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Knowledge-based Society and the School

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Abstract— In a knowledge-based society, the school is the most important institution, being responsible for the society of the future. Dewey and Lipman showed that the traditional school failed, focusing on the transfer of knowledge from those who know to those who do not know, from teacher to student. Such a school is concerned with ensuring success, performance, but it offers answers to questions that students don't ask and ignores questions that they raise. On the whole, the school needs to adapt its practices so that students can learn how to ask questions and how to think for themselves.

Keywords — *child; education; question; school; teacher.*

I. INTRODUCTION

The goal of education, at least in a knowledge-based Society, should be the development of reasonable individuals, according to the founder of philosophy for children, Matthews Lipman [1]. At the beginning of his university career, in the early 1950's, Lipman had no particular interest in education. His concerns in this area, as well as the idea of bringing together education and philosophy, emerged in the late 1960s, when he realized that there was no discipline in the school curriculum to help students think more reasonably, more reflectively, more critically, and a college course of introductory logic – as just his course at Columbia University – came too late to might offer benefits in reasoning. Once aware of the importance of acquiring thinking skills by young people to help them approach the world as early as possible, right from primary school, Lipman had nothing to do but find an appropriate way of instruction in reasoning for children. So, in the early 1970's, he started the educational project of philosophy for children as a quest for thinking in education [2].

But on the road to implementing the Lipmanian project of philosophy for children there was a serious obstacle from the start – the school. The reputation of traditional school has been ensured by the fact that it has succeeded in making children effectively believe they cannot think without the help of teachers and can only answer questions that their teachers ask. The school, more than any other social institution, produces the society of

the future; young people learn to be reasonable so that they can later live as members of an inquiry society [3]. For these reasons, I argue that the main business of the school must be to teach children to think for themselves, because, as Harry Stottlemeier says, “is that kids need to be free to think for themselves just as much as grownups do, maybe more so” [4]. I will also point out that John Dewey's view on school and education remains an always useful introduction to this discussion, both for beginners and experts¹.

II. THE CHILD WHO ASKS QUESTIONS

Almost all of the teachers who work in education today have been trained in a school system based on a from up to down learning model; all students listen to learn, but the student who asks to learn appears to be a disruptive factor. Against this excessively curious student, the school system reacted for a long time through punishments, including corporal ones.

At present, those educators unable to reform themselves – even if they no longer resort to corporal punishment – continue to perceive negatively the students asking questions: “He's a nice boy, but he asks questions.”, said the teacher to the parents about their child who had just started school. It does not matter that the child's questions are not off topic of the lesson or that they do not divert the attention of classmates – this child is not as nice as the others, because he asks questions [5]. How do children feel in a school that finds asking questions to be a problem? Are they fulfilled? Are they happy?

The second sentence, introduced by the adversative conjunction “but” (“but he asks questions”) forces us to distinguish between two models of learning. One is downward and is focused mainly on the transmission of knowledge from up to down, that is to say from the

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teacher, as an authority, to students. The other learning model does not involve domination, teachers knowingly giving up the greatness and authority that gives them a chair still fixed on a pedestal; these teachers choose to become facilitators and co-inquirers alongside their students, as in philosophy for children session. In the first model, the question constitutes the teachers' privilege, and students listen to learn, but in the second, there is a reversal, and students ask questions to learn.

Not only in school, but in society as a whole, our standards of learning are changing and becoming more and more complex. According to Latin etymology, the child up to seven years old (*infans*) is the child who does not have the ability to speak. But children learn from the beginning of life, building and reconstructing images of the world, with almost every word learned, and developing their vocabulary through an ostensible learning of words, and being constantly in need of parental corrections. The child's questions are provoked by his curiosity, that "interest in finding something" or that "reason that can cause a person to do all kinds of research, but in an accepted setting" [6].

Most of the child's questions are answered in an accepted and unquestionable knowledge framework. Let's imagine that a child accompanied by an adult takes a walk in the park. The adult would have no difficulty answering the questions the child wants to know if there is still a long way to go to the park, how long they will stay in the park, or what time they will leave for home. The child receives answers immediately, because such questions require only the adult's authority. Not so quickly come the answers if the child will continue with other questions involving the idea of time: What is an hour? What is a clock? How does a clock measure time? In a similar way, if the child's questions concern different species of trees, flowers, birds encountered in the park. Such questions put the adult in difficulty, because they require a certain level of knowledge according to scientific disciplines.

It is possible for the adult to ignore such questions or even to admonish the child for this reason. In such cases, the child will no longer show curiosity and will become a silent child. The silent child has another chance to become curious and questioning again: school.

III. TEACHERS AND THEIR QUESTIONS

Teachers, whether primary school, middle school or high school, spend much of the class asking questions, according to some researchers, about half the time [7] (Graesser, Person 1994; Cotton 1988). In a single day, a teacher would ask between three hundred and four hundred questions [8] (Levin, Long 1981), reaching about thirty thousand a year [9], and in a career, about two million questions [10] (Kerry 2002).

Contrariwise, the number of questions asked by students during a class is very low – on the average, one student asks one question per week, and over 90% of the

total questions asked in an hour belong to the teacher [11]. Furthermore, few students' questions are related to their understanding of the topics taught [12] – many questions are procedural, for example: "Do we also write the date?", "How much time do we have to solve the problems?", or they appear only seemingly as questions – for example: "Can you repeat?". And in the case of questions asked by the teacher, over 50% are related to the conduct of the lesson (for example: "Who finished solving all the problems?"); 35% are questions that involve recalling information (for example: "How many feet does an insect have?"); and only 8% of the questions require analysis, generalizations, or deductions (for example: "Why is a bird not an insect?") [13].

Similar data can be found in a pioneering study on the use of the questions during class (1912), which showed that teachers had control over classroom interaction by averaging about four hundred questions in a single day, the teacher's questions and the students' answers occupying 80% of the class time; more than that, teachers used the question "as a means to bridge gaps and kill time during a class hour, thus perverting its legitimate and valuable function as an educational agent" [14].

The effect of teacher questions on students, including attitudes toward learning and participation in class discussions, began to be a major concern in the 1950s, for pedagogues, psychologists and philosophers. But John Dewey's view remains an always useful introduction to this discussion, both for beginners and experts.

IV. THE CHILD AND THE SCHOOL

Dewey already states that both university and school are places of inquiry. A central aim of education is to prepare students to be able to make reasonable judgments about some controversial situations they face. This means that the school is not limited to providing impartial knowledge, but must also ensure improving reflective thinking skills. Children must learn what makes sense, what enlarges their horizon, instead of mere trivialities, to become acquainted with truths instead of things that were regarded as such fifty years [15].

The child is an active being, like the adult, and likewise, he learns by facing the problems encountered in the activities that interest him. But the traditional school is not the place for such an active human being; on the contrary, it was designed for listening, not for working, as it can be seen from the arrangement of the benches in the classroom. There is very little place in the traditional schoolroom for the child to work. The workshop, the laboratory, the materials, the tools with which the child may construct, create, and actively inquire, and even the requisite space, have been for the most part lacking. The things that have to do with these processes have not even a definitely recognized place in education. The child is required to listen, in order to retain or memorize as much as possible of what the school authorities provide. Or, the

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child does not come to school as “a purely latent being”, but on the contrary, as an “already intensely active” being, bringing at least fourfold interests: “in conversation, or communication; in inquiry, or finding out things; in making things, or construction; in artistic expression”. Therefore, the teacher, instead of trying “gradually to draw out some hidden germ of activity” should manage these natural resources of the child, “giving them direction” [16]; thus, the child will learn best not by listening, but by experimenting.

Dewey founded, in 1896, an experimental school, The University Elementary School, also known as The Laboratory School, which he managed until 1904 [17]. His venture came from the belief that school should be an experimental opportunity for pedagogy, as the laboratories do for biology, physics or chemistry. In order to accomplish the educational process, Dewey introduced scientific experiments, outdoor lessons, and changed the furniture in the classrooms [18]. He hoped that, in such a school, children would be actively involved in the educational process. The lessons should have been based on the child's interests, which, in turn, are related to the child's real needs, which, lastly, the teacher will know through the child's questions. Dewey distinguishes the child's actual needs from the needs that teachers believe would make learning more attractive. Therefore, each lesson should have been conceived as an answer to the child's questions - thus, for each child, knowledge would become a process that is built dynamically and individually. But teachers selected for The Laboratory School were accustomed to traditional teaching methods, and were unable to promote the appropriate type of thinking for such lessons based on the students' questions.

Students are aware that the teacher knows the answers to the questions asked in class and, therefore, they seek to provide, each time, the expected answer. Such teachers present themselves to the students as the possessors and distributors of knowledge – they decide the questions, the respondents, the rules of the conversation. They intend to instruct, while the desire to learn belongs to the students. Do the teachers' intention and the students' desire overlap or do they never meet? Develay summed up the rupture as follows: “the school answers questions that students do not ask and does not answer questions that students ask” [19].

V. THE SCHOOL AND LEARNING HOW TO THINK FOR THEMSELVES

According to Lipman, there are three fundamental models of public and private institutions in our society: the family, as an institution of private values; the state that represents institutionalized public values; and the school that embodies the fusion of family and state. Out of these three institutions, the school is the most important, because “through it past and present generations deliberately and consciously attempt to stamp a design

upon the future”. In addition, the school is the only institution that “can legitimately claim to be worldwide,” because regardless of the cultures in which it is encountered, schools share the same “presupposition that children go to school to learn”; they learn basic skills (reading, writing and arithmetic proficiencies) and content (geography, history, literature). But the chief business of the school should be to strengthen the child's thinking and moral judgment, Lipman believes. It is precisely in this respect that the traditional school failed, focusing on the transfer of knowledge from those who know to those who do not know, from teacher to student. Knowing by absorption and storage in memory has become the basic rule of learning. Thus, children who started school full of curiosity gradually become passive, careless, uncritical, thinking only of what they have been taught to think. Of course, they expect the school to function differently, to continue the stimulation of the child's thinking and speech, close to that already begun in the family. But at school they discover a „completely structured environment” with a schedule and a classroom language; they find that “schooling is enervating and dispiriting rather than animating or intellectually provocative” [20].

In Lipman's first philosophical novel, Harry Stottlemeier's Discovery, imaginative children criticize the school and the grownups who do not know how to run the schools. There is no question that kids should run the schools; Mark emphasizes that his dissatisfaction is related to the fact that those who run the schools do not seek to understand the children and, especially, why children are at school.

The discussion starts by specifying the role of school as an institution in any society: “We're in school to learn.” Then, the children examine some aspects of a traditional school's activity: students learn “answers” and “how to solve problems”, of course, problems given by teachers. The image of a different school emerges when Mark expresses his reluctance to “learn how to solve problems”; he thinks that instead of “learning how to solve problems”, it would be more interesting to learn “how to ask questions”. Thus, a transition takes place from the standard school where children come to learn only basic skills and content to the school where children should to learn more than anything else thinking skills: “We should be learning how to think”, Harry said. It is true that in the traditional school students learn also to think, but they do not learn how to think for themselves: “we never learn to think for ourselves”, said Mark who is outraged that teachers do not admit that the student has “a mind of my own”, and that they fill his mind with “all sorts of junk”, as if his mind were “the town junkyard” [21].

The discussion about school is a learning model promoted in philosophy for children – community of inquiry. It is non-authoritarian and anti-indoctrinating; it respects the value of inquiry and reasoning, encourages the development of alternative modes of thought and

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imagination, and shows how children are able to learn from one another.

CONCLUSIONS

The traditional school offers answers to classical problems, but this knowledge is already possessed by machines. Therefore, students should learn differently, to be able to invent new professions on their own, when needed. And teachers should adopt the position of the researcher and encourage students to think for themselves.

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