

SCHOOL AS A PLACE FOR DEVELOPING THINKING

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Abstract

Today's world of rapid and diverse change needs thinking and creative people who can, in cooperation with others, solve new, surprising problems of humanity and act for the common good.

To prepare such a person for life, school should depart from the implementation of top-imposed curricula and textbooks, and take care of the educational environment in which each child will have the opportunity to discover, develop and hone their talents and abilities, and awaken the appetite for learning throughout life.

This places new demands on teachers, who become responsible for shaping the future of society towards peaceful coexistence, creative cooperation and humanitarianism.

Key words: *thinking, develop, learning, school*

Introduction

Today's world is going through dramatic changes right in front of our eyes. In many fields knowledge doubles every few years and old theories are replaced with new ones. In spite of globalization societies strive for independence, new countries are born while others disappear, and we bear witness to the fall of old thinking structures and arising new ones. In the world of dynamic changes we are faced with new surprising problems awaiting solutions. Due to the overwhelming uncertainty more and more people face difficulties with education, work, relationships and themselves. Educational systems worldwide seek solutions to how to better prepare young people for life so that they will be able to act confidently, lead more satisfying lives, stay in schools longer, succeed in finding jobs and, all in all, consider themselves happy. It is a known fact that such people love peace and quiet so they will try to achieve harmony within themselves as well as with other people and the surrounding world. Almost all societies subject their schools to reform. But 'the fact is that given the challenges we face, education doesn't need to be reformed - its needs to be a transformer. The key to this transformation is not to standardize education, but personalize it, to build achievement on discovering the individual talents of each child, to put students in an environment where they want to learn and where they can naturally discover their true passion' (Robinson, 2009, p. 101).

1. THE GOALS OF CONTEMPORARY SCHOOL

It is no easy task for a contemporary school to prepare young people for life in the world of changes. School should teach a student to think independently in a way that is both critical and creative; it should teach a student how to be resourceful, innovative, brave and ready, willing and able to pursue lifelong learning. Such a person must thus understand the process of learning, recognize their own strengths and weaknesses, and constantly reach for perfection, which also means they have to be self-reflective; they should realize where and what kind of knowledge to look for (connectivism) and they have to be able to aptly use all the available resources such as books, the internet or other people; they should be able to enter relationships and get on well with people in order to solve their own and others' problems; last but not the least, they should be open, willing and able to work with others, for others and for the common good.

Preparing students for the future does not mean equipping them with ready-to-use knowledge and a set of abilities and skills for it will not be clear in the future how to use them. Students starting education this year will enter the job market in 2030! Nobody is able to foresee what kind and level of knowledge will be in demand, and what or even how many professions students will be working in because some of them may not exist today. Nevertheless, students will always find use of the skills such as learning, critical thinking, imagination, creativity, collaborative skills and a strong set of values.

Looking closely at a contemporary school, it is visible how much is still to be done. The most common arguments against schooling are focusing on the top-imposed curricula, textbooks, and excessive testing, which kills the natural curiosity and internal motivation the students enter school with. This is due to the fact that the school aims to transfer knowledge, developing mainly the analytical type of thinking, and bypassing the creative or practical thinking which result from the student's independent activity (Spear-Swerling, Sternberg, 2003). Still, as Jerome S. Bruner maintains, the most personal knowledge is what one has discovered oneself; the more the child treats learning as discovering rather than learning about things, the stronger the tendency to learn based on autonomic self-rewarding, and even better, based on the reward which is the discovery itself (Bruner, 1978). This is why it is crucial for a child to have opportunities to discover the world by themselves and pursue their own interests.

The young people, brought up in the digital world, do want to have a choice for their education; they want to influence what, when, where and how they are studying. They want the teaching to be in line with the real world, the one they live in, and also they want the learning to be interesting and fun. (Tapscott, 2010, p. 225)

In our schools, however, there still prevails an incredible gap between the kind of thinking required in adult life and what schools curricula can offer, even though the curricula are based on the assumption they develop thinking. The tasks that students will deal with in the course of schooling are far from the issues associated with the thinking process in the real world. We prepare students to solve problems which are in many ways different from those they will face in their adult lives. (Sternberg, p.84)

Traditional school (still prevalent in Poland) does not seem to be interested in developing children's thinking, independence or creativity. To a great degree this is the result of the educational system focusing on fulfilling standards, which mainly means excessive testing of the students' knowledge. Teachers follow either the chosen or imposed curriculum, usually through textbooks and workbooks, which students fill in for the bigger part of the class. In this situation the teacher feels exempt from their own thinking for they are convinced that they realize the curriculum thanks to the textbooks. My research, however, and many others, point out that teachers would be rather unwilling to give up textbooks as they would have to put more work into preparing classes and constantly reflect on their level.

Neuropsychologists claim that learning based mainly on the contents of textbooks and workbooks, the same for all the students, does not bring effective learning. Cognitive activity is downsized to the reception and reproduction, which means it does not engage the brain to a large degree like open tasks requiring students to deep process the information (Żylińska, 2013, p. 42-43). Developing students' thinking requires their own activity freed by their curiosity and internal motivation so it is the teacher who is responsible for educational situations in the classroom. If teachers lack ideas for intriguing and ambitious tasks, they can assign this task to students. Robert J. Sternberg distinguishes three types of intelligence: analytical, creative and practical intelligence. All of them generate their own unique way of thinking. The author points out that only the first type of intelligence is appreciated in schools while all of them are equally important. Sternberg calls for a way of teaching that would engage and develop all types of students' thinking and calls it triarchic teaching (Sternberg, 2003). Triarchic teaching allows full and comprehensive preparing of students for future life so that they will be able to cope with a variety of problems. In order to achieve this schools should help students recognize their strengths and weaknesses as learners, by creating educational situations and adequate tasks in which students could use all types of thinking, and also through developing students' learning dispositions throughout life.

At school students are usually taught analytical thinking and solving tasks and problems which are clear and set in an artificial environment. Instead, in future work and life students will be expected to think and act independently, come up with their own creative ideas and solutions to considerably more complex problems and open-ended tasks. The lack of transfer of school knowledge and skills into wider experience of students makes them study for tests, examinations and report cards rather than their own development.

2. THE ROLE AND SIGNIFICANCE OF QUESTIONS IN DEVELOPING STUDENTS' THINKING

At the beginning of their education a child is deeply curious of the world and convinced that the teacher will answer a great deal of their questions, the results of the child's thinking and interests. The questions indicate gaps in the child's knowledge, which is a motivating agent leading to cognition. When at school, however, the child will quickly find out that during a class it is the teacher who asks most questions and children's questions are often left unanswered. Research shows that in the classroom questions make up for 50% and instructions 35-50% of teacher's speaking time. Most questions the children will answer (60-80%) require regurgitation of knowledge (Chomczyńska-Rubacha, 2004, p. 247), which means there is no time and opportunity for children to ask questions. E. Susskind confirms this to be true and her research shows that each student asks one question per class, which comes to one question per student per month. (Kaplan, 1990, p. 298, cyt. za Chomczyńska, p. 247). How shall we develop students' thinking in this situation? We will not teach children to think if we only ask them closed questions based on what they already know. When a child answers a question, correctly or not, he or she then goes silent and the teacher does not encourage any discussion. The teacher should tell stories, encourage children to give their opinions, points of view or speculations, which stimulates children's speaking, asking question, sharing ideas, and facilitates student discussions (Wood, 2006). Moreover, when asking a question, teachers normally allow a second for the student to answer and then proceed to another question or a next task. Research shows that a longer time given to students to think over the question leads to a more sophisticated, more frequent, more important and more thoughtful answer (Wood, 2006; Fisher, 1999). Teachers also most often demand correct answers and rarely allow wrong ones. And yet 'If you are not prepared to be wrong, you'll never come up with anything original' (Robinson, TED 2006).

Teacher should give children time to ask questions and teach how to ask good questions for questions are sometimes more important than the answers as they show what the child already knows and what they do not know. Asking questions provokes children to explore the unknown areas and look for the answers to a given task. Teachers tend to check students' knowledge rather than encourage children to think. Good questions are inspirational because they are open to a variety of solutions and differently formulated problems. Good questions require answers so they are productive and lead to further questions (Fisher, 1999, p. 85). Good questions attract children's attention to the researched object of cognition, call for comparisons with similar objects, require precise classification and evoke deep insight; they encourage to do research thanks to which children think over and make decisions about which activity to undertake next in order to solve the problem; they call for precision thanks to which children reflect on their own thinking, and, finally, good questions make children explain phenomena so they have to think over all the data and answers they have collected (Fisher, 1999, p. 85).

Encouraging children to ask questions sparks their curiosity and exploratory attitude. Teachers can do this by revealing their own curiosity about the world, for example, ask questions in the classroom and reveal gaps in their own knowledge. Teachers can also encourage children to talk about what they find interesting and bring the objects of interest to school so that the children can examine them and try to answer the surfacing questions. Teachers can also suggest tools to facilitate the examination of the objects, like a magnifying glass or a microscope, as well as a variety of resources (books, atlases, albums, the internet) so that the children will be able to find answers about the given object. Why not announce a competition for the most intriguing question of the week? Questions may also contribute to a class discussion on matters that are crucial to children, their dreams, problems or book characters. In this way children see that questions lead to knowledge; that when somebody asks questions it

means he or she is still curious about the world, is able to find the world a fascinating place and tries to understand it and make sense of it.

Carol Dweck (2008) proposes an interesting way to awaken children's imagination and creative thinking. Teachers' using language of possibilities ('what if' language), for example by asking 'What would happen if there was no TV and the internet?', allows children to dwell on different ways of spending leisure time or getting the latest national and international news. Maybe it will be difficult for them to imagine such a world as they do not know it, but when they let their imagination run free, they will imagine and make up alternatives for the world without the media. Later on the teacher can tell children or encourage them to look for information about the long-gone world without the TV, the internet or even electricity! It will be a great adventure and an attempt to understand our history and technological advancement.

Ellen Langer at Harvard University has shown that the teacher's choice of language can make a great difference to students' creativity.(...) Langer explains that 'could be' language invites students to think how else things might be. 'Is' language simply has to be grasped. If something is the absolute truth, all you can do is try your best to understand and remember it' (Claxton, p. 26).

On the other hand, using 'could be' language with children automatically turns on their thinking and deliberating if something really looked like this or not, and what might be the consequences of the phenomena under discussion. In this way children develop their critical thinking which allows them not to take things at face value but speculate and check the phenomena they are learning about.

3. PROBLEM-SOLVING

Being able to use one's thinking skills to solve problems is a crucial factor in achieving success in adult life. The process of solving problems stimulates and develops thinking and reasoning of students, builds up the confidence in their own capabilities and the sense of ownership so essential in early schooling. When children tackle a problem they make connections between different fields of the knowledge they have and expand the network of their concepts (Fisher, 1999, p. 107).

In traditional schools students usually deal with closed tasks which suggest only one right answer. The problems are often artificial, having little to do with the ones children deal in real life, which, of course, does not spark up curiosity or internal motivation to solve the problem. Joan Rudduck, among others, studies children's views on education and claims that children would like to solve problems relating to their own lives, which are socially important and up-to-date rather than those fabricated for schools and recurring every year (Rudduck, 2011). Letting children take part in planning their learning and decide as to what, how, who with and where the learning should take place positively affects their learning, sparks their curiosity and self-reflection. It is because it is the students who are the best experts on their own learning experience. Other research confirms that students are more diligent and better tackle complex tasks when they can engage in more 'authentic' activities (Barron, Darling-Hammond, 2013, p. 310). Students learn problem-solving strategies more effectively on the tasks they have chosen themselves than those that were imposed on them, because it is easier for the students to pin down the problem's significance, talk about its meaning in their own words and decide what it is all about. Thanks to this students will be able to plan all necessary activities to solve the problem, finish the task and check the results. It is essential that students have trust in their own abilities, can get teacher's support when necessary, have access to resources, have enough time and feel safe. The teacher who wants to help students deal with a variety of problems should follow the advice of Robert Fisher:

- learn along with your students
- admit that there are things you do not know and you make mistakes as well
- give the child the right to decide
- intervene only when necessary
- encourage children to work together
- do not hasten them, give them time to think

- reward bold risk undertaking
- accept the solutions the children suggest
- praise children for the effort they have put in and motivate them
- praise yourself too for the effort you have put in! (Fisher, 1999, p. 118).

Thanks to such attitude on teacher's part the students will be willing to share their problems and collectively handle more and more difficult and complex problems. It is advisable to encourage students to note down their ideas, questions and solutions in their study journals, and keep a log with comments on their work on particular problems. The journal will turn out useful when deciding what to work on next while the record of student's progress is going to boost the self-confidence.

It is also essential that students get feedback as it helps them adjust the activities for a given task, manage their work better and monitor the process of learning. Formative evaluation is about the process rather than the result, so students do not perceive the cognitive skill as a fixed feature, but as a dynamic phenomenon relying mostly on the effort that has been put in a given task. Such attitude may strengthen students' motivation for it reinforces the belief that they can learn (Barron, Darling-Hammond, 2013, p. 327).

4. THE SIGNIFICANCE OF COLLABORATION IN DEVELOPING THINKING

Learning is a social process. Thinking also results from a social process subjected to individual internalization after reaching social expression (Spear-Swerling, Sternberg, 2003, p. 100). A great deal of researchers confirm this theory: Lew Wygotski (1978), Albert Bandura(2007) or Knud Illeris (2006) just to name a few. Also Jerome Bruner writes that according to the latest research on man, the greatest effectiveness is reached when thinking is participatory, proactive, shared, collaborative and aiming at creating meanings rather than receiving finished ones (Bruner, 2006, p. 122). Learning cannot be forced because it is always the activity of a particular individual, but it can be initiated, enhanced and facilitated by a teacher or peer. Cooperative search for the answers to one's problems and a common effort to solve a task develop students' thinking, help them construe their own knowledge system and discuss it with others.

Collaboration allows discussion, negotiating of meanings, and learning from each other. This is why class and group discussions and collaborative, real-life problem-solving should be the staple of classroom agenda. It is crucial that students have opportunities to learn in collaboration, in a group and thanks to a group, along with their peers.

G. Claxton writes: 'Collaboration involves knowing how to learn with others. It means being able to work as part of a pair or a team, in a situation where no one person is in possession of all parts of the puzzle, and where the sharing of information and ideas is essential. Collaboration means being willing to share, and having the skills of communication to do so effectively. In many primary schools, Circle Time, for example, is already being used as a way of cultivating the requisite attitudes and abilities. Classes can be constituted as a group of research teams, each of which has responsibility for finding out part of the answer to a whole-class project, and then sharing that research with the other teams' (Claxton, 2002, p. 37). Students can be motivated to work in many ways but it is the teacher's role to undertake such collaboration not only with their own or other students, but also with other teachers who become partners in collaboration for the good of the children.

The success of effective team work lies in its organization, the choice of group members and a few other factors like: who chooses the task (the teacher or the team); the degree of teacher's intervention; the degree of responsibility of team members for the finished task (individual or group responsibility); the way the finished task is presented (group presentation, report presented by an assigned team leader or a team member; joint presentation of all teams, etc.); the type of evaluation (external reward); satisfaction coming from doing a task well (internal reward) or any other form of gratification (Wollman, 2013,p. 28-29).

David Wood points out to the conditions that have to be fulfilled so that the children can fully take advantage of group work. Every group should include children who have different opinions about the phenomena under discussion and those who will be able to voice various assumptions about how things are going to develop. This way children will more likely have different opinions about what is happening and, at the same time, they will reflect on and link various explanations collaboratively, which creates an opportunity to verify former views and design more sophisticated theories about the real world (Wood, 2006, p. 265).

This is why the tasks teachers offer to students have such significance. When children work on simple tasks meant to revise knowledge, they become more competitive. On the other hand, problem-solving tasks encourage collaboration (Johnson D.W., Johnson R.T., 1989, p. 174). Thanks to collaborative work on open-ended tasks, children have the opportunity to express their own opinions, come up with new ideas, negotiate and try out different solutions.

Problem-solving can take on different forms; children can handle a variety of projects in groups, cooperatively choose the tasks which are important, intriguing and interesting, and work on them with other children. It is important that the tasks relate to children's experiences, interests, life and concern the matters coming from their own current experiences or reflections. This is when children are more motivated to solve the problem at hand and the collaboration reaches higher levels.

5. PROJECT-BASED TEACHING TO INCREASE THINKING SKILLS

Various research states that when students face more attractive tasks their motivation to study rises, which in turn increases the quality of education in general. In order to be sure, however, that the student motivation is at its peak students must have the freedom to think up their own tasks and projects. The self-initiated tasks coming from children's interests and close to their experiences and needs may boost the children's activity to a much higher degree than those imposed by the teacher, or even offered in a set of tasks to choose from; teacher's tasks do not originate in the children's world. How can this be achieved?

Yet another beginning of school year, the first class after summer vacation. Teacher and students leisurely talk about the summer, about what students have experienced, what they have learnt, and then the discussion turns to planning school work; the teacher asks: what would you like to learn, what would you like to find out, etc. The class discussion, or brainstorming, can suggest some interesting topics which at least some children would like to pursue. This is how teams or groups come into being. The children most interested in a given topic form a team. Let us choose 2-3 topics first, the rest will have to wait. Project work can take up a week, two or even longer depending on the chosen topic. When the children finish working on the project, they present its outcomes, i.e. what they have learnt, their new skills or the products of their work to others. Children learn from each other, everybody is interesting, each subject is worth talking about so the end of the project usually brings about next topics to work on. In this way work rhythm sets the pace of group work and children change groups according to the topic they want to pursue. The quality of work constantly rises because groups strive for the best results to show to others and achieve perfection in the new skill so as to teach it to others. Each child has their own role in the group and contributes to the joint success. Team members will make sure that all children tackle a task tailored to their skills. A dozen or so projects can be done in a school year. The teacher watching over the project does not intervene unless they are asked to do so, and then, when students are stuck, need information or other form of assistance, encourages the students to look for the answers by themselves, ask their peers or other adults outside school. The students should treat the teacher as a last resort.

Everyday life provides a variety of topics that are interesting to children and is more meaningful than any textbook. Teaching children real life allows for discussing all the subjects because students will be more motivated to study them when they see they are useful. Teachers can show the children different requirements for various stages of education but should not impose the pace of work of individual students. End-of-year tests will verify that. In the initial stage, when children are not sure yet how they

are supposed to work, the teacher can bring ‘sensational’ news into the classroom and let the children decide if the matter is important to them and if they want to follow the lead.

Thanks to project work children are able to develop responsibility for themselves. They learn how to plan their work, collaborate with others, look for answers in different sources and deal with uncertainties, problems, or getting stuck. They learn how to learn effectively and efficiently and the new knowledge will stay with the students longer and will turn out useful in their everyday life. It will help pin down and develop students’ interests and help them find direction in adult life. The children will develop their talents and follow their interests, indulge in passion and discover their element (Robinson, 2009); in such an environment the work will be a pleasure rather than a necessity, and the job market will get better-prepared, confident and creative employees and employers.

Project assessment and their results should be taken over by students; in the beginning, the teacher could help students decide on the expectations and the range of requirements for different levels, which will support the future self-assessment and facilitate the monitoring of the project. Formative evaluation serves the same purpose.

6. TWO NOVEL IDEAS FOR THE CREATIVE SCHOOL OF THE FUTURE

Teacher’s task in a contemporary school should be designing and orchestrating *educational opportunities* for the students rather than following the top-imposed curricula. In Ryszard Łukaszewicz’s view, the author of the approach, such opportunities spark children’s imagination and break routine in order to develop their own learning potential. According to R. Łukaszewicz, education is a permanent opportunity to explore the world and oneself; to use one’s imagination; to create new ideas while knowing they take origin in the past; to think new thoughts and come up with breakthrough ideas; to venture beyond the given data and information; to play wildly with new combinations; and finally, to ask even more new questions (Łukaszewicz, 2012, p. 39-40).

Each *educational opportunity* consists of three elements: introduction, open ended or closed tasks and a freedom of choice. The introduction creates the climate in the classroom, captivates imagination and brings in emotions (melancholy, joy, surprise, sadness or longing). An attractive and well-arranged introduction will include both psychological and material elements (creating an appropriate climate, arousing children’s curiosity about unfamiliar objects, a wide range of surprises, changing the décor of the classroom or its part). The introduction can be carried out by the teacher; the teacher with the help of children; or the children, who can prepare this initial stage at will (Łukaszewicz, 1994, p. 85). This stage introduces the topic and prepares children to ‘play’ with the task that the given *educational opportunity* offers. The freedom of choice stimulates children’s decision making, so vital in developing their self-reliance and the sense of ownership. The choice may concern the length of the activity, the choice of working partner, the ways of dealing with the task, work techniques, the choice of tools and objects, choice of the body posture during work, desired results, forms of expression, etc.) (Łukaszewicz, 1994, p. 85).

I would like to mention an example of an *educational opportunity* entitled ‘School Treasures’ for Year 1:

Introduction. Treasures have always pulled people’s imagination into a whirlpool of adventures and dangerous searching. We not only remember ‘Treasure Island’ or Ali Baba’s fabulous sesame but also the legendary gold sunken along with the Spanish galleons. Nobody knows when the curiosity and looking for the treasures is going to turn into looking for knowledge, and we all know the phrase ‘treasure house of knowledge’. There must be more to it than just looking for trinkets. Let’s start the search in the library.

Task. If books are treasures, and there are a lot of books at school, then the school is full of treasures. Are there other treasures at school? This difficult question is also attractive for it initiates the search for treasure. Just think!

Comment: We spent two whole hours in the school library; bookshelves, catalogues, pigeonholes, fairy tales here, travelogues there and ... 'Winnie the Pooh'. There is also this old book published by 'Skarbnica' (*treasure house in English*) so let's start here. We go back to the classroom. The discussion lacks momentum, which is because the children heavily rely on books, resources, or tools like OHP, computer or TV. No hints seem to help; the children have to be told straightforward that the greatest school treasure is the children themselves. That's when we can press them down, using their puzzlement and ask: Why? Why? (Leksicka, 1997, p. 76-77).

I became familiar with the designed *educational opportunities* 21 years ago when I went with my students to 'NATURAmy' Ecological Education Workshop organized by R. Łukaszewicz for students and teachers from Poland and abroad. Throughout the whole week we experienced the nature and all the issues concerning her devastation by means of *educational opportunities*. The children opened themselves to new opportunities and were active like never before, while for the teachers this eye-opening experience proved that it is possible to work with children in a different way. Back at school I often used this approach working with my own students. I also participated in teachers' workshops where this approach was in use. Thanks to this, all of us discovered something for ourselves and in ourselves: the unknown world of possibilities and creativity. I strongly recommend exploring the approach and its author by going to <http://www.wsp.wroc.pl/>, the website created by Wroclawska Szkoła Przyszłości (Wrocław School of Future).

As the challenge for our times is not the amount of possessed knowledge but its understanding, expanding and helping others make use of it, (let's call it 'persevering in the web of knowledge') (Piasecki, 2011, p. 35), the most crucial aim of schooling should be teaching students how to learn, i.e. developing their learning power. Such goals are achieved by Building Learning Power, called *Rozwijanie Potencjału Ucznia się* in Poland. The approach was created by Guy Claxton over a decade ago and is being successfully introduced into thousands of schools worldwide, from Great Britain, Ireland, Sweden, Germany, Spain to New Zealand, Australia, Chile, Argentina or Brazil, and more recently a few schools in Poland.

G. Claxton maintains, just like many other researchers, that intelligence and abilities are not fixed, which our genetic history or multiple diplomas might suggest, but they can be developed throughout entire life. Just like body muscles that can be worked out and shaped with a variety of physical exercises to achieve greater strength, suppleness and agility, also our learning power and intelligence can be developed. Learning process never ends, especially nowadays, when we oftentimes change jobs, which entails continuous developing and mastering our skills, knowledge and qualifications. Lifelong learning is thus a key skill which we should learn at school. If students know how to learn, they will learn whatever necessary at a given moment and will have no difficulty finding necessary information; the school should teach them how to sort out the information, how to use the new skills and keep learning throughout life (Wollman, 2013, p.12).

It means that helping students become good learners does not mean only teaching them a few techniques facilitating learning. The whole person is important: their attitude, values, self-confidence, relations with others and also abilities and learning strategies. Being a truly good learner means knowing the value of learning; knowing what you are good at in learning (and not really good at); knowing who can help, how to face obstacles with confidence and what tools to use to complete a given task, which are referred to as learning dispositions (Claxton, 2002, p. 15).

Recently, David Perkins and his colleagues developed a model of good thinking that makes dispositions its central theme. They propose that seven dispositions make up the essence of what it is to be a good thinker:

1. The disposition to be broad and adventurous.
2. The disposition toward sustained intellectual curiosity.
3. The disposition to clarify and seek understanding.
4. The disposition to be planful and strategic.

5. The disposition to be intellectually careful.
6. The disposition to seek and evaluate reasons.
7. The disposition to be metacognitive. (Perkins, p. 116)

Guy Claxton, who embraces Perkin's findings, mentions 4 learning dispositions: *resilience*, *resourcefulness*, *reflectiveness* and *reciprocity*. Each disposition includes four or five *capacities*, the main elements of *Building Learning Power (BLP)*. All this is slowly and systematically taught at school; children can learn the necessary competences step by step to allow them to be able to learn different contents in a variety of conditions and use them at school and also later in life (Claxton, 2010). These dispositions are at the same time aspects of learning, which school does not necessarily take into account: emotional (resilience), cognitive (resourcefulness), strategic (reflectiveness) and social (reciprocity).

Resilience, which is being willing, ready and able to lock onto learning, is made up of four capabilities: absorption, managing distractions, noticing and perseverance. This emotional aspect of learning involves the learner working on himself or herself. Developing this aspect helps children understand that learning is difficult regardless of students' intelligence, that it requires effort and ability to manage negative emotions when making mistakes or getting stuck, and to overcome distractions. Resilient student can focus on learning, likes to learn, enjoys challenges and is confident to face obstacles (Claxton, 2002, p. 19-23).

Resourcefulness, being willing, ready and able to learn in different ways is made up of the following capabilities: questioning, making links, imagining, reasoning and capitalizing. Being resourceful means having a broad set of attitudes and strategies that can be used when the world becomes strange or escapes control. Good learner can embrace the uncertainty effectively, which will most likely equip them with the sense of understanding and perfection (Claxton, 2002, p. 25). In uncertain situations a resourceful student is going to ask questions, combine them with the knowledge they already have, use their imagination to create things and their minds to check if it works. They will also take advantage of all available resources, other students, books, the internet and, finally, teachers in order to facilitate their learning.

Reflectiveness, which is being willing, ready and able to approach learning more strategically is made up of: planning, revising, distilling and meta-learning. This strategic aspect of learning to learn helps children think about themselves as learners and their learning process. It shows how to set learning goals, how to plan and organize work, how to monitor and adjust if necessary. Helping students understand how they are learning is called meta-learning. It enables students to actively monitor, assess, and optimize their learning and make use of knowledge (Hartman, 2013). Hand-on learning allows making conclusions and transferring the new knowledge onto other school subjects or outside school. When students are aware of their skills they can motivate themselves, monitor, assess and set new tasks.

Reciprocity, which is being willing, ready and able to learn by oneself and with others, is made up of: interdependence, collaboration, empathy and listening, and imitation. This social aspect of learning is essential nowadays. Most jobs require collaborating with colleagues and other people. Making students realize that in a society nobody is a lone island but an interdependent member of a wider society, is an important task in teaching. This is when students learn the value of collaboration, empathy, listening to others or learning from others and they will find it useful when building a citizen society. Teacher's role is to bring up children to be willing to help, sensitive to the needs of others and working for the common good (Wollman, 2013, p. 15).

Developing these dispositions in students will help them learn in a variety of situations they are going to face later in life and, as research proves (Claxton, Chambers, Powell, Lucas, 2011), lets them improve the quality and effectiveness of their learning to higher levels, which means they do well in the exams and set goals for themselves. It requires, however, the change in the attitude and practices of the teacher. The teacher is not only a medium to transfer knowledge but becomes an inspiration for students' activities, a facilitator as well as a coach, a person supporting an individual exploration of the

world. Teacher's role has undergone major changes. Giving students freedom and space to learn, along with minimum teacher input and instructions, will help children build up their knowledge and learn to learn better (Wollman, 2013, p. 15, 16).

G. Claxton describes it: 'Teachers can promote learning power through: a) what they explicitly value and discuss with the whole class, b) how they talk to groups and individuals about their learning and achievement, c) the activities they select, d) and what they themselves model about learning. We call these four general categories explaining, commentating, orchestrating and modeling' (Claxton, 2002, p. 69).

Thanks to the teacher's support children are able to monitor their own learning, they know what is important, what they are learning and why, how, with what results and at what level. Posters in the classroom, such as *What good learners do* or *What to do when you don't know what to do; the Learning Walls* with the display of students' work in process, *Learning Journals* and many others also support and help remember how to learn (Claxton, 2002, p. 71-75). Teachers' current feedback serves the same purpose as an element of formative evaluation.

Commentating helps students monitor their work and adjust it in progress, and teachers notice students' progress, obstacles or doubts. This is how the teacher supports the students, directs and monitors their individual work, lets students learn from their own mistakes and creates the environment where effective learning takes place (Wollman, 2013, p. 17).

Orchestrating work involves support and hints in the form of the posters, displays, etc. telling children what to do when they are stuck, where to look for help (other students, books, their own resources) before the teacher tells them what step to take (Claxton, 2002, s. 68-100). Proper classroom environment with separate corners to study specific skills (class library with pillows to lie down on and read, 'reflection corner' with a curtain and an iPod with music which might help sort out thoughts or let imagination run wild) help all students study on their own or in a group, at their own pace, in an specific way and according to their own needs. Such environment encourages every child (Wollman, 2013, p. 17-18).

If we want to encourage children to learn and teach them how to learn, we, the teachers, should become an example. Students need to see a model to rely on so that they understand what learning is. The teacher should not pose to be someone who already knows everything and there is nothing for them to learn. On the contrary, teacher should be seen as a person who wants to learn as well, who makes mistakes, which also help him learn, has their passions they share with the students, asks questions about things they do not know and wants to learn from students and with students. Attractive, ambitious and challenging tasks can be pursued, the ones without ready answers which when done along with the students help discover the fascinating world of knowledge, develop interests and help learn to learn. To become such a teacher you need courage and will as well as an excellent job training in order to arrange learning environments rather than just transfer knowledge. Such a teacher should use the language of learning to specify children's work and teach them to think about learning. Instead of using 'is' language, e.g. '*it is a fact; that's how it went*', teachers should use 'could be' language, e.g.: *maybe that's how it went, maybe this is because...* etc. (Langer, 1997): In order to prepare students to live in uncertain times, the classroom must be a place where children face uncertainty, learn from each other and with the teacher how to face it, how to be persistent and how to overcome failures in order to explore the world and oneself (Wollman, 2013, p. 18).

It is not only the teacher who creates the social sphere of education but also students' peers, who often become each other's teachers. It is important that learning to learn becomes what everybody wants to do and does it with pleasure, persistence and never-ending enthusiasm, but also so that learning to learn becomes the center for all the school and creates a culture of mutual learning for students and teachers (Wollman, 2013, p.18).

I am currently trying to introduce Building Learning Power into seven primary schools. The task is not easy due to the Polish teachers' habits and their mentality still stuck in the previous political system. Teachers expect ready-to-use and well-tried patterns, constant monitoring and assisting them with designing class activities. It is hard to free oneself from the old-time thinking and schooling, where the

teacher and the curriculum are more important than the child with their potential, which needs continuous stretching and developing. To a certain degree this is due to the current school requirements; teachers are expected to follow and fulfill the curriculum and are held responsible for the end-of-year test results. Moreover, there are more teachers than jobs in Poland. Thousands of freshly-baked teachers (mostly graduates of colleges established in the last 15 years) enter the job market, while there are fewer and fewer teaching positions due to the decline of births. This is one reason why teachers are afraid to introduce innovative practices into schools as they are believed to be risky and prone to failure, which teachers are not fond of.

This is why I started introducing Building Learning Power into small schools, prevented from closing down (due to the insufficient number of students) thanks to 'Elementarz' Foundation in Katowice. It is easier to talk teachers into introducing the new approach for they do not have to follow the top-imposed curriculum and, at the same time, are used to introducing novel fascinating projects into their practice.

A long way before us but it is worth the effort to change the school from inside and show other schools and teachers that it is possible to do something that can help students, teachers and schools achieve success. I constantly train teachers who come up with more and more questions. Let us learn together by working with children how to create a new quality of school and education.

Teachers must have confidence in themselves and free themselves from the throes of teaching they have acquired in the course of their entire education. This daunting task requiring a scope of courage to venture into the unknown and overcome one's blocks and limitations is the way to develop and transgress. Only the teachers who have and still experience joy overcoming their own obstacles will be good examples to their students. Children, on the other hand, watch their teachers and find courage and willingness to change and to develop which, though hard at times, gives better results than safe solving of the imposed tasks.

The above examples are only suggestions that can be used to change the culture of a school and, more importantly, oneself as a teacher. You can try out a little change in your teaching, for example, let the children pick a task, make their own ones or assign a whole day for students' questions, problems, doubts and individual ways to find solutions. You will soon find out how quickly the attitude to learning changes for better, how students' independence and activity rise and how thinking skills develop. Give your students a little more freedom, trust them and you will witness incredible surge of talents, gifts and abilities. Dare to be brave to introduce one little change and let yourself be surprised by the results. Good luck!

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