

[. . .] ICTs extend the design and methodology of processes and teaching and learning by creating new work environments, communication, and learning based on a platform, educational resources, and interactive tools, all located on the web, is very flexible and accessible easy. These conditions make distance education more an educational modality than a methodology. (Gonzales, Rosa & Rodriguez, 2015, p. 123, translated by the authors).[1]

In this type of teaching, the set of resources available in the virtual environment, such as didactic materials, videotapes, and mediation activities carried out by the teacher bring the dynamism and interaction necessary for success in the processes of appropriation and cognition of these students. According to Bannell et al. (2016, p. 57), "people take ownership of the world through experiences they have had, not through abstract calculations and generalizations". For him, values are acquired and attributed socially, and the "appropriation of these meanings is the result of the interaction between human beings." (Bannell et al., 2016, p. 58).

[1] Original: [. . .] las TIC amplían la concepción y la metodología del proceso de enseñanza-aprendizaje al crear nuevos entornos de trabajo, comunicación y aprendizaje basDistance Learningos en una plataforma, recursos educativos e herramientas interactivas, todos ellos ubicados en la Web siendo muy flexibles y de relativo acceso. Estas condiciones hacen ver a la educación a distancia más una modalidade educativa que una metodolgía..

It is worth emphasizing that the act of teaching is configured as a process of help for the construction of knowledge, skills, and attitudes. The author presents cognition as the result of the coordination of information made between subject and object, through cultural, material and symbolic artifacts. Like this,

Every new human being who enters the world is inserted into an environment in which other generations of human beings have created ways of thinking and acting socially. By having their behavior mediated by cultural artifacts (language being the master artifact), human beings, in addition to benefiting from their own sensory experience about the world, also benefit from the experiences of those who preceded it. The social world, which is based on communication, is of crucial importance in this process (Bannell et al., 2016, p. 63).

Learning requires more than accommodation of content and information. It is important that there is a meaning for that knowledge to be potentially constructed. In this sense, affectivity in online communications, with emphasis on written language, is of fundamental relevance for teaching and learning processes in distance or online mode. Hence we can ask some questions: is it possible to be effective in virtual learning environments? Is it necessary to be affective to teach in virtual environments? What is this affectivity and what is its relationship to learning?

Our discussion will be based on some theoretical references that will help us to establish the relationships between the affectivity theme and the adult learning processes. We will present a study about how the effective relationships between teachers and students in a virtual environment of teaching and learning propitiate the movement of awareness and meaning of knowledge built by the adult in an online course.

We will next address some theoretical assumptions about learning and affectivity that will assist us in our investigation and analysis.

Adult Learning: Emotion, Experience, and Perception

The cognitive view of David Ausebel's Theory of Meaningful Learning, which relies on didactic potential, is considered by us to be important aspects of adult learning perception. This framework seems to us to be very consistent with the problem presented in this study. This is because our investigation is based on the hypothesis that learning happens to the adult when he becomes aware and assigns meaning to what is learned. To do so, he can describe the process he experienced (Dirkx, 2001) when this learning becomes experience (Larrosa, 2014).

Our understanding of affectivity is based on Vygotsky's (1998; 2008) propositions in emphasizing language and mediation in the processes of signification and establishment of meaning. From this, we can identify that the affectivity manifests itself in the adult when it expresses its emotions, as something conscious that allows a self-perception of itself. In this sense, the processes of teaching and learning that favor works with the perception, imagination generate conditions of great relevance in the construction of knowledge.

To understand adult learning experiences when expressing themselves by describing their experience about their learning, Dirkx (2001) states that personal and meaningful learning derives from the emotional and imaginative connection of the adult, i.e. the self and its relationship with the social world. According to the author, adults describe their learning experiences as something "boring," or "fun" or "exciting." In this way, for the author, the images are produced from the experiences, from the emotions and feelings:

These meanings arise through our imaginative connection and engagement with these contexts. Our initial construal of meaning within particular emotional situations is largely an act of fantasy and imagination, guided by our emotional connection with both our inner and outer worlds. They help us understand and make sense of ourselves, our relationships with others, and the world we inhabit (Dirkx, 2001, p. 66).

Therefore, it is worth noting that the emotional and affective experiences of learning, according to the author, contribute to a positive and meaningful educational experience. It is also a question of understanding that experience brings with it something that can not be grasped solely by rational logic. Through the perception of his experience, the subject can become aware of himself as an agent of his transformation and of the appropriation of meanings that become links in the learning processes in contexts of the formation.

The relationships between attentive and engaging teachers, encouraging students' expression, and listening to them, favors the meaningful learning experience of their students. The adult makes use of images to construct the meaning of what he learns since they are capable of establishing relations between the inner, irrational world and consciousness. The images show the emotions and feelings and, therefore, they potentiate the meaning of a learning situation or reality. This fact can help in the more significant integration of curricular contents, making learning more meaningful (Lopes & Vieira, 2017, p. 2401).

The idea of meaningful learning, presented by Moreira (2008), is that the meaning of the new knowledge is acquired through interaction with some prior knowledge and relevance. The author draws attention to the question of interaction between prior knowledge and new knowledge. This interaction takes place through consciousness and a predisposition to learn. That is, for meaningful learning to occur. It is necessary for the student to "want" to learn meaningfully.

In meaningful learning, the learner initially captures accepted meanings for new knowledge, but then internalizes or reconstructs them internally, adding indiosstricrates. New knowledge is incorporated into its cognitive structure, and it has many connotative aspects. (Moreira, 2008, p. 16).

Considering the two conditions that the author scores for meaningful learning to occur we have: prior knowledge and intentionality. Also, the interaction is fundamental, being necessary the insertion of the figure of the mediator, that is, of the teacher who will articulate the knowledge through different languages. For this theory, didactic materials are powerful resources and also need to be organized in a potentially meaningful way.

It is worth mentioning that when working in an online or distance education perspective, we consider that a student of this modality, in theory, meets the prior knowledge conditions presented so far since the public of this modality in Brazil is composed predominantly by adults. The student who is willing to take a course in distance learning should have a certain autonomy and willingness to learn by interacting with a set of didactic materials that make up the pedagogical model of online and distance courses.

The virtual environment or the virtual classroom should provide the student with moments of interaction with teachers and peers. According to Silva et al. (2015, p. 14-15), it is in the interaction with teachers and colleagues that the effectivity of the students becomes apparent, especially in times of forum and chat, where written language is the main resource.

It is in this relationship with other people in the social group that the subject appropriates socially constructed meanings. As it is not possible to isolate the affectivity of cognition, learning and affection are interwoven and thus the social relations, especially those of teaching-learning marked by manifestations (aversive or pleasant), that will affect in some way the performance of that student.

From the assumptions presented, we understand that affectivity permeates the adult learning relationships in the way the teacher mediation action can offer conditions for the meaningful learning of these students. It is an attention to what is the need of this student and how mediation or available resources may or may not favor this appropriation and awareness of the meaning of what is learned.

We sought to investigate, through the analysis of the written records of an optional distance course called Methods of Studies for Distance Learning, offered to students of the undergraduate courses in the modality Distance Learning, namely: Pedagogy, Philosophy, History, Mathematics, and Letters of a University of Private Education of the state of São Paulo. We start from the initial provocation about the questions we posed at the beginning of this article about the possibility of being effective in virtual environments and if it is necessary to be affective to teach in virtual environments and how this affectivity is expressed in the teacher-student and student- student. How can teacher mediation create conditions for meaningful student learning in virtual learning contexts?

Online Mediation and Pedagogical Intentionality: Affectivity And Meaningful Adult Learning in Distance Learning

The data analyzed in this research were obtained through the records of the activities of the forum, and individual records of learning exchanged between the teacher and the students of the course Methods of Studies for Distance Learning, the optional and introductory course of the 1st. Semester of the five undergraduate courses mentioned above. Mediation occurred on the 1st. Semester of 2017 and the objective of the course is to offer a methodology of studies, based on the specificities of the pedagogical model of the institution and the own characteristics and necessary for studies in the modality Distance Learning.

The course was attended by 17 poles of face-to-face support, located in the Southeast, Midwest and Northeast regions. All students were enrolled in the course, automatically, and were informed that it was an optional course as a resource to support the start of the course in the Distance Learning mode. A total of 189 participants were enrolled and attended the theme 109.

The pedagogical conception of this course is structured from the concepts of meaningful learning, constructing a virtual environment of learning and activities that took into account the creation of conditions so that the information could be anchored insignificant concepts existing in the cognitive structure of the individual. The course lasted eight weeks, counting on a methodological organization that combined didactic materials such as videotapes, complimentary videos, rDistance Learningings, exercises, learning objects and mediation by forums, chat and personal learning records. In this course the mediation is done exclusively by the teacher, not having the figure of the distance tutor. The mediation took place predominantly asynchronously and counted on a synchronous moment, through a chat for evaluation and closure of the course. All these elements were organized into learning paths, to allow the student to have the opportunity to interact with such contents to establish hierarchical cognitive relations of concepts that "become abstractions of the experience of the individual" (Moreira, 2008, p. 8).

A general forum and three thematic forums were held: 1. My impressions of distance learning courses and the virtual student profile. 2. Time Management. 3. Production of academic papers - difficulties in the elaboration of academic papers. In addition to the forums, the students interacted with the teacher through individual learning records sent to the teacher. All tasks and activities carried out received individual feedback from the teacher. For this research, we will analyze the posts made in the general forum and the thematic forum 1 - My impressions about distance courses and some personal learning records.

3.1. The Mediation of The Forum with Pedagogical Intentionality

At the beginning of the course, the mediator tried to establish an empathic environment for communication, creating a general forum in the first week of class so that the students could present themselves as they were geographically distant and also from different courses. For this initial provocation, there were 53 participations. It is possible to perceive relationships of empathy and sharing of personal matters of the life of each one and the experience of proximity and trust even in a virtual environment.

Figure 3.1.1 – General forum interaction[1]

Teacher's provocation
Dear students, be very welcome to discipline study methods for Distance Learning. I am the prof. Maria and I will be with you during this course which is very important for those who decided to study in this modality. At this first moment, I want to ask each of you to introduce yourself, tell us the course you are doing, what kind of pole would you like to tell us about your region? Do you accept the invitation? I'm sure we'll have some great dates! Virtual Hugs! Profa. Maria!
Students' reply
Hello, my name is Daniela, and I'm going to teach pedagogy at the Brás unit. I have always enjoyed studying, and for a long time, I have been focused only on the care and demands of my eldest son who is special. From this experience also comes the desire to learn more about learning disorders and educational methods. I want to improve myself and learn a lot about this passionate subject. I'm a little shy, but I'll be very welcome to meet new people and exchange ideas.
Good Morning! I am Juliana; I am enrolled in the course of Letras - Português do Brasilia unit. I graduated in journalism five years ago and decided to do second graduation to expand opportunities. A curiosity of Brasilia: the weather forecast is crazy. In one day it can rain torrentially and make the sun crack.

[1] The names of the teacher and students are fictitious. The emphasis were added by the authors for the analysis proposed in this study. Applies to all Figures.

Hello, my name is Helena, I'm studying History Degree at Higienópolis unit. I live in São Paulo - SP. I am happy to be studying at [. . .] University so well regarded. I hope to make this virtual environment as real as possible. Success to all !!!
Hello! I am Tania, 43 years old, married and with two children, graduated material engineer and post graduate in business administration. [. . .] I believe that the dynamics may be different, that the relationship between teacher and student may be more significant. I come here with a lot of desire to learn, to meet people and their experiences. May it be a great year for all of us !!!.
Hello, teacher and dear friends My name is Luana, I'm 35 years old, I live in Paulínia, SP, and I'm a nursing technician. I have worked with special children for a long time, and I have realized over the years that this work is very painful, and it does not bring me more pleasure, so I was thinking about what to do to change my profession. I never wanted to go to college, but one day I had a crack, and I decided to go back to school, so I chose mathematics because it was the subject I ran most in college. I made a friend here today in the forum, and I am very happy. I hope I can make more friends. A big hug to all and good study!!!
Good afternoon everyone. I'm studying Pedagogy, at the Alphaville campus. I had coursed Language, some ten years ago, but he did not conclude. I always kept Pedagogy in mind, but I did not have a chance to do it before. When I learned that (this institution) would have ODD I got excited and did not think twice. I'm very excited about the course, with the whole Moodle system of the university, with the interaction that we have here, nor expected all this... And that makes all the difference. Good studies at all.
Hello everyone. My name is Ana Paula, and I am studying pedagogy at Unit Alphaville. I must say I'm enjoying studying Distance Learning, it's better than I expected. I feel that gradually I am getting into the rhythm of the rDistance Learningings, the dDistance Learninglines, and the entire virtual environment. I'm 35 years old; this is my second college. Not that I have resolved to change the area, but I believe I want to expand knowledge, after all, I think that the more information we get, the more incredible the world becomes. A hug to everyone and even more 
Good afternoon, Mariana, campus Higienópolis I started the course of letters. I'm having a bit of trouble organizing time, but I think I'll learn in time. Let's go and have a good year for everyone.

Source: Elaborated by the authors.

From the analysis of the students' posts, it is observed that they are at ease in this environment, motivated by the possibility and interaction and enthusiastic to study in this modality in a format that meets the requirements and conditions of learning. We can highlight that, by sharing their life histories and the reasons that led them to seek this modality of teaching, students establish learning relationships based on the experience of each one. Still, the initial movements for rapprochement, friendship, and affection among the participants of the course are perceived. Mediation became intense in the thematic forums, and student participation increased significantly. In the thematic forum 1, My impressions about distance courses and the profile of the virtual student, 239 posts were made. In the following Figure, we present some of the interactions between students and the teacher, and students and their peers, highlighting the manifestations of affectivity, understood as corresponding to the learning needs, especially, for the construction of shared knowledge.

Figure 3.1.2 – Thematic forum interaction 1

Theacher's provocation
Dear students, will we use this topic to participate together? Our course aims to offer some steps for the use of technological resources, and as we have a large group, my methodological proposal is that everyone put their considerations in this space and everyone responds here so that we do not miss. I invite the other colleagues to answer the two questions I have put to the discussion. And since we speak of discipline and routine of studies, I ask you to see the 1st. should Video of the Distance Learning Study Environment, Study Habits section, which presents some valuable tips on how to study! It's short: 5 minutes, but worth it! I want to continue this debate with you! Thanks!
Students' reply

I was a student in the classroom, and I was demanding about my studies. With DISTANCE LEARNING, my requirement and dedication be greater, considering that I have reasons that may cause a distraction in my study (example: family, including husband, small child, pregnancy in progress, home, etc.). All these reasons are important in my life, but at the time of my studies, attention, and dedication should be exclusive to "studies," because the success of ODL depends on this. Commitment, focus, and dedication to studies always. The consequence? Not just good grades or good performance, but rather the professional quality that I seek for my future. Let's study!! Juliana.
Hello Juliana, nice to meet you! I thought it was cool that he shared a bit about his life and his routine, I believe that his experience with face-to-face teaching is positive, because just as you had dedication in class in class, you will have with Distance Learning. The important thing is not to let the distractions get in the way, but the flexibility in the studies will give you more time to be able to dedicate to the other tasks (not only student but to be wife, mother, besides everything pregnant). Who knows your child in your womb is not born knowing a little of the content? (laughter). I wish you good luck! Hug, Marcos.
Hello guys! The exchange of experiences that we have in forums like this is sensational because from here we can draw ideas that can help us in the organization, in the studies and the accomplishment of the tasks. For the time being, I must confess that I am having a hard time getting used to this type of teaching, because I greatly appreciate the contact with the teacher and my colleagues, but, little by little, I think everything is going to be right; new means that I will have for this. Flávio.
Good evening everyone! I understand that being a student of a distance course will not require different behavior, because all the skills required in the Distance Learning also serve us in the classroom course. I believe that the difference is the non-obligation to be present in a certain place at a certain time. As well as the use of the tools of this modality. [. . .] A study in the best possible way and when problems or doubts arise to heal with our tutors. The platform offers an immense range of forms of learning such as video lesson, rDistance Learninging indication, etc, take advantage of it. Jessica.
Hello teacher! Hi, classmates! Answering the question of 'What is being a distance learning student,' I believe it is a huge way to take responsibility for learning. At Distance Learning if there is no commitment and dedication of the student, nothing will work! I would like to comment on the Study Guide - Study Methods for ODL: I found the subject to be sensational because we think that time passes faster as we get older, I went to the illustrative website that has been linked in the subject, and it all made sense! (LOL). Rosemeire.
I'm feeling kind of lost without knowing where to start or how to organize because I have access to all the content of the material at once and do not know how long it takes to study each one. I'm also trying to get used to the platform. It helped me a lot to have received an email from teacher Maria with the dates of deliveries of activities contributing to my organization in the study of the subject Methods of Study for Distance Learning. But I am optimistic that we are adapting to studying through an online platform and managing to get better organized throughout the course. Hugs to all, Márcia.
Teacher Maria, in this link I expected more guidance. But I found more than that. I have heard, amid the notes and words of delight, his sensitivity, which is one of these beautiful gifts that God has brought, not just to me, but to all the friends in the class. Thanks. A big hug to you Maria, and to all the friends! Thatiane.
Good afternoon everyone. I am deeply grateful for the generosity of your words teacher. I take the opportunity to congratulate and thank you for your dedication and accompaniment at this beginning of the course. You were the first to send messages and have become so present in helping us and contributing to our learning, punctuality, and interaction with the platform as a whole. He commented and added our posts, gave us valuable tips and general tips, this is very gratifying and demonstrates his extreme dedication to discipline, progress and each one of us. It was indeed extremely gratifying and a great differential!

Source: Elaborated by the authors.

It is noticed that the students address their colleagues and the teacher affectionately and gratefully because they identify that their work contributes to the learning and adaptation to the reality of studies of distance education. In the dialogue between the students, one can also identify aspects related to the own perception and assimilation of this new reality, from previous knowledge, previous experiences and the experience of affection and emotion that give meaning to what they are

experiencing and learning in this course. The reference to teaching materials is also of great relevance, since we consider that the combination of the materials, through the learning paths, allied to a mediation with pedagogical intentionality create the conditions for a meaningful learning in the media in which it helps the student "to assimilate structure of the disciplines and to reorganize their cognitive structure, through the acquisition of new meanings that can generate concepts and principles" (Moreira, 2008, p. 41).

We can also understand, according to some reports, that the structure of the course and the form of meditation offer conditions for this means learning to become an experience for the participants. Another interesting aspect to be observed is presented in the form of language with which the students interact with the teacher, in a close, effective and friendly way. We can understand that the relationship established between the students and the teacher, through mediation made possible the broad participation of the students and, according to the last two participations listed in Figure 3.1.2, the experience of gratitude to the teacher for contributing to the students' learning process.

We will present the analysis of reports that corroborate our work hypothesis.

3.2. Personal Learning Records

The learning records present important aspects for our analysis, once the form of learning is perceived and how the consciousness, the emotion, and experience are present in the following reports.

Figure 3.2.1 – Personnal data sent to the teacher

Data
Thank you for the new opportunity you gave me to send out the missing summaries today. [. . .] What I have to say to you is that although your discipline is not compulsory, it was the fundamental tool for me to achieve the other subjects of the course. I learned to organize my time better and with that to develop all my activities, and I enjoyed learning about the main guidelines for the production of our academic work, in short, this discipline was of paramount importance for my course. Thanks for the motivations and your attention with us. Thanks for all the messages, it has helped us a lot. I'm loving the Distance Learning course; I never imagined that I could learn so much in an Distance Learning course, thanks for the attention Andreia.
I am very fond of all the tips for getting organized in Distance Learning, mainly because I have not been studying for years, and now with home, husband, work, and children, in a scenario quite different from my first graduation, these guidelines are being valuable for me to learn to study better and with greater use. On the first day, his energy and excitement in the profession infected me, increasing my interest and willingness to begin this new path. Virtual hugs with affection and gratitude!!! Tania.
Teacher Maria, thank you very much for all the tips and the content of the classes and the forums. Now is to apply this "such" time management, certainly the biggest challenge for us. A hug!! Teacher Maria, I have seen your comments on my tasks, and I appreciate the words and the guidelines. Yes, I enjoyed your subject very much, and I learned a lot too. You see yourself in the corridors of the school. A hug! Paulo.
Teacher Maria! Thank you very much for your attention and encouragement. The motivation that passed us, from our first contact, was very important for us to feel embraced by the faculty and not give up on the difficulties that were to come! [. . .] I stopped doing two activities of your subject, but I did all the material and learned, tips and insights very important to the course performance. Thank you for the lessons, for the present countryman and for being so affectionate with the students. Virtual hugs and even integrating meetings! Rachel.
Thank you so much. I will try to improve on what has been pointed out. This discipline helped me a lot in organizing my studies. And of course with your help and your affection were fundamental for that to happen. Virtual Abs. Jussara.

Source: Elaborated by the authors.

It is possible to perceive in the reports the relationship of gratitude and affectivity for the contribution of the teacher's mediation in the learning processes. We emphasize that it is related to the way in which the student understands the gestures of care of the teacher about the possibility of learning of the student.

Final Considerations

From the analysis of the data obtained through the records written in the course Methods for Studies in Distance Learning, we were able to verify how the elements perception, emotion, and imagination are present in the processes of significant learning of the students. In this sense, the theoretical assumptions were appropriate to the hypothesis presented in this study. It was possible to perceive, although, in the perception of the students, the interaction in the virtual environment with a pedagogical mediation makes the learning easier.

They present themselves with more freedom to participate in this space, to ask questions, share difficulties, make suggestions and praise, and collaborate with colleagues. It was also possible to observe how the affectivity was built along the course development and how it was possible to experience this relation in a perspective of attending the needs of the student in his process of knowledge construction.

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Visualization of Topics from a Specialized Corpus and Its Application for Text Compilation

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Abstract

Topic Modelling (*Steyvers & Griffiths, 2014*) is a content analysis technique designed to discover both the set of themes or topics expressed by a collection of documents, and the terms that characterize those topics, thus gaining insight into the latent semantic relationships that underlie a text corpus. However, when the topic model is deployed, it involves time-consuming verification and model refinement (*Chuang et al., 2012*). For that reason, much attention has been paid to interactive visualization systems that allow to visualize the output of topic models and help assess the quality of individual topics and all topics as a whole (*Chaney & Blei, 2012*; *Kim et al., 2017*). Once the relevance terms that characterize the main topics in the corpus has been selected by means of this type of visualization, they can be used to compile a comparable corpus in a different language in such a way that both corpora are thematically balanced. Therefore, using an English specialized subcorpus on Coastal Engineering comprising 6 million tokens as starting point, the overall aim of this paper was to establish a procedure to compile a Spanish subcorpus, comparable to the English one, in such a way that both subcorpora were thematically balanced. The procedure includes: (1) a term selection method based on five statistical criteria; (2) a topic model visualization system (*Sievert & Shirley, 2014*) (see Figure 1) to decide: (a) which topics are more prevalent in the English corpus; (b) how these topics relates to each other; and what the meaning of each topic is; and (3) a means to find out the equivalent terms in Spanish, which were used as keywords to query multidisciplinary research citation index databases to collect research papers on Coastal Engineering originally written in Spanish language.

Keywords: Topic modelling, Terminology, Term selection.