

Studying Teachers' Ability to Learner-Centered Pedagogy

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Abstract

In modern education, under the influence of humanistic psychology originated by A. Maslow and C. Rogers, learner-centered pedagogy is widely developing. This approach imposes certain requirements on the competence of educators. One such competency is the ability to see the learning task through the child's eyes, which contributes to a productive dialogue and the disclosure of the learner's full potential. In our study, this ability was examined in 270 graduate students who are currently schoolteachers. They observed children in their classrooms while the children were solving various problems in reading, writing, math, and drawing. Then, the teachers answered the following question in writing: "What sequence of actions would the child you were observing have to perform in order to solve his/her problem correctly?" Their answers can be divided into four categories: (a) sociocentric, if they correctly identified the necessary sequence of the child's actions; (b) egocentric, if they rather determined the sequence of their own actions at the time of observing the child; (c) mixed, i.e., including both of the above categories; and (d) others, in which their answers were replaced by irrelevant reasoning. Results showed that 36.6% of the schoolteachers failed the experimental task (categories (b) and (d)). The study author will direct her farther efforts toward improving her *Child Development and Learning* course's curriculum, implementing various assignments into it based on the ability to see the learning tasks through children's eyes. This training will develop the teachers' skills for learner-centered pedagogy.

Keywords: Humanistic Doctrine in Education, Learner-Centered Pedagogy, Solving Problems, Sociocentrism, Egocentrism, Gap in Knowledge, Training for Teachers

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Introduction

The idea of progressive education arose long before its appearance in modern society. In fact, all outstanding pedagogues of the past developed pedagogical science in the direction of greater democratization. Improvement of the forms of interaction between the teacher and the students in the educational process has always been and remains a priority.

Industrial society was characterized by traditional education based on an authoritarian leadership style, classical training of students, and reliance on direct instructions. Lectures and demonstrations of visual aids were the main teaching methods. The transition to the post-industrial era required a restructuring in many areas of science and human practice, not least in education. The term “progressive education” came into widespread use, distinguishing progressive educational methodologies from traditional 19th-century educational programs.

But not every progressive technique that worked fruitfully in one or several experimental educational institutions became successful on a national scale. The adaptability of unique learning models depended on many factors, the role of which could not always be foreseen. Only in the middle of the 20th century did the most striking discoveries of the world’s philosophical and psychological thought naturally combine within a new educational paradigm. It received the name of humanistic education or learner-centered pedagogy.

Unlike the old traditional schools, in the new humanistic educational environment, the student is active and involved in the learning process, not just consuming information but also generating knowledge and ideas. The learner-centered approach to education puts students’ interests first. Schoolchildren participate in choosing their curriculum and managing the pace of their intellectual growth. They bear greater responsibility for their own education. It is precisely such members of society that a democratic society needs. And in today’s education, learning-centered pedagogy is widely developing.

However, the learner-centered approach imposes certain requirements on the competence of teachers. One such competence is the teacher’s ability to see learning situations through the students’ eyes. Without this, neither full-fledged dialogue in the classroom nor effective teaching and successful comprehension of knowledge are possible. Training young teachers in this skill should be recognized as one of today’s most important pedagogical tasks.

This study’s purpose was to determine how many university students enrolled in an educational program and simultaneously working in the school system had the ability to implement learner-centered teaching. The subjects of the study were Touro graduate students majoring in education who were currently working in preschools and elementary schools in New York City.

Theoretical Frame

Before the spread of learner-centered pedagogy, the idea of progressive education was developed in the works of J. Dewey, M. Montessori, J. Piaget, and L. Vygotsky. They belonged to different areas of professional activity and were interested in different aspects of education, from the adaptation of educational outcomes to the requirements of everyday life and the organization of the learning environment to the nature of children’s acquisition of knowledge. But together, these theories gave a very powerful impetus to the emergence of a humanistic doctrine in education in the second half of the 20th century.

An American philosopher and educational reformer, John Dewey (1859–1952), founded an experimental school modeled after a democratic society. He stood up for the children who considered schooling in those years to be suppressive and routine, and the educational school model he created helped his students become independent and capable of self-realization. At his school, students acquired knowledge not by memorizing facts and repeatedly listening to lectures but by solving problems that might arise in real life (Mooney, 2013, p. 17).

An Italian doctor, Maria Montessori (1870–1952), a specialist in the field of early childhood development, was convinced that education is successful only when children are also given an opportunity to lead their learning. According to her methodology, children are able to teach themselves if they are provided with the right conditions. “Soon she determined that problems existed not in the children but in the adults, in their approaches, and in the environments they provided” (Mooney, 2013, p. 36). M. Montessori was the first to reorganize the preschool learning environment, making it learner-centered mentally and physically. In Montessori’s classrooms, the size of furnishings and materials strictly corresponded to the age and physical build of children, which was an unconditioned innovation in those years.

A Swiss scientist, Jean Piaget (1896–1956), the founder of child cognitive psychology, described the features of the development of children; this is his invaluable merit (McLeod, 2023a). He rejected the 19th- and early 20th-century view of learning as a passive reflection of reality and proposed the concept of active learning. His approach was named “cognitive constructivism” (“Constructivism in teaching,” 2021; “Learning theory,” n.d.). According to Piaget, learning is a process of transformation of knowledge, not just accumulation of it. Unlike a traditional teacher, who fills children with ready-made ideas and facts, a constructivist teacher creates conditions in which the students themselves seek answers to their questions (“Application of Jean Piaget’s Theory,” n.d.).

A Soviet psychologist, Leo Vygotsky (1892–1939), the founder of the socio-cultural direction in the development of world psychological science, emphasized the social nature of learning. He pointed out the importance for children, when learning, to interact with more knowledgeable people; that’s why his approach was named “social constructivism” (Learning Theory, n.d.). According to Vygotsky, dialogue is a necessary condition for learning and comprehending new information about the world. “Vygotsky’s primary contribution to our understanding of young children’s development is his understanding of the importance of interaction with teachers and peers in advancing children’s knowledge” (Mooney, 2013, p. 101).

These progressive educators of modern times were characterized by the unacceptability of an authoritarian style of interaction with students. Despite all the differences in their theories, they shared the following ideas: “[...] education should be child-centered; education must be both active and interactive; and education must involve the social world of the child and the community” (Mooney, 2013, p. 16).

In the second half of the last century, the learner-centered approach to education became widespread, embodying the best features of the progressive theories of the recent past. And at the same time, it was an independent approach that was developed under the influence of humanistic psychology, initiated by American psychologists Abraham Maslow (1908–1970) and Carl Rogers (1902–1987).

C. Rogers, a psychotherapist, and clinical and educational psychologist, known for his person-centered research, proposed the concept of “client-centered therapy” (McLeod, 2023b). The concept was universal, and the relationship between teacher and student could be seen as the relationship between psychotherapist and client.

Just as in psychotherapy, where there are two opposite approaches—therapist-centered psychotherapy vs. client-centered psychotherapy—in education, there are two kinds of learning environments—teacher-centered vs. learner-centered ones. In the old traditional educational environment, students listened to lectures, completed written assignments, and worked primarily individually. In a new humanistic educational environment, they are active and more involved in the learning process; they do not just consume information but generate ideas and take greater responsibility for their own learning.

According to C. Rogers, one of the most important conditions for this new type of teaching is that the teacher has an “empathic understanding” of the student. Empathy, from the Greek *empathia*, is “the ability to imagine oneself in another’s place and understand the other’s feelings, desires, ideas, and actions” (Britannica, n.d.). C. Rogers defined such an ability in teachers as follows:

This attitude of standing in the other’s shoes, of viewing the world through the student’s eyes, is almost unheard of in the classroom. One could listen to thousands of ordinary classroom interactions without coming across one instance of clearly communicated, sensitively accurate empathic understanding. But it has a tremendously releasing effect when it occurs. (Rogers & Freiberg, 1994, p. 158)

With the entry of society into the Information Age and the development of new technologies, multiple scientific attempts have been made to apply the student-centered approach in e-learning and other information environments. Here's what experts say about it:

In this respect, person-centered principles already have proven to be most effective. [...] the present is optimally suited to bring together student-centered teaching and new media in order to ensure effectiveness while equipping teaching and learning with more and life-long personal meaning. (Motschnig-Pitrik & Holzinger, 2002, p. 170)

Methodology

The study was based on the following two hypotheses:

1. One of the most important psychological characteristics underlining the teacher’s ability to implement learner-centered pedagogy is the ability to see the learning situation and learning task through the eyes of a student.
2. Among the indicators of this competency is the teacher’s capability to deeply focus attention on the student and understand how s/he thinks while solving the learning problem.

The task of the study was to determine how common the ability for learner-centered pedagogy is among university students currently working in schools.

Two hundred and seventy teachers participated in the experiment. They all attended the author’s online course *Child Development and Learning in Cultural Context* at the Touro

Graduate School of Education in 2022-2023. (They were taking all their other GSE courses online as well.) The majority of participants were female (75%).

The procedure was as follows: the participants observed children in their classrooms while children were solving various problems in reading, writing, math, drawing, and social sciences. For our study, they answered the following question: “What sequence of actions did the student that you were observing perform to solve his or her problem?”

A computerized survey served as the study instrument, so data collection was done online. The participants submitted their answers electronically as one of their homework assignments for the course. Two experts certified as elementary and middle school educators helped the study’s author analyze experimental data.

Results

Analysis of Data

The analysis of the collected data was carried out manually. Each answer was analyzed from the point of view of its compliance with the experimental instructions, or more precisely, with the two main requirements contained in them. Firstly, in a learning situation, attention should be focused on the student, and secondly, the teacher should describe the sequence of the student’s intellectual actions necessary to solve the problem. Thus, the two main criteria for analyzing the study participants’ responses were “the presence of a student” and “the presence of a sequence of his/her actions.” Fig. 1 provides an example of a response that satisfies both criteria.

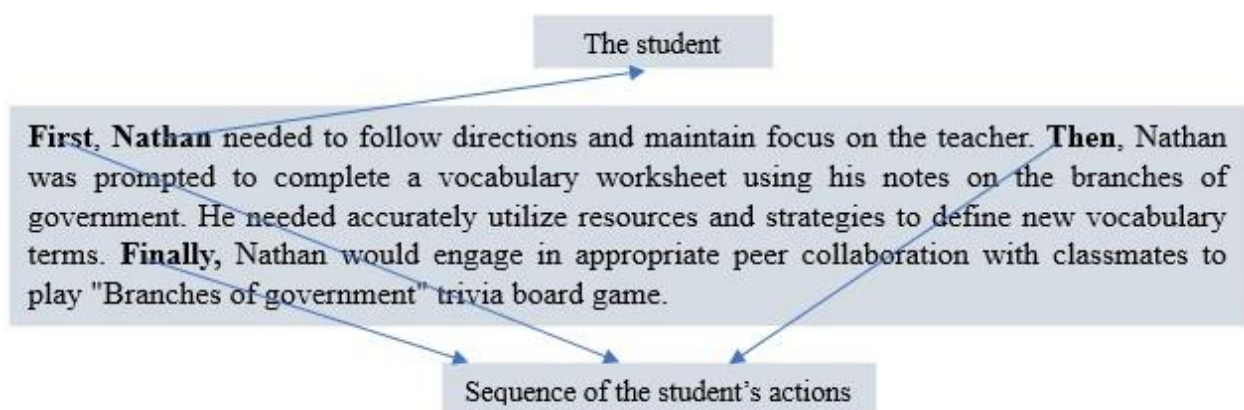


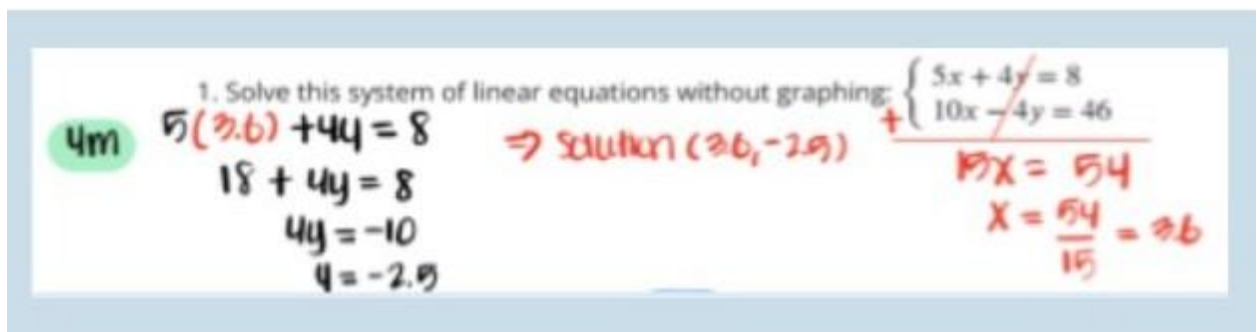
Figure. 1: A study participant’s answer and the analysis of its content

“The student” and “the sequence of the student’s actions” were the two key concepts, and teachers’ answers were expected to address these aspects of the experimental situation. The first concept allows us to discover the schoolteacher’s tendency to focus on a student’s activity in a learning situation, and the second one reflects the schoolteacher’s ability to specifically and in detail describe the student’s physical as well as intellectual actions in a learning situation.

Categorization of Data

Direction of centration. The study participants' answers could be divided into four categories: sociocentric, egocentric, mixed, and others. Answers were *sociocentric* if the study participants primarily described the students in learning situations. An example is presented in both the paragraph below and Fig. 2, where the teacher's attention is focused exclusively on the student:

The main task that Jake should be accomplishing while being observed is how to solve one variable by using elimination. After he eliminates the variable, he can solve for the other using substitution. He solved for x . The positive $4y$ and negative $4y$ gives us a sum of 0, that is called elimination. In doing so, he is able to solve for x first and then substitute for x to find y -value. (U.T.V., math lesson, fall of 2023)



The image shows a handwritten solution to a system of linear equations. On the left, a green circle contains the number '4m'. The text reads: '1. Solve this system of linear equations without graphing:'. The system is given as $\begin{cases} 5x + 4y = 8 \\ 10x - 4y = 46 \end{cases}$. The student's work shows the first equation: $5(3.6) + 4y = 8$. Below it, $18 + 4y = 8$, then $4y = -10$, and finally $y = -2.5$. To the right, the student has written \Rightarrow solution $(3.6, -2.5)$. Further right, the student has performed elimination: the two equations are added together, resulting in $15x = 54$, then $x = \frac{54}{15} = 3.6$.

Figure 2: Illustration of the math problem's solution in the sociocentric answer

Answers were *egocentric* if they told mostly about the teacher and rather determined her or his own actions and reasonings at the time of observing the student. Such an answer is presented in the next example. There, the focus is on the teacher. The volume of text related to the description of the teacher's activities is even three times larger than the statements related to the student. Little is said about the student, only generally and indirectly. An example is presented below:

I gave Robert a word problem to work on that involved counting, grouping, and division. I provided a hint: multiple methods can be used to solve the problem. I was watching Robert to make sure that he could choose appropriate strategies. When it was necessary, I explained how to correct his errors. (R.R., math lesson, spring of 2023)

It should be noted, however, that the mere fact that the teacher is mentioned in the response does not yet mean that this response should be classified as egocentric. It was possible to mention the teacher in the description, but the main object of observation should still remain the student and his activity.

Answers were considered *mixed* if they included both of the above categories. That is, the study participant's attention was directed to both the teacher and the student; descriptions of their activities were equivalent in their semantic load, and one was incomprehensible without the other. An example of such an answer is:

I read a book aloud in the classroom and asked questions about its characters in order to comprehend if the story’s plot was understandable for the students. Paul answered most of the inferential questions. (M.A., reading lesson, fall of 2022)

Answers were categorized as “*others*” when the explanations of the student’s activity were replaced by irrelevant reasoning. For example, “Alisa benefited greatly from visual representations when learning new concepts.”

According to the results, **42.7%** of schoolteachers tended to focus their attention on students in experimental learning situations, which represented the *sociocentric* category. Meanwhile, 30.2% of the investigated population of schoolteachers failed to do so, and they fell into the category of *egocentric*. The two remaining categories—*mixed* and *others*—did not show any definite and stable trends. In Fig. 3, the percentage of categories named above is shown.

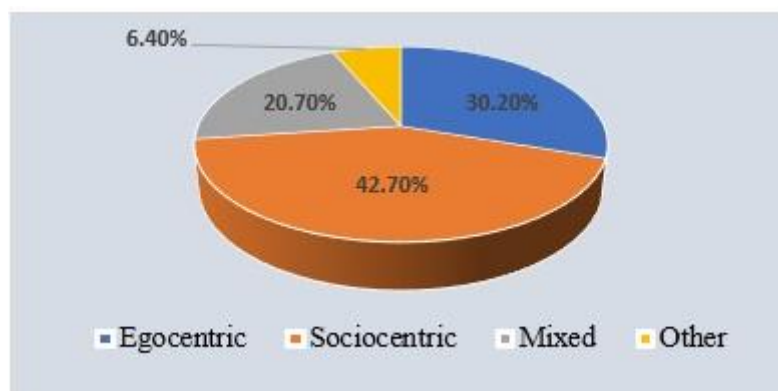


Figure 3: Distribution of the teachers’ answers by categories

Specificity of the description. In the study participants’ answers, general formulations prevailed about what the student observed or the observer himself or herself should have done in the learning situation. In the example of the egocentric answer illustrated above, one of the study participants, a math teacher, failed to describe her student Robert’s intellectual actions consistently and in detail. She only briefly informed us about how he solved his problem—only that he had to perform three different operations. Of course, this is not enough to consider the experimental condition fulfilled.

In the example of the mixed answer, another study participant, a reading teacher, gave a very vague description of what was going on in her classroom. She identified neither the title of the book that she was reading to her students, nor what characters of the book they were supposed to discuss, nor what questions about the book’s content they were answering. Even Paul’s activity while she was observing him is not described in detail, although specifics were considered necessary according to the study conditions.

However, **38.7%** of the investigated population still followed the second experimental requirement and specified the students’ sequence of actions when solving the problems. This is an example of how an answer looks that unconditionally satisfies the requirement:

To create a pumpkin patch drawing, Jasper was using the “seagull technique,” which I, his art instructor, demonstrated to the class at the beginning of the lesson. First, following the explanations given, he drew a seagull. Second, he drew a line towards the grass on each side of the seagull’s wing. Third, he looked at how I and other

students made a round bottom and easily followed this step as well. Fourth, he created a few vertical lines on the pumpkin to make it volumetric figure. (E.K., visual art lesson, spring of 2022)

In her answer, this study participant, an art teacher, presented a complete sequence of actions performed by her student Jasper, who drew a pumpkin using a given model technique. In the sociocentric answer's example illustrated above, the other study participant, a mathematics teacher, reproduced the entire logical chain of operations used by his student Jake and needed to solve a system of linear equations.

A distinctive feature of these and similar answers is the teacher's ability to "unfold" the intellectual activity process of the student solving the problem, that is, to present it in a step-by-step form and analyze it. It is noteworthy that the majority of the schoolteachers surveyed in our study—**61.3%**—did not cope with this task in full.

Learner-centered ability. A little more than one-third of the investigated population—**36%**—completed the experimental task, having satisfied both instructional requirements. These study participants were deeply concentrated on the student under observation, primarily reflecting his/her intellectual activity, and identified and described in detail the sequence of his or her actions while solving the problem given.

Discussion

Causes of Teachers' Egocentrism

Only a little more than one-third of the investigated population coped with the experimental task. Every third study participant demonstrated qualities that suggest s/he had the ability to implement learner-centered pedagogy. Every third is a small number. However, Rogers also discovered that the student-centered technique is not for everyone, and that "empathic understanding" is a rare personality quality. If we look at the result obtained from this angle, it is not at all hopeless.

It is alarming that another third of the population studied did not cope with the experimental task at all. These study participants focused their attention on themselves and talked exclusively or mostly about their own activities in a learning situation. This psychological feature is called "egocentrism." It should be noted that we are not talking about egocentrism as a pathological phenomenon. The subject of this discussion is the egocentrism of healthy individuals.

Egocentrism is a childish trait; it is observed in preschool-age children when thinking is just developing. "Egocentrism refers to the child's inability to see a situation from another person's point of view. The egocentric child assumes that other people see, hear, and feel exactly the same as he does" (McLeod, 2023a). Egocentrism reappears in adolescence and is associated with the process of identity development, which does not always proceed without conflicts (Erikson, 1968, pp. 135–138). Finally, egocentrism manifests itself in old age, where it is associated with cognitive decline. Egocentrism in young and healthy adults is a sign of infantility, personal immaturity, and problems with identity. With a favorable passage of the teenage crisis, egocentrism disappears. Adults who still exhibit egocentrism were probably unable to adequately go through the stage of developing their identity in adolescence (Zheldochenko & Nikolenko, 2020, p. 7).

Apparently, these study participants poorly knew the psychology and peculiarities of children's development. They just did not understand what it means "to put themselves in the student's shoes." They were probably not teachers by vocation, but they came to this profession guided by other considerations. It is known that it is not the best high school graduates who enter our pedagogical colleges; after completing their bachelor's and master's programs, they come to work in schools, but their motivation, intuition, and interactive skills can still be underdeveloped.

It should be noted that this is different from the schools whose education is considered exemplary, for example, in Finland, Singapore, or Japan, where teaching positions are given to the most capable and highly motivated individuals ("How Teachers Are Trained in Finland," n.d.; "Singapore Mathematical School," n.d.). "In Singapore, teaching is a respectable profession. Teachers are selected from the top one-third of their age cohort... Teachers are a top priority in Singapore, as they should be in every education system" (Lee, 2020, pp. 90–91).

Causes of Teachers' Inability to Analyze Students' Thinking

Even if the study participants were able to see the tasks from children's perspectives, they were not always able to "unfold" the process of solving them into a step-by-step intellectual activity. This fact can be partially explained by their lack of responsibility or motivation when doing their homework (the experimental assignment). However, the more probable reason seems to be that these teachers were not properly trained in their school years themselves; probably, their instructors did not require them to present solutions to problems in detail. Such study participants had not developed a culture of mental work.

In the same years when American psychologists were developing the theory of humanistic education, a Soviet educational psychologist, Petr Galperin (1902–1988), created his theory of step-by-step formation of mental actions (Galperin, 2017, pp. 3–20). Its essence was that, when learning a mental or physical action, the child forms it step by step, consolidating the result of learning at the end of each step. When the entire action is fully formed, it goes into the mental plan and becomes automated. Subsequently, if necessary, the individual can "unfold" his solution to check the steps and make sure that he performs his task or a similar one correctly. Solving a problem is developing a skill, and the method of step-by-step formation of mental actions is more appropriate and useful in the case of studying how to solve problems than, say, the trial-and-error method.

Our study participants needed this skill to perform an experimental task in order to compare their solutions with the ones that the learners under their observation created. Without this, it was impossible to adequately understand whether the child correctly saw the goal of his activity, the available means of achieving the goal, and whether she or he could independently find a strategy for solving the problem. Only by mastering this pedagogical technique can one teach children effectively and successfully.

Teachers Can be Trained to Become Learner-Centered

Of undoubted interest in connection with the prospect of training is the relatively small group of study participants—one-fifth of the surveyed population of schoolteachers—whose answers were *mixed*. Their answers contained some descriptions of the intellectual activity of learners solving problems but were unsystematized and disorganized, did not set out the sequence of

actions taken by the child, and generalized what was happening rather than meeting the requirement of specificity. However, in these answers, there was some seed from which useful shoots could sprout with the proper instructional approach. These representatives of the schoolteachers' population should be taught to think in a disciplined manner, that is, to analyze when necessary and to generalize if the task requires it. As the author's previous studies have shown, the skills for analytical-synthetic thinking are a serious problem for today's university students, going beyond the boundaries of one culture (Toom & Inshakova, 2019, pp. 56–57).

From the point of view of the subsequent training, the most perspective subjects of our study seemed to be those whose answers have simultaneously fallen into the categories of *non-specific* and *mixed*. They did not fully cope with the task assigned to them in the study, but they have the preconditions for the possible development of the necessary skills.

The study author's further efforts will be directed towards improving her *Child Development and Learning* course's curriculum and implementing various assignments into it based on the ability to see the learning tasks through other people's eyes, that is, children, adults, and even theorists who have offered their unique approaches to human development and learning. Such training will help the teachers develop skills for learner-centered pedagogy.

That's how the idea of a complex training program for the schoolteachers in the framework of the course curriculum appeared. The teacher's ability to see the learning situation through the student's eyes and understand how the student thinks when solving a learning problem is based on both the teacher's "empathic understanding" and the general culture of his or her thinking. Apparently, one does not exist without the other.

Limitations

The study was conducted at an average American university, in a typical school of education, and likely reflects some of the trends that have developed in the field of education in the country today. However, generalization to a larger teacher population should be done with caution.

The results of this study are limited by the sampling methodology employed. All study participants belonged to one New York university, one educational school, whose students were mostly drawn from the state where it is located. 75% of the participants were female and taught in pre- and elementary schools. These characteristics do not fully coincide with the characteristics of the entire Touro University population of graduate students who are current schoolteachers. In addition, the results are limited by the study instrument used because written self-reports may somewhat simplistically reflect actual classroom situations and own cognitive activities.

The reliability of the findings needs to be tested in a full-scale study that includes experimental and control groups and examines the influence of various factors, including pre-training, on teachers' performance in the study.

Conclusion

Both study hypotheses were confirmed. Learner-centered teachers could deeply focus on a student who solves a problem to monitor his or her intellectual activity and present it in the

form of a sequence of actions. The study task was completed. More than one-third of the study participants (36.0%) showed abilities for learner-centered pedagogy.

The direction of centration and *the specificity of descriptions* are two characteristics or criteria that indicate the teacher's competency. According to the first criterion, the answers of the study participants can be divided into four categories: sociocentric, egocentric, mixed, and others. According to the second criterion, their answers can be divided into specific and non-specific ones.

Some results obtained seem to be alarming:

1. Almost one-third of the surveyed population, whose answers were egocentric (30.2%), lacked "empathic understanding" of children. Perhaps these schoolteachers' career choice in education was a mistake.
2. About two-thirds of the study participants, whose answers were non-specific (61.3%), had difficulties understanding the logic of how their students were thinking when solving problems. Perhaps they lacked a culture of intellectual work.

However, other results obtained are encouraging. One-fifth of the study population (20.7%) showed preconditions for the possible development of the skills for learner-centered pedagogy.

The results allowed us to outline a possible direction for the training. In the framework of the course curriculum, a training program will be organized that will help schoolteachers develop skills contributing to their cognitive culture and mastery of a learner-centered approach to education.

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