How to Encourage Creative Problem-Solving: The Finnish Model

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*Editor's Note: Janet English, Academic Coach for El Toro High School in California, spent six months in Finland on a **Fulbright Distinguished Award in Teaching**. While there, she discovered a tool to assist students in developing creative problem-solving skills. Her research is published in the e-book, **The Finnish Way to Optimize Student Learning**.*

By guest blogger Janet English

For six months, I traveled on foot, by bus, on bike, and by train to schools throughout Finland with my portable film studio. The goal for my Fulbright project was to interview as many students, teachers, parents, and administrators as I could to uncover the "secrets" of the Finnish education system. In the end, I interviewed 49 people, including children; adolescents; parents; administrators; Finnish students who had attended schools in both Finland and the U.S.; Pasi Sahlberg, author of ***Finnish Lessons 2.0**: What Can the World Learn from Educational Change in Finland?*; and Andreas Schleicher, Director of the Programme for International Student Assessment (PISA), and author of the newly released book ***World Class: How to Build a 21st-Century School System***.

During my travels, I would come to find out that Finland, a culture passionate about optimizing learning for every child, would challenge nearly everything I considered normal in education. What I learned is that almost everything that has been written about the Finnish education system falls far short of the depth, breadth, and value of what they have created for their children. The Finns consider their children to be their most valuable natural resource; the way they treat their children is commensurate with their perceived value. I was hopeful—yet skeptical—that the educational secrets that thrive and support the Finnish children would somehow reveal themselves in a way that could be adapted for American education. I was not disappointed.

I want to share with you one of the single most important tools I learned that can be used within the American education system. This tool costs nothing, it's easy to implement, and schools can begin using it tomorrow. This tool is a template for how to create an education system that empowers people to become effective thinkers and creative problem solvers within their domains.

It a cyclical process that involves evaluating a problem that has to be solved, considering what is working and what isn't working, and then empowering those with the most nuanced understanding of the problem to propose solutions, decide on a solution, and then work to solve it. Once the results start to appear, the process begins again.

How the Problem-Solving Process Works with Students

In the first week of my research, I visited three elementary school classrooms. In woodshop class, nine- and ten-year-old students designed and built wooden paper towel holders without any instructions from the teacher. In fifth grade science, students built chairs out of plastic parts without instructions from the teacher. Third grade students painted pictures of the moon shining through the Finnish forest. When I asked the teacher if the students had to solve problems in the painting assignment, she said, "Yes. I didn't tell them how to make brown paint."

In all three classrooms, teachers refrained from giving directions; there were no prescribed steps for students to follow. Teachers gave students a target such as, "Make a paper towel holder," and the students proceeded to design and make paper towel holders while continually evaluating how their work was proceeding. No two children created the same design, no two children had the same skills, and no two children had the same result when they finished. The teacher told me, "Students know what paper towel holders look like.They will all make paper towel holders, and all the students will be successful. The goal is to figure out how to design and make it their own way."

In contrast, American school teachers typically tell students exactly what they need to do to get a good grade; oftentimes, students are given a rubric for guidance. For example, in the situation explained above, an American teacher might say, "I need you to make a paper towel holder 12 inches tall with a base that has a 6 inch diameter."

I didn't see any Finnish teachers using rubrics, although it's possible they do exist. When I asked why they didn't provide rubrics, one teacher told me, "What would students learn if I told them exactly what they needed to do to solve the problem?"

I asked teacher after teacher, from pre-K through university level, how they teach problem-solving skills, and time after time I was told, "We give students problems to solve and then step back; we

only help them when they need it." I saw this in the woodshop class, in the science class, in the art class; and in kindergarten, in the secondary schools, and in the university.

Problem Solving on a Systemic Level

From students in the elementary schools to the professionals at the national level, I observed people approaching their problems with intellectual curiosity and focus to find the most effective solutions. Finnish adults often begin their meetings by discussing what is working and what isn't working within their domain. This means that teachers are making decisions about how to educate students, principals are making decisions about how to support the teachers and their school site, municipalities are making decisions about how to support the schools, and the National Board of Education is making decisions to support the entire system.

In contrast, the American system tends to be top-down in how decisions are being made; decisions about teaching and learning are often made by those who aren't teachers and aren't working directly with students on a daily basis. It is common practice in America for educational strategies to be implemented without the voice of effective teachers speaking for what's working and what isn't working with student learning. That being said, Bruce Alberts, former President of the National Academy of Sciences, saw the short-sightedness of this strategy and began the **National Teacher Advisory Council** (NTAC) and the **California Teacher Advisory Council** (CalTAC) to integrate the insight and wisdom of award-winning math and science teachers into educational policy and practice.

The Finnish system does not use a top-down approach to solving problems. By creating a hierarchical system where students and adults are trained to be effective problem solvers within their domain of influence, more effective decisions are made, and a more effective education system is the result. In terms of teaching and learning, teachers are the experts, and in the words of Tiina Taahka, prior Counsellor of Education at the Finnish National Board of Education, "Teachers have a lot of good ideas, and when they process those ideas, and share the ideas with each other, they can create an even better school than we could here in the Board of Education."