

CHANGES IN EXPECTATIONS OF STUDENTS DOING A MATHEMATICS TEACHER TRAINING PROGRAM ABOUT THE TEACHING PROFESSION

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Abstract

This research aims at investigating the students doing a mathematics teacher training program in respect to the expectations of their future practice as teachers and possible changes to these expectations by virtue of the year they attend to. The research individuals are 81 students in the 1st year, 68 students in the 2nd year and 52 students in the 3rd year of the mathematics teacher training program given at a private institution of higher education in the city of Guarulhos, State of São Paulo.

INTRODUCTION

Discussions on the teacher education at the university level in Brazil remount to the 20's and 30's of the XX century. Issues related to the role of the teachers, features of their task and directions to be included in their education now become current and relevant. In the early 90's, Gatti (1991) has pondered over the role of the teacher training programs destined to educate Junior and Senior High School teachers, and the reinforcement to the proper articulation of the specific and educational subjects considering the reality of the schools, the experiences and the teachers' knowledge arising from the practice. To know the school where the teacher-to-be will work becomes then one of the elements of the syllabus of a teacher training program. One can notice that the current educational systems include private and public schools in small towns and in big urban centers, all of them with their own features, presenting differences and similarities of work routines, time for reflection and their operation (SAMPAIO, 2006).

Thus, it seems important to consider the principles and guidance under which the teacher training programs are conceived, and the conditions on which they are implemented, because according to Imbernón (2002, p.63), this very "education, which provides the basic professional knowledge, must allow the work in future approaches to education, which makes it necessary to reconsider both the contents of the education and the methodology for their transmission, since the model (planning, strategies, resources, habits and attitudes...) applied by teacher trainers acts as a kind of 'hidden syllabus' of the methodology".

Roldão (2007, p.40) mentions the “education by immersion”, that is, “to put the education in the perspective of immersion in the work context, progressively changing these work contexts, which already have their own culture - very resistant and not immune to the past - and, therefore, have their logics, routines and culture in place”. This perspective of initial education, which consolidates partnerships with schools receiving the teachers-to-be for training purposes, enables students to insert themselves in situations that foster their reflection on their profession, change their expectations and promote the transformation of the school as a permanent space of professional education.

Richardson and Placier (2001) state that the change occurring in teachers is usually described in terms of learning, development, socialization, progress, cognitive, affective, self-study and implementation of something new or different. This change can be understood from two points of view: as a process of cognitive, affective and behavioral change of a small or individual group, and as an organizational view of the change that unites the structural, cultural and political aspects of a school organization for the change in teachers and in teaching.

The teacher training program is currently understood as one stage of the teacher education, which starts well before the admission and keeps developing after this initial education, as teachers think about their professional practice and seek knowledge and options to overcome the problems and challenges ahead. This course will enable the construction of their identity, based on the bonds with the professional practice of the teachers-to-be and on the articulation of specific and pedagogic knowledge, and the research is the process of construction of the professional knowledge. To understand the initial education as “a project organized around the function and knowledge necessary for the professional development” (ROLDÃO, 2007, p.40).

This research aims at investigating the students doing a mathematics teacher training program in respect to the expectations of their future practice as teachers and possible changes to these expectations by virtue of the year they attend to.

METHOD

The research individuals are 81 students in the 1st year, 68 students in the 2nd year and 52 students in the 3rd year of the mathematics teacher training program given at a private institution of higher education in the city of Guarulhos, State of São Paulo. The students of this University Level Teaching institution (the teachers-to-be) were given a questionnaire on their expectations about being a teacher and their future students’ learning difficulties, and also on their profile. The software Excel was used as the first method of organization of the questionnaire data, with the purpose of observing the first statistics on the questionnaire results. Next, we carried out a multidimensional analysis with the use of the software CHIC (Clasificación Hiérarchique Implicative et Cohésitive) (GRAS, 1996).

RESULTS

We've learnt that the education of their parents is basically limited to the first years of the Junior High School. The students in the last year are pessimistic about the difficulties they will face in the future profession, and those in the first year are more optimistic, saying they will find students with the same learning level, as compared to theirs.

The results of the question about their families' opinion on their professional choice were interesting. 173 out of the 201 students answered that their families think it was a good choice, but this answer decreases as the course develops: this option was chosen by 90% of the first-year-students, 85% of the second-year-students and 80% of the third-year-students. However, when the question refers to their friends' opinions, they were the opposite in comparison to their families' opinion. Only 74 of the students answered that their friends thought it was worth being a teacher, and 124 answered they thought it was not; furthermore, the number of students that chose this last option increases as the course develops: 54% of the first-year-students, 63% of the second-year-students and 71% of the third-year-students.

The second part of the questionnaire was about the expectations of the learning level of Junior High School students and of the motivation to teach, and it was conceived in the form of a letter to be written by the researched student to a schoolmate.

When asked to think about teaching immediately after the conclusion of the course, 157 of the researched individuals gave an affirmative answer. We can notice that the students attending the Mathematics Teacher Training Program intend to act as teachers and possibly believe that the labor market for teachers can absorb professionals graduated in this area.

About Junior High School students, in terms of learning level, the teachers-to-be were not optimistic: 98 of them affirmed that they will find students whose learning level is lower than the one they had when they were in Junior High School, 61 affirmed that the learning level will be the same as theirs, and only 43 students answered that the level will be higher than theirs.

However, when the question is about Junior High School students' learning "difficulties", instead of "level", 97 students affirmed that the students will have lots of difficulties, and 89 students affirmed that the difficulties to be found will be related to the Junior High School student's age and grade. Nevertheless, only 16 researched individuals affirmed that the Junior High School students will have minor learning difficulties. Said data reinforce the idea of a little optimistic view on the learning facilities in respect to the Junior High School students.

About the contents to be taught to the future students of Junior High School, the researched individuals are self-confident: 144 students affirmed that most of their students will have managed to learn what has been taught, 39 answered that only a small part will have effectively learned and only 18 think that all of them will manage to learn the contents.

When asked about the Junior High School students' learning difficulties being related to factors connected to the students themselves, the teachers-to-be answered that the main factor is that the students lack basic education.

In respect to the teachers, the main factor indicated by the researched individuals refers to improper teaching practices, and the option for this answer increases as the course

develops: 37% of the first-year-students, 40% of the second-year-students and 50% of the third-year-students.

In respect to the school, the factor is that it is away from students' reality, and this answer varies as the course develops: 48% of the first-year-students, 59% of the second-year-students and 61% of the third-year-students.

When asked about the learning difficulties regarding family-related factors, the option they chose was the lack of participation and involvement in school activities. At this point, we also noticed an increase in the percentage of students, depending on their year in the course: 58% for first-year-students, 60% for second-year-students and 77% for students in their last year.

In order to overcome learning difficulties, the teachers-to-be affirmed it is necessary that the students are aware of how important the school is, that the teachers reorganize their teaching practice and that the school consolidates partnerships with the community and strongly encourages teachers' action.

In the question about the researched students' motivation to act as teachers, they affirmed that they feel incited to seek new teaching methods. However, this answer decreases as the course develops: 81% of the first-year-students chose this option, 76% of the second-year-students and 71% of the third-year-students.

And about giving some advice to those wishing to teach, they would say: "your students will learn if you are prepared".

The software CHIC brought out features related to each year of the course.

By virtue of the results already obtained and analyzed, and of the pertinence of the analyses in respect to the research objectives, we will limit ourselves to using the resource of the analysis of similarity among the answers given by the research individuals.

The similarity tree provided by CHIC shows that the students in the first year of the Teacher Training program indicate that the Junior High School students' learning difficulties are strongly connected to the lack of opportunities for the teachers of said students to improve, added to the fact that the Junior High School classes are overcrowded. We also verified that said individuals, whose mothers attended the 5th to 8th grades of Junior High School, say that their friends think it is worth being a teacher.

The students of the male sex, predominantly in the first year, say they will find students that, in comparison to their classmates, will present the same learning level as theirs, or higher, and that these very Junior High School students will present learning difficulties related to the Junior High School students' age and grade.

Still on the Junior High School students' learning difficulties, we noticed great similarity among the variables expressing the belief that the teachers lack pedagogic autonomy and the school has, in this context, heterogeneous classrooms. The students who think this way are students that have already taught, or teach, in Junior High School.

We also noticed a statistic similarity in the affirmation that the future Junior High School students of the researched individuals will find minor learning difficulties, and that all these students will manage to learn the contents to be taught. In this group, we also have students who think that the Junior High School students' learning difficulties lie in the fact

that the family lacks conditions to guide their children or that the parents are interested in their children's education, but do not know which path to follow.

A second category of similarities shows us that the second-year-students indicate that the Junior High School students' learning difficulties lie with them, because they lack basic education.

We can also verify that these students indicate that, in order to overcome learning difficulties, Junior High School students need to be won over by teachers, and their advice would be: the students will learn if the teacher is prepared.

A third category of similarities shows that there is a special connection between variables and the third(last)-year-students of the Teacher Training Program. We noticed that the students who disbelieve the teaching process and indicate that only a few of their future Junior High School students will manage to learn what they have taught are the same who, if the same students were to give some advice to those wishing to teach, would say not to expect too much from the Junior High School students. These students do not think about teaching immediately after graduation, and their families think that they did not make a good professional choice.

About Junior High School students' learning difficulties due to themselves, the teachers-to-be indicated that the indiscipline is the main factor, added to the fact that the school lacks didactic material and the students should be guided by clear rules of behavior. These students think that the school is away from student's reality.

The second greatest similarity we observed indicates that, when students start teaching, they will find students who, in comparison to their classmates, will have a learning level lower than theirs, and will present lots of learning difficulties. This similarity is featured by students who already teach, or have taught, in Junior High School.

Some students believe that, in order to overcome learning difficulties, teachers need to resume their position as educators, and the school should strongly encourage teachers' action. These students have reached an impasse: on the one hand, the challenge of the search; on the other, the hopelessness for not achieving their goals.

Some students of the course indicated that, in order to overcome learning difficulties, Junior High School students need to be aware of how important the school is, and the school must change in order to meet the interests of said students.

Still in this category, the teachers-to-be who think that the learning difficulties are related to the students' lack of interest are the same who listened from their friends that it is not worth becoming a teacher. Moreover, said students believe that the current Junior High School teachers have improper teaching practices, and that, in order to overcome their learning difficulties, these very teachers must reorganize their teaching practice.

In the last category of similarities, we do not have a feature related to a specific year of the course. We have the information that the students who think about teaching soon after they graduate feel incited to seek new teaching methods, and the family thinks they made a good professional choice.

The students who believe that the Junior High School students' learning difficulties are related to the family, which fails to participate and to get involved in the school activities,

and that, in order to overcome learning difficulties, the school needs to consolidate a partnership with the community, already teach, or have taught, in Junior High School.

Some students believe that, to overcome learning difficulties, teachers need to get more involved with students, and they must not abandon the dream of teaching their students.

FINAL CONSIDERATIONS

By analyzing the results achieved by means of the questionnaires on the future teaching practices, we can affirm, in general, that most of these students are aware of how complex the relations existing in the teachers' action are.

The use of the software CHIC as an addition tool to analyze the answers from the research individuals showed us interesting aspects, especially on the last-year-students who had some contact with Junior High School students (those who teach, or have already taught, in Junior High School). Said students, compared to the other research individuals, were more pessimistic on the difficulties they will face in their future profession.

First-year-students, in their turn, were more optimistic about their future profession, mainly believing they will find students whose learning level is the same as the one they had when they were in Junior High School.

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Questions for discussion:

1. What kind of relationship exists between the student teachers' experience of placement schools and the timeline of the course as a whole?
2. What influences the perception of the future teacher on learning disabilities of the students of basic education?
3. How is the process of change for student teachers, as they go through different stages of their teacher education courses?