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Upper Secondary Teachers Training and its Effect in Teaching Practice

Rebeca Ek Chuc* **and Pedro Canto Herrera**
*Corresponding author email id: angel_1606@hotmail.com

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***Abstract* — This study used a quantitative methodology and presents preliminary results about how Upper Secondary students perceive the type of practice in teachers accredited by PROFORDEMS (The Upper Secondary Teacher Training Program). A sample of 2,278 students from eight public upper secondary schools selected for the data collection. The students answered a structured questionnaire to evaluate 38 teachers who complied with the accreditation standards set by PROFORDEMS. The findings show that the teachers have good teaching practices in dimensions such as planning and management, pedagogic interaction in the classroom, evaluation and communication of the teaching-learning process. The findings also shows the lack of use of technological tools, that are described in the RIEMS as a competence that teachers must display in their classrooms in order to develop the students' competencies.**

***Keywords* — Teacher Training, Federal Reform of Upper Secondary Education, PROFORDEMS, Student's Perception and Teaching Practice.**

I. INTRODUCTION

Teacher training in Mexico is facing a challenge, especially in Upper Secondary Education: to respond to the demands of their role that arise from the educational innovations implemented in the country. Therefore, in order to strengthen the training of teachers, the Sub-secretariat of Upper Secondary Education in cooperation with Universities in the different States and the National Association of Universities and Higher Education Institutions (ANUIES) implemented in 2008 the Upper Secondary Teacher Training Program (PROFORDEMS) as part of the Integral Reform of the Upper-Secondary Education (RIEMS) [1].

PROFORDEMS developed due to the need for training, updating and the introduction of the competencies approach to the teachers at the different upper secondary education subsystems in Mexico; within the framework of RIEMS and SNB. It comprised modules aimed at the reflection on teaching skills and the improvement of teaching practices and training in lesson planning.

The purpose of the Diploma Course was to train teacher in the competency-based approach as established through RIEMS in the Common Curriculum Framework, so they can improve their teaching practice by implementing innovative teaching strategies based on competencies [2].

One of the goals in the National Development Plan (2013-2018) is to develop Quality Education in Mexico; so the objective is to provide the population with the tools needed to be competitive and to develop the skills, needed in the world today, for lifelong learning [3].

Therefore, the Upper secondary education institutions promotes learning as a lifelong process, stressing the importance of analyzing, understanding and using information rather than memorizing information. It also describes de situation of the secondary education in Mexico, the Reform of upper secondary education (RIEMS) and the teacher-training program (PROFORDEMS), and finally the description of the teaching practice by means of some studies that have been carried out and have had effect in the upper secondary education.

Teaching practice is the process of solving problems, in which the teacher is an agent that uses his knowledge to solve problems related to the achievement of educational goals presented by their subjects and institution [4]. It is also a dynamic and reflective activity about what happens in the interaction between teachers and students. It is not only related to teaching, that is, the teaching process that occurs in the classroom, it also includes the pedagogic intervention before and after the interactive processes in the classroom.

It means that the activities that the teacher develop in the classroom, especially related to the teaching-learning process, is not limited to the work in the classroom, it goes from the development of planning strategies to the evaluation; in other words, it is a cyclical and interrelated process with the purpose of promoting the development of students' skills [5].

There are only a few studies about competency based teacher training, such studies started in 1995 with a research project whose objective was to analyze the teacher training programs in upper secondary schools in Mexico; as a result, the training and updating needs of teacher and school authorities were identified. In a study the findings show that teachers lack training, they are traditionalists and resist change, furthermore the training programs offered in the institutions lack strong theoretical foundations, coherence and relevance [6].

Teachers should receive training in their work place. They should be trained to analyze the educational system and to develop their practice as an innovative activity [7].

In a debate about the reform in upper secondary education, some authors mentioned that, teachers teach in a traditional way, they need preparation, vocation, commitment and training in constructivist models, they tend to improvise the lessons, they seldom participate in training courses and they have other jobs to meet their financial needs [8].

Teachers, therefore, must be directors and actors of the reforms proposed by the educational administration. This key role makes it urgent that teachers are prepared to meet the challenges and innovations that are now happening in the educational environment [9].

The vision about the educational reforms must be strengthened, considering the context and the strong influence of the economic factors, in order to face the

national problems [10].

Permanent teacher training is an excellent resource to draw the teachers to a more reflective, investigative and creative teaching model, to face the educational reality, and to serve the students more effectively. But this is only one resource that, even if it is at everyone's disposal (although not everyone achieved it), is not strong enough to produce changes, if the teacher's mentality is not transformed.

The study named "Formación permanente de profesores" (Permanent teacher training), shows that most of the teachers have technical education and bachelor degrees; but they don't have any teacher training and very few of them have Masters degrees, and only a minimal number have a doctoral degree [11]. Even after taking the PROFORDEMS training, updating and other training programs, the teachers continue teaching in a traditional way and their competency based teaching process is frail.

With the RIEMS, the competency-based training is more relevant. The biggest challenge is the teacher training, because teachers are the agents of change in the student-centered education [12].

Teachers know the competencies of the basic components, but they do not apply them neither they develop them in full, so teachers need to incorporate the strategies needed; although the teachers insist that they do apply the strategies, more than half of the students say otherwise [13].

Likewise, in a study in Upper secondary level, found that there is a mismatch between the knowledge of the attributes of the generic competencies of the teacher training and their application, as a result the competencies described in the graduate profiles of RIEMS are not fully carried out [14]. Although they did studies in different contexts, coincide in the analysis of the effectiveness of the training strategies applied, and their results show the need to strengthen the teacher training process [13, 14].

This study analyses the perception of a sample of students, at upper secondary level, about the performance of their teachers, who have taken the PROFORDEMS training, in order to justify the appropriateness of the training to respond to the realities and responsibilities demanded in their roles as teachers.

The development of this study will contribute to identify the benefits and advantages of the program, especially in the teacher-training process, to respond to the different teacher realities, and analyze the appropriateness of establishing common training standards

II. Methodology

This is an explorative and descriptive study, with the objective of describing the perceptions of students about the teaching practice according to the dimensions comprised in the instrument.

2.1 Subjects

The study was carried out in eight upper secondary public schools in the state of Yucatan, the scores analyzed involved 5786 students of second, fourth and sixth semesters. The scores of 2278 questionnaires of the population (representing 39.4%) who evaluated the practice of 38 teachers were processed.

The sample of 2278 participants was comprised of 994 men (43.63%), and 1284 women (56.37 %) between 15 and 21 years of age. The scores were obtained through the analysis of data collected from the four dimensions.

2.2 Instrument

The Questionnaire about the Evaluation of Teaching Competencies" (CECD) [15] was adapted, validated by experts in the area of competencies, and administered to a sample of teachers. The instrument is a "structured questionnaire". It comprised four relevant sections that were developed based on the Educational Model of Teaching Competencies (MECD): Planning and Management; Pedagogic interaction in the classroom; Evaluation and Communication of the teaching-learning process; Information and Communication technologies. The questionnaire was comprised of 50 Likert-type items, with 5 answer scales, where: 1 indicates the lesser level and 5 indicate the highest level of teacher performance.

III. Results

According to the table 1, it can be seen that most of the students perceive high frequency in the development always and usually in the following practices: "Clear exemplification of the content and its application in their context" (82.83%), "Specification of the important concepts seen in the class" (84.89%) and "Teaching procedures that are useful for daily life" (82.56%). Among the less frequent practices with a high percentage in comparison with the rest, there are the following: "Applies the content of the course to daily life situations", with a percentage of 45.11% based on the sum of the last three scales. It is recommend knowing more about the academic responsibilities assigned to the teachers, because such activities can be a relevant factor in the relationship between the topics and daily life. It is important to monitor the causal factors because in the competency-based approach, accompaniment if a priority in the role of the teacher.

Table 1. Planning and management.

The teacher…	Always %	Almost always %	Some times %	Almost never %	Never %
Relates the content of the subject with the topics of other subjects in the curriculum.	38.58	29.06	21.02	6.67	4.65
Applies the content of the course to daily life situations.	46.67	30.33	15.36	5.17	24.58
Clearly exemplifies the content of the subject so they can be useful in the student's context.	55.35	27.48	12.15	3.64	1.36
Specifies the most important concepts of the topics covered in the course.	56.45	28.44	10.71	3.20	1.18
Shows the procedures to use the new knowledge in daily life.	56.27	26.29	12.42	3.36	1.66

Suggests bibliography and other resources that facilitate learning the topics.	33.36	29.32	23.74	8.64	4.91
Identifies previous knowledge, acquired by the students in previous school years, in order to improve the learning of the subject.	41.48	31.87	18.52	5.88	2.23
Modifies the activities or sources of information in order to adapt them to the learning styles of the group.	39.37	33.40	19.44	5.17	2.58
Presents situations with real life problems that promote learning.	50.57	29.36	13.74	4.17	2.15
Carries out activities that motivate the students to apply the new knowledge outside the classroom.	38.08	29.80	20.06	7.46	4.60
Is available to provide individual tutoring.	31.65	27.52	21.59	10.97	8.25
Motivates the students to continue researching the topics covered in the course.	38.41	32.39	19.40	6.58	3.20
Develops activities in the classroom that facilitate the learning of the content.	46.31	30.46	15.18	5.75	2.28

The results in table 2 show that 88.84% of the students perceive that, always and almost always, their teachers are responsible in their jobs. In the practice “Deals with the topics in adequate ways”, 88.71% of the students perceive that the teacher frequently complies with this task. Likewise, always and almost always, “Uses examples in class to facilitate understanding of the concepts (86.87%). Also, 87.83 % of the students think that, always and almost always, the teacher is respectful with all the students in the group.

Among the least frequent practices with a high percentage, in comparison with the rest, are “Accepts suggestion from the students about how to organize activities” with a percentage of 24.3%, taking into account the least frequent scales. It is recommended to continue studying about the ways teachers interact with the students.

From the students’ perspective, planning and management are considered strengths in the teaching practice.

Table 2. Pedagogic interaction in the classroom.

The teacher …	Always %	Almost always %	Some times %	Almost never %	Never %
Deals with the topics in adequate ways.	65.67	23.04	8.47	1.75	1.05
Uses time in class adequately to teach each topic.	58.64	26.20	9.96	3.77	1.40
Accepts suggestions from the students about the ways to organize the activities.	44.33	31.34	15.93	5.57	2.80
Promotes a favorable environment so the students can participate in class.	53.07	30.28	11.72	03.46	1.44
Uses examples during class to facilitate the understanding of the concepts.	64.79	22.08	09.74	2.28	1.09
Promotes activities aimed at developing collaborative or group learning.	47.71	31.60	15.32	3.59	1.75
Makes sure that all team members carry out their assignments.	41.03	28.31	13.69	5.39	2.54
When developing a new topic, the teacher promotes reflection to ensure the understanding of the topic.	43.67	33.97	15.45	4.65	2.23
Is respectful with all the students in the group.	72.87	14.96	7.72	2.85	1.58
Promotes making agreements of collaboration in the classroom taking into account the opinions of the group.	44.38	34.89	15.01	3.68	2.01
Expresses ideas clearly when explaining a topic.	62.73	23.96	9.08	2.63	1.58
Asks students opinions to bring the conclusion of the presentations.	54.82	26.51	11.89	4.3	2.45
Shows responsibility in his job.	72.38	16.46	6.71	2.67	1.75

As observed in table 3, the perception of the students regarding the practices of their teachers in the dimension: "Evaluation and communication of the teaching-learning process" is positive, most of the items show percentages above 80%, adding up the scales always and almost always.

Table 3. Third dimension: Evaluation and communication of the teaching-learning process.

The teacher…	Always %	Almost always %	Some times %	Almost never %	Never %
Uses adequately the different teaching tools in each class.	53.16	32.13	11.23	2.58	.92
Is characterized by using an introduction, development and conclusion about the topic in each presentation.	49.16	32.17	13.25	3.59	1.79
Uses different types of evaluation in order to identify students with learning difficulties.	41.79	32.83	17.20	4.96	3.20
Follows the evaluation criteria described at the beginning of the course.	60.97	24.80	9.39	2.80	2.01
Designs a final evaluation that is consistent with the content and activities developed during the course.	57.06	25.24	11.94	3.24	2.50
Presents an organized list of topics according to the subject's program.	52.54	28.84	12.51	3.55	2.54

Explains the evaluation criteria for the subject at the beginning of the course.	65.93	18.65	10.00	3.42	1.97
Provides individual feedback for the activities that were carried out.	45.91	27.52	17.20	5.79	3.55
Grades the activities carried out each day.	46.22	27.96	18.12	4.56	3.11
Ask the group to evaluate certain activities carried out by their partners.	32.17	31.29	22.87	8.69	4.96
Is self-critical regarding his/her own presentations.	47.80	31.82	14.44	4.03	1.88
Provides feedback for the collaborative activities.	51.27	28.40	14.31	3.73	2.28

According to the results in table 4, in relation to the dimension: "Information and Communication Technologies", the students' opinion is that some of those practices are not evident. Compared to the other three dimensions, this section has the highest percentage in scales such as: some times, almost never, and never. The teachers make very little use of technological tools such as blogs and chats, in particular, to communicate with their students.

Table 4. Fourth dimension: Information and Communication Technologies.

The teacher…	Always %	Almost always %	Some times %	Almost never %	Never %
Uses the new technologies to keep abreast about the subject.	39.99	29.71	19.13	6.67	4.47
Makes frequent use of the Communication and Information Technologies in the classroom.	32.87	27.78	21.99	9.87	7.46
Makes use of forums in virtual platforms to enrich the learning process.	23.30	25.06	24.31	14.13	13.16
Provides guidance to the class about the usefulness of new technologies in the subject.	30.55	25.52	24.75	10.18	6.97
Makes use of social networking to enrich the teaching practice.	22.16	20.76	21.24	16.15	19.66
Makes use of computer presentations during class.	27.08	19.40	21.15	12.99	19.35
Suggests the use of virtual libraries to obtain information about certain concepts or topics.	24.84	22.69	24.27	14.31	13.87
Teaches the use of new technologies.	22.16	17.77	21.99	18.74	19.31
Has a personal blog to share information about the subject.	17.47	12.11	14.22	14.92	41.26
Makes use of electronic mail (email) to communicate, for academic purposes.	23.66	15.10	17.38	14.39	29.45
Makes use of chat to communicate, for academic purposes.	17.51	12.94	15.23	15.10	39.20
Makes effective use of new technologies in the classroom.	33.75	21.42	21.68	12.07	11.06

IV. Conclusion and Discussion

According to the findings, it can be concluded that, the dimensions that show the teachers' strengths are directly related to the training received through PROFORDEMS:

Reflection of the teaching practice, Implementation of lesson planning and Teaching-learning strategies. However, the diploma courses do not include training in Information and Communication Technologies, this situation is evident by the students' opinions regarding how teachers use technological tools.

Another important element is the academic support that teachers provide to the students, (tutoring and mentoring), which, according to the results, are areas of opportunity; because the students' perception is that such practice is not carried out consistently. It is necessary to identify what causes the lack of these practices, because they are key learning elements in the competency-based approach. Similarly, the lack of use of technological tools described in the RIEMS is a weakness in the teachers' competence, and such tools should be used in the classroom to promote the student's technological skills.

The findings of this study show that some changes in the program of teacher competencies are needed, to be more consistent with the teachers' training needs; in order to improve the teaching practices based on the real context in each sub-system.

The importance of analyzing the teacher profiles represents one of the most important management mechanisms of the RIEMS to achieve curricular objectives (Secretariat Agreement 442).

The RIEMS proposes the formalization of teaching practices by means of the inclusion of indicators to evaluate the teacher's performance, both inside and outside the classroom. Even though the students' perceptions are not the only mechanism to verify the compliance with the standards, it is true that effective learning is an important indicator to investigate about the teachers' practices.

According to the four dimensions comprised in the study, it can be concluded that the students' perceptions about the teachers' practices is satisfactory. According to the findings, most of the students evaluated their teachers' performance in a positive way.

The results confirm what Gómez say, that teaching practice perceives the teacher as an agent, which uses his

knowledge to solve problems related to the achievement of educational goals [4]. Similarly, García, Loredo and Carranza say that teaching practice includes the interaction between teachers and students, and encourages a bidirectional feedback between both of them [5].

It is important to note that the majority of the students displayed a positive perception about educational practice of their teachers. In other word, the criterion "always" represents an obvious element in each dimension.

For future research it is suggested comparing the students' perceptions about teachers who have received teacher training with those teachers without training. Such studies could provide more elements to identify teacher-training processes that are more relevant and that could lead to more positive impact in student's learning.

There are now some studies in progress comparing gender, age and geographical location of the schools in order to add more elements that will contribute to the strengthening of the educational practices.

Also, it is suggested that subsequent research established a mechanism to identify the perceptions of teachers, around the results of the training received in the Profordems and the impact on their educational practice. In this way will be reliable and relevant information to recognize areas of opportunity of this training programme, through the views of one the main actors in the process of teaching and learning.

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AUTHOR'S PROFILE

Rebeca Ek Chuc is a professor in the Upper Secondary Education of Yucatán in México. She has a master degree in Educational administration from the Autonomous University of Yucatan in Mexico.

Pedro Canto Herrera is a professor in the Autonomous University of Yucatán (UADY) in Mexico. He has a PhD in Higher Education from UADY and Ohio University. Doctor Canto form part of the National Research System (SNI) from CONACYT in Mexico.