

**Project-Based Learning: Challenging High-Achievers and Building Transversal Competences**

FDAI Research project

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### **Abstract**

This research project studies the use of project-based learning (PBL) in a language class. Special interest areas are the use of PBL to develop transversal competences and to challenge high-achieving students. This study draws ideas from project-based enhanced language learning (PBELL) and gifted and talented education in the US. There are summaries of three different approaches to catering to the needs of gifted and talented students. The more theoretical section is followed by a list of possible working methods to be included in a PBL/PBELL cycle and an outline for a PBL cycle for senior students. The cycle is built around the six key characteristics of a PBL cycle. The driving question of the cycle is: How should you introduce and promote yourself both in writing and orally when applying to college abroad or when applying for a job abroad?

*Keywords:* project-based learning, high-achievers, gifted and talented students, transversal competences, student engagement and motivation

### **Biography**

Anna-Mari Ojala is a teacher of English as a foreign language (EFL) and teacher trainer at Viikki Teacher Training school of Helsinki University where her students range in age from 13-19. The student teachers she works with are finalizing their Master of Arts studies. In the last two years Anna-Mari Ojala has been involved in writing and implementing the new curriculum for the upper secondary school where she works. She received her master's degree in English Philology (minors: German Philology, Pedagogical Studies, Forestry Business and Marketing) from Helsinki University in 1993. Her list of publications includes three series of English textbooks that she has coauthored for middle school and upper secondary school level.

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## 1. Project-Based Learning: Challenging High-Achievers and Building Transversal Competences

This Fulbright research project explores how Project-Based Learning (PBL) could help both students and teachers face some of the challenges in foreign language classrooms in Finland. Special focus will be on what PBL has to offer high-achieving students and when teaching transversal competences, in particular co-operation skills and both self and peer assessment.

The new *National Core Curriculum for General Upper Secondary Education 2019* has a heavy emphasis on transversal competences (Appendix 1) but not much to offer when it comes to teaching them. Many teachers and students say they struggle in this area and need new tools to teach and practice these skills. Early research on PBL and Project-Based Enhanced Language Learning (PBELL) strongly suggests that the strategies and pedagogical innovations have much to offer in this area. Bell (2010) highlights the fact that through PBL, students learn from the processes: “They reflect on how well they worked in a collaborative group, and how well they contributed, negotiated, listened, and welcomed other group members’ ideas” (Bell, 2010, p. 43). These key steps of a PBL cycle have strong links to the transversal competences of *National Core Curriculum*, which implies PBL would help both teachers and students to rise to the challenge.

There are encouraging examples of Finnish science classrooms where PBL is used more widely. Makkonen, Tirri and Lavonen (2021)<sup>1</sup> suggest that PBL could be one of the keys to challenging gifted and talented students in Finnish upper secondary schools. This would be an important step as PISA surveys suggest that while the average student performance in Finland is good, there is room for improvement at both ends of the spectrum. High-achieving students are, to an extent, a group of students that are neglected in the Finnish school system due to the more pressing needs other students have. In an effort to reach all students in a class or provide support for those who may have disabilities, I often feel I am failing my high-achieving students and am intent to have more to offer them. Also, if these students are

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<sup>1</sup> One of the writers, Taina Makkonen, is a physics teacher at the school where I teach.

challenged and their social emotional needs are met, there will be fewer disruptions in class. I believe that other English teachers would welcome any new ideas on how to challenge this group of students.

The focus questions of my research project are:

1. How can PBL be used effectively to develop transversal competences in an EFL class?
2. How can high-achieving students be challenged with the help of PBL in an EFL class?

I have divided this paper into seven sections. In the next section, I discuss some aspects of the *National Core Curriculum for General Upper Secondary Education 2019*. I also present my context of teaching and why I want to focus on these specific questions in regards to language teaching.

Section 3 has short introductions to both project-based learning and project-based enhanced language learning. I focus on ideas relevant to this particular research project. Section 4 introduces gifted and talented education in the US. It is based on two school visits and an expert interview. I discuss what characteristics of gifted education could serve high-achievers in regular classrooms and also state briefly why PBL caters to the needs of high-achieving students.

In section 5, I present some activities I have either observed or myself experienced during my studies in the Fulbright DAI programme. These student-centred activities can be adapted to suit different age levels and subjects.

In section 6, I outline a five-lesson PBL cycle for 18-year-old upper secondary students studying English in Finland, first linking it with the six key features of a PBL cycle. The outlined cycle deals with future studies and working life and is tied with students' work in Module 6 of their English syllabus (see Appendix 3). Students will either be applying for a job or applying to study at a college overseas. I will be drawing ideas for this study unit from my reading on PBL and PBELL, the ASU course "English methodology: Composition", all the Fulbright sessions, the school visits and the English textbook used in this particular module at my school.

This research project does not focus on just one topic area but is rather an attempt to incorporate into one paper what I have observed, experienced or read about during my stay in the US, always relating

the contents to my context of teaching. The project serves as a tool of reflection. It is a way to digest the experience and to find the key takeaways from each topic area. I have tried to seize, to the best of my ability, this unique opportunity to learn by listening and observing and by talking to experts in the field of education.

I would very much like to thank the following professionals who have contributed to this research project in different roles: Clinical Assistant Professor Karen Guerrero for helping me to get started; Clinical Professor Molina Walters and Clinical Assistant Professor Jill Oliver for valuable feedback and interesting questions; Instructional Professional Alissa Nostas for excellent guidance during the writing process; Grad Teaching Associate Amber Curlee for fresh ideas on how to teach English composition; my partner teacher Brittany Gredlein for introducing the US school system; all the Fulbright Fellows for interesting discussions and fresh perspectives on issues; Beth and Mike Lang for running the Fulbright seminar and all the educators who have shared their time, expertise and let me visit their classrooms at the following schools: Hermosa Vista Elementary School, Mesa; Carson Junior High, Mesa; Westwood High School, Mesa; Keller Elementary School, Mesa; Lincoln Elementary School, Prescott; Herberger Young Scholars Academy, ASU; Great Hearts, Arizona and Highland High, Gilbert.

## **2. The Finnish Education System**

### **2.1. *National Core Curriculum for General Upper Secondary Education 2019 and Transversal Competences***

The new *National Core Curriculum for General Upper Secondary Education 2019* (henceforth referred to as *National Core Curriculum*) was published in late 2019. The closest US equivalent would be the state standards but the two are remarkably different documents. Thus, it is important to understand that the term *curriculum* has a very different meaning in the US and Finland, irrespective of whether referring to *National Core Curriculum* or individual school curricula in Finland. Individual school curricula are based on *National Core Curriculum* and schools started following these curricula in August 2021. To date, teachers have taught about half of the modules in the new school curricula.

The new *National Core Curriculum* is in many ways very similar to the previous national core curricula and builds heavily on the constructivist model of learning with the student taking an active role in the learning process. However, there is now more emphasis on the role of transversal competences, which comprise the common objectives of the upper secondary education. The idea is that these transversal competences serve as an integrative element between different subjects. More integration is needed as – unlike in most countries – Finnish upper secondary students (mostly aged 16-19) – study a minimum of 16 different subjects and students sometimes struggle to find links between different subjects and between subjects and real-world applications.

The six areas of transversal competence are:

- well-being competence
- interaction competence
- multidisciplinary competence
- societal competence
- ethical and environmental competence
- global and cultural competence

For more detailed information, see Appendix 1.

Each school subject approaches transversal competences in a subject-specific way. It is the subject teachers who decide which two competences will be focused on in each study module. However, in foreign languages you are likely to practice many or all the competences in each module, without necessarily emphasizing the two named for each module. That is definitely the case in the study unit I outline in section 6; the study unit touches all the six areas listed.

In my mind, transversal competences have close ties with what is often referred to as the 21<sup>st</sup> century skills or the 4 Cs: critical thinking, collaboration, creativity, and communication skills (see Appendix 2). Personally, I find these more approachable and easier to digest than transversal competences. My understanding is that the core is essentially the same: preparing students for the unknown future in today's

world of constant change, for example, by teaching them learning strategies and skills relevant in many different lines of work and contexts.

Two areas of the transversal competences - well-being competence and communicative competence - also have very close links to social emotional learning (SEL), a term I have encountered regularly here in the US. As with most aspects of education, each state defines its own SEL standards. For example, the Ohio Department of Education lists five key SEL competences: self-awareness, self-management, social awareness, relationship skills and responsible decision-making (Positive Action, n.d.).

To help US schools to meet these SEL standards, there are handbooks introducing practices and activities that promote students' social emotional learning. I value this hands-on approach. Some of the activities in section 5 of this research project can also be found in [SEL 3 Signature Practices Playbook 2019](#) by CASEL (Collaborative for Academic, Social and Emotional Learning). This playbook can be downloaded online and offers ways to support social emotional learning. A closer study on what action different US states or schools take to meet their SEL standards would offer fresh approaches and new activities to help Finnish students to develop transversal competences.

I would say that in Finland the main goal of social emotional learning is to support student welfare and peaceful coexistence in society, not to boost performance or career readiness, even though those may well follow. I might also add that people do not question whether SEL should be an integral part of the *National Core Curriculum* or not. On the contrary, many consider SEL one of the key components of the curriculum and SEL does not spark controversy, which sometimes seems to be the case in the US

## **2.2. Gifted and Talented Students in the Finnish Education System**

The Finnish school system has a long tradition of catering to struggling students. Often this means extra support in the form of remedial teaching or extra materials, especially in math and English. This policy is very much in line with the ideology that is the very foundation of Finnish welfare society. No child left behind. But what about 'every child succeeds'? Yes, gifted and talented students often pass the exams with



flying colors but do they challenge themselves during their studies? Not necessarily, I think. Research by Moon (2009) and Young (2021) has shown that too easy tasks lead to boredom, decreased motivation and underachievement (as cited in Makkonen et al., 2021, p. 506). I am sure, many English teachers in Finland have witnessed this in their classrooms.

The first Finnish core curriculum to include the term gifted is *National Core Curriculum for Basic Education 2014*. The Finnish school system has no special classes or programmes for the gifted. We only test for learning disabilities, not giftedness. Accordingly, *National Core Curriculum* has no definition for the term giftedness.

Thus, a major difference between the US and Finnish school system is that in the US there are services and schools first identifying gifted students and then catering to these students' needs. In Finland, however, the first admission process comes at the age of 16 when students apply to upper secondary school, i.e., the last three years of high school, or vocational school. Certain schools require a very high GPA, which means these schools have a highly selected student body. However, these students are not necessarily gifted and talented but may have other factors behind their excellent school performance, such as strong motivation or parental involvement, or they have simply worked very hard compared to most students.

For the reasons discussed above, instead of gifted and talented students, I prefer to talk about high-achieving students. The fact that they are high achievers may be due to, for example, giftedness, family background, parental involvement, creativity, intrinsic or extrinsic motivation, the role of informal learning in their lives or a combination of several different factors. My top priority as a subject teacher is simply to identify these students and try to cater for their needs in a regular classroom the best way I can. Studies have shown that PBL and PBELL offers new tools for meeting this challenge.

### **2.3. English as a Foreign Language**

To graduate from Finnish upper secondary school, students' studies need to include at least a foreign language and they need to pass the national matriculation exam in a foreign language. For the vast majority the first foreign language is English although there are other options, too. The studies now start in first grade at the age of seven and students always study in mixed-ability groups. At the start of upper secondary school (at the age of 16), students' language skills already vary widely, which poses quite a challenge for both teachers and students. This problem is most prevalent in English classes as informal learning through music and all forms of online consumption plays a major role in some students' lives and the learning process of this particular subject is highly cumulative. Again, this is one of the issues I hope to address with the help of PBL.

My preliminary reading on the topic suggests that Finnish foreign language classes and PBL and PBELL share many elements. One of the key ideas is the reference Bostick, Lund and Saltmarsh (2017) make to Miller, Bonner, Francis (2006) and Moshman (2017) paraphrasing them saying: "PBL is an educational policy rooted in constructivist theories in which students learn contents through an open-ended, student-centered experience" (p. 3). This sentence could easily be embedded in any Finnish curriculum. I suggest it is also one of the key ideas when it comes to differentiation in large, mixed-ability classes. I am a strong believer in open-ended tasks, collaboration, and student choice when it comes to successful differentiation with few extra resources.

Also, the ideology behind PBELL seems to be very similar to the one in the *Common European Framework of Reference for Foreign Languages – CEFR* (2020), on which all language teaching heavily relies in Europe. Students need to be involved in meaningful, real-life tasks where the goal is communication and interaction, not perfect language skills. The emphasis is on what you *can* do with the language in question. All language skills, no matter how basic, are considered an asset.

It was interesting to encounter a very similar line of thinking in a reading assignment I had for my English methodology class here at ASU. The paradigm shift described in the chapter *New Goals for Writing*

(Soven 1999) is very similar to the one gradually generated by CEFR over the last 25 years or so. It has been a slow process, but the approach has definitely changed.

### **3. Introduction to PBL and PBELL**

#### **3.1. Project-Based Learning**

Project-based learning is an inquiry-based approach that starts with a driving question. According to Krajcik and Shin (2014, p. 281), a good driving question should be based on a real-world problem that learners find meaningful, and they refer to several studies supporting this view.

On their website [PBLworks](#), Buck Institute defines PBL to be “a teaching method in which students gain knowledge and skills by working for an extended period of time to investigate and respond to an authentic, engaging, and complex question, problem, or challenge”.

Krajcik and Shin (2014, p. 276) list six key features of a PBL learning environment:

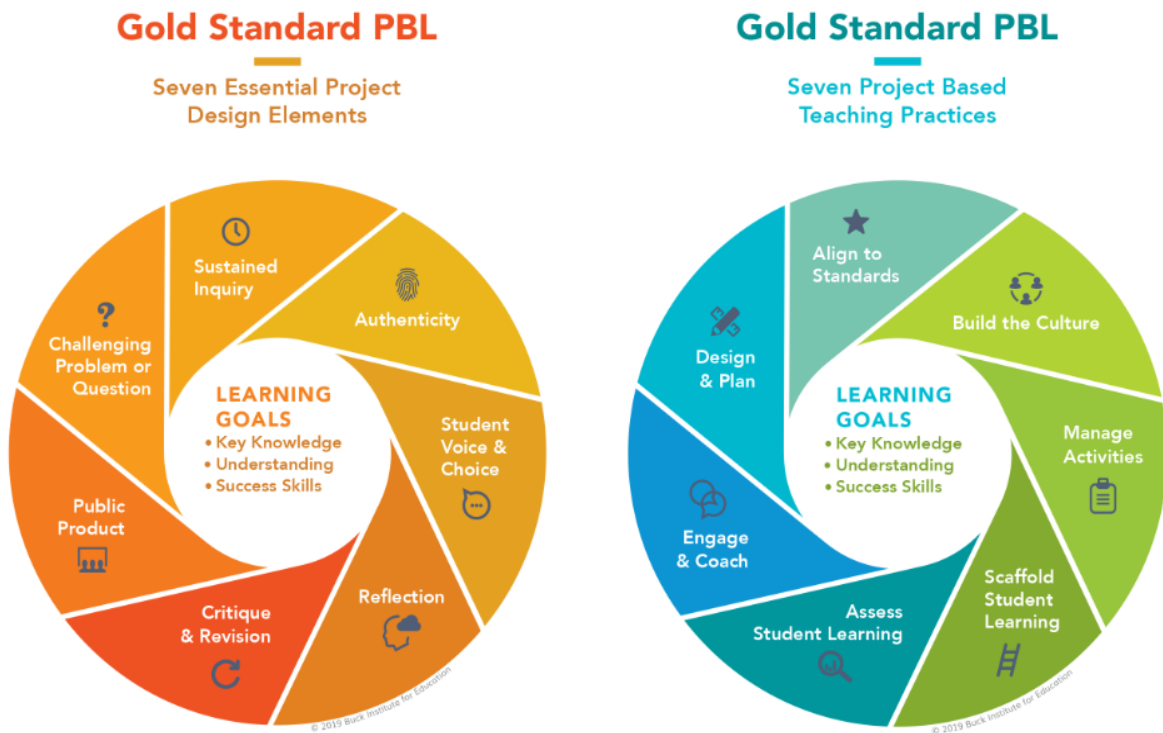
1. a driving question
2. learning goals
3. participating in scientific practices
4. collaborative activities
5. students are scaffolded with learning technologies
6. students create a set of tangible products

Their research on PBL has mainly focused on teaching sciences but PBL has been used successfully in other subjects, too.

Another framework for structuring, planning and evaluating a PBL unit is to use the criteria for *The Gold standard PBL* presented on the website [PBLworks](#) (Buck Institute for Education, 2019), promoting “research-informed models” for PBL. Accordingly, their criteria for a high-quality PBL cycle overlap with the list of key features by Krajcik and Shin (2014, p. 276). The two illustrations below focus on two different aspects of teacher’s work: first planning a PBL cycle and then evaluating the work done. The one on the left

provides a framework for a teacher designing and developing a PBL cycle. The one on the right helps teachers to assess their practices at the end of the cycle.

Figure 1



Note. Reprinted from The Gold standard for high-quality PBL (Buck Institute for Education, [PBLworks](#))

The main inspiration for this research project is Stephanie Bell’s article *Project-Based Learning for the 21<sup>st</sup> Century: skills for the Future* (2010). She defines PBL as “a student-driven and teacher facilitated approach to learning” (p. 39) that promotes independent thinking. What makes Bell’s article particularly interesting to me is that it can be characterized as action research (AR). Action research “involves teachers taking ‘action’, often in the form of an intervention, to systematically investigate, through ‘research’, a classroom issue they feel is worth exploring” (Burns, & Edwards, 2015, p. 6). Bell’s AR cycle of planning, acting, observing and reflecting is closely linked to my work as a teacher and teacher trainer. In the article, she describes her experiences of using PBL in her elementary school classroom and highlights many positive elements.

In regard to the 21<sup>st</sup> century skills, Bell (2010, p. 40) states that PBL teaches students “responsibility, independence and, discipline”. It requires students to work together and promotes social learning and collaboration skills. Accordingly, at the end of a PBL cycle, Bell’s students do not only evaluate their learning, but also the learning process. Students reflect on “how well they contributed, negotiated, listened, and welcomed other group members’ ideas” (Bell, 2010: p. 43). These are all vital learning goals when it comes to preparing our students for the future. The introduction *What is PBL?* on the Buck Institute website [PBLworks](#) also acknowledges the power of PBL when teaching critical 21<sup>st</sup> century skills: critical thinking, collaboration, creativity, and communication skills.

Bell (2010, p. 40) stresses that student choice is the key success factor behind PBL. It allows students to pursue their own interests and “soar and learn at their own levels” (Bell, 2010, p. 41). Student choice also means that PBL has differentiation built in the task cycle. Students can choose their learning modality, their individual way to demonstrate their learning or they can even choose the learning environment. According to Bell (2010, p. 41), this kind of differentiation boosts intrinsic motivation and motivated students push themselves and reach higher than they normally would.

However, Bell and other writers (Kokotsaki, Menzies, Wiggins, 2016; Krajcik, Shin, 2014) all stress that careful scaffolding by the teacher is essential during a PBL cycle. The teacher should offer scaffolded instruction to support progress and to motivate where necessary. Moreover, the study by Makkonen et al. (2021) acknowledges that Finnish upper-secondary students would benefit from extra support scaffolding creates when it comes to collaboration among group members.

PBL has its limitations, too. According to Krajcik and Shin (2014), PBL requires “a considerable amount of curriculum time” (p. 281). This is a major concern in Finnish classrooms where each individual subject has very limited time resources. Krajcik and Shin (2014) also acknowledge that students struggle to create questions that incorporate all the elements of a good driving question. Thus, it is essential that curriculum designers write the curriculum around meaningful, authentic, real-life problems that motivate

students. Accordingly, Krajcik and Shin (2014) refer to several projects where they, in collaboration with teachers, have created the driving questions and then built the curriculum around those questions. The key issue for me as a teacher would be to focus more on the driving questions embedded in the new English syllabus for upper secondary students and build my lessons more carefully around those questions.

Last, I would like to note that the abbreviation PBL is used to refer to two different concepts: project-based learning and problem-based learning. In his article [\*Project-Based Learning vs. Problem-Based Learning vs. X-PL\*](#), Larmer (2015) describes project-based learning “a broad category” that manifests itself in many different forms but all these forms include a project. He continues to explain that at Buck Institute of Education, they see project-based learning as an umbrella term that includes newer approaches, such as problem-based, challenge-based or design-based learning. These “modern versions of the same concept” meet “to varying degrees” (Larmer, 2015) the standards set by Buck Institute for high-quality PBL. (For these standards, see the graphs in section 3.1.)

Table 2

Project Based Learning vs. Problem Based Learning	
<b>Similarities</b>	
<p><b>Both PBLs:</b></p> <ul style="list-style-type: none"> <li>• Focus on an open-ended question or task</li> <li>• Provide authentic applications of content and skills</li> <li>• Build 21<sup>st</sup> century success skills</li> <li>• Emphasize student independence and inquiry</li> <li>• Are longer and more multifaceted than traditional lessons or assignments</li> </ul>	
<b>Differences</b>	
Project Based Learning	Problem Based Learning
Often multi-subject	More often single-subject, but can be multi-subject
May be lengthy (weeks or months)	Tend to be shorter, but can be lengthy
Follows general, variously-named steps	Classically follows specific, traditionally prescribed steps
Includes the creation of a product or performance	The "product" may be tangible OR a proposed solution, expressed in writing or in a presentation
May use scenarios but often involves real-world, fully authentic tasks and settings	Often uses case studies or fictitious scenarios as "ill-structured problems"

Image Credit: John Larmer

Note. Reprinted from Larmer, J., 2015, [Project-Based Learning vs. Problem-Based Learning vs. X-PL](#)

### **3.2. Problem-Based Enhanced Language Learning**

Problem-based enhanced language learning relies on the constructivist approach to learning. It takes the PBL pedagogy and enhances the learning process by offering students language support and scaffolding (Bostick, Lund, & Saltmarsh, 2017, p. 3). The thinking behind PBELL is to learn a language “through content rather than learning a language” (Bostick, Lund, & Saltmarsh, 2017, p. 3). This definitely strikes a chord with many EFL teachers. The best feedback I have ever received on a textbook I coauthored said that the student had used the content from the English textbook when taking the matriculation exam in biology.

The strong need for language support in US classrooms is due to the changing student population in US schools. In states like California and Nevada, about 20% of students in public schools have a primary home language other than English. In 2015 the percentage of these students in the whole of the US was nearly 10%. These English language learners (ELLs) are also the fastest growing student population (Bostick et al., 2017). To an extent, this is a global phenomenon and can be witnessed in Finland, too. Due to a growing number of refugees, immigrants and multicultural families, more and more students need extra support in Finnish, the language of instruction in Finland.

The *Finnish Curriculum for Basic Education* now states quite clearly that every (subject) teacher is also a Finnish language teacher and topic specific language support needs to be built in the lesson plan. Very similarly, Bostick et al. (2017) share this view from the US perspective, summarizing that “all content areas should have a deliberate and focused emphasis on language development” (p. 3).

However, I believe that PBELL does not cater only to struggling students’ needs. I suggest all students of foreign languages would greatly benefit from the inquiry-based approach and further emphasis on learning a language through content. To an extent, that is already reality in EFL classrooms but there is room for improvement.

During a PBELL cycle students use the language to interact and collaborate with each other, to activate prior knowledge, to study a topic, to find solutions and to present their work, preferably to an



audience. The difference between a PBL and PBELL cycle is simply the language support built in the cycle. PBELL lessons “include scaffolds and strategies that provide access to both the language and the content” (Bostick et al., 2017, p. 6). Therefore, the teacher needs to ensure careful scaffolding during a PBELL cycle so that students have the language support needed. A good way to approach this is to start with the function language serves with each task (Bostick et al., 2017). What type of vocabulary will be required to fulfil the task? Is the register formal or informal? Are there topic-related chunks/collocations that would offer useful scaffolding?

Bostick et al. (2017) emphasize that students need to practice and receive support in all four language areas: reading, writing, speaking, and listening. This is slightly surprising in an English as Second Language (ESL) context where English is the main language spoken in the country and where students are surrounded by the language. I would expect informal learning to play a major role in an ESL context in regard to speaking and listening, simply because this type of informal language learning outside the school has had a considerable positive effect on students’ learning even in EFL classrooms (English as a foreign language) over the last 15 years.

Based on my reading, I would advocate the use of PBL/PBELL in foreign language classrooms. The list of six key characteristics of a PBL cycle offers very concrete scaffolding for a teacher planning an inquiry-focused cycle and is an excellent tool for thinking. PBELL material, on the other hand, can shed light on new kinds of systematic language support in different stages of the cycle.

#### **4. Gifted and Talented Students**

##### ***4.1. Gifted and Talented Students in US Schools***

The US has a wide variety of services and schools catering for the gifted and talented. To further complicate the issue, each state has its own unique approach. Thus, I will not try to cover that area but will, instead, be focusing on my key takeaways from the three opportunities I have had to talk to experienced

and accomplished US educators in the field of gifted education. I am extremely grateful for having this opportunity to listen and observe them share their expertise.

During the visits and discussions, we covered a wide variety of issues related to gifted education. In this paper I will focus on the points most relevant to this research project and my context of teaching. The discussions were partly overlapping as the key questions of gifted education were brought up in all of them. I will try to avoid repetition in the summaries that follow.

#### **4.1.1. Weekly Intervention for the Gifted and Talented**

Carolyn Farnsworth works as a Gifted and Talented Education (GATE) Coordinator and a GATE K-4 Teacher in Prescott Unified School District, Arizona. The students that have been identified as gifted and talented are pulled for 60 minutes a week during their WIN time. WIN stands for What I Need, and it is the time when other students go to interventions for math or reading. I had a chance to observe her lessons at an elementary school in Prescott and discuss various aspects of GATE.

The learning goals of these sessions are not first and foremost content-oriented. Instead, the emphasis is more on collaboration and higher-order thinking skills. The teacher guides and scaffolds the process with open-ended questions that make students reflect on their thinking, choices, and feelings during the process. Another key goal of these sessions is building resilience and practicing failing in front of others in a safe environment. Failing is something that these students are not used to and practicing it at a young age is important for their social emotional well-being.

According to Farnsworth, one of the key characteristics of gifted and talented students is their ability to connect different things much better than most regular students. As a result, these students need extra challenges to thrive in the school environment.

Farnsworth also had an interesting point concerning differentiation and interventions in schools. Should they be based on learning styles rather than test results? She also suggested that the aptitude tests

Arizona uses to identify gifted and talented students may say more about how these students learn rather than how intelligent they are.

In her role as a GATE Coordinator Farnsworth supports the staff of Prescott Unified School District in their efforts to cater for gifted and talented students' needs in regular classrooms. In those professional development sessions, she mainly talks about different questioning techniques and the importance of practicing higher-order thinking skills, for example, analysis, synthesis, and evaluation.

#### **4.1.2. Microschools**

Vicki Massey is an Educational Consultant and a former teacher with years of experience in gifted education. She is currently running a microschool for gifted and talented in Arizona. I had the privilege to have her share her experience and expertise in an online meeting.

Our discussion first focused on the social emotional needs gifted and talented students have. If these needs are not met, students feel frustrated, angry and let down. As a result, they may turn to anger, lose interest or shut down. This is often the case with gifted and talented students in regular classrooms. It is also noteworthy that most gifted and talented students excel in one area, not all areas of learning. Teachers should understand their students' giftedness and differentiate accordingly.

How does her microschool cater for gifted and talented students? One of the key elements is challenging students on their own, differentiated levels. It is also essential to let them pursue their own interests, give them real choice. However, choice does not mean complete freedom as the work is always goal-oriented. The Four Cs - collaboration, communication, critical thinking and creativity - need to be incorporated into the learning process. Questions play an important role. When students ask you a question, instead of an answer, you could say: "That's an interesting question. How are you going to find the answer to that question?"

Again, we also talked about building resilience. Massey believes it is important to praise the effort, not the product. She highly recommends the book *Mindset* by Carol Dweck (2007), which has had a

profound impact on her thinking. One of the topics Dweck discusses is having a fixed mindset vs. a growth mindset. Nurturing a growth mindset encourages students to try new things, to challenge themselves and push their limits.

Massey also says that gifted and talented students appreciate opportunities to demonstrate their giftedness and gaining recognition for their giftedness. Students should, for example, have opportunities to participate in contests. At least in the US, many of these contests focus on STEM subjects, an area where gifted and talented students typically excel.

Massey also talked about an interesting experiment where a teacher had set off by giving students the standards they should meet and asked the students to plan how they could meet those learning standards. That had turned out to be a success. I find this experiment thought-provoking and inspiring. Also, it is another example of how important student agency is.

Massey recommended the following websites for educators with interest in gifted education. I was glad to hear her recommend [PBLworks](#), which is one of the key sources of section 3 of this research project.

[National Association for Gifted Children](#)

[Supporting Emotional Needs of the Gifted](#)

[PBLworks](#)

[Passion projects](#)

[What is Genius Hour? An Overview of Genius Hour and 20% Time in the Classroom](#)

#### 4.1.3. Herberger Young Scholars Academy

Herberger Young Scholars Academy (HYSA) is a learning environment designed for highly gifted students in grades 7-12. It is located on the west campus of Arizona State University (ASU). The school “is designed to meet the social-emotional needs of highly gifted students” and pursues “non-traditional, integrated, and interdisciplinary knowledge” ([HYSA website](#)). Currently the school has 105 students. My visit was organized by Executive Director Michael Twilling. I received a very warm welcome and had a chance to talk to many teachers and students during my visit.

HYSA offers the Cambridge International Examination Curriculum and students take A level exams. However, the school also has regular “enrichment days” that allow students to delve deep into their special interest areas. Students have choice and are strongly encouraged to pursue their own interests. A student I talked to was pursuing his special interest by collaborating with an ASU professor through the special mentorship programme the school and ASU have. Many students also take college level courses through ASU, especially in math.

The lessons I observed were very clearly structured and included many open-ended tasks, collaboration between students, but also scaffolding by the teacher. The scaffolding was well timed and linked with both the contents and the Four Cs, in particular collaboration and communication skills. I would say that the students were praised for the effort, not so much the product, and this positive feedback was quite specific, which boosted the learning experience. The students were also asked to reflect on their work, either orally or in the form of a quick write.

In class students were told when to put the laptops and phones away. School seemed to have a clear policy on this. “We’re on tech when it makes sense,” a teacher said - without any prompting from me, I might add. [HYSA website](#) states that “technology is another tool for learning, along with pencils, papers, books, teachers and peers”. This is interesting for a Finnish teacher. In Finland all 16-19-year-old students have almost unlimited access to digital devices in class. Teachers can see the disadvantages this has, but the policy is not easy to contest.

A goal behind the HYSA policy may be to minimize distractions in class because many gifted and talented students are “twice-exceptional”. The term is used to describe “gifted children who have their characteristics of gifted students with the potential for high achievement and one or more disabilities” (National Association for Gifted Children). These disabilities may include specific learning disabilities, speech and language disorders, emotional/behavioral disorders, autism spectrum, ADHD etc. When talking to the students, this is one of the first things they brought up and it seemed to be an integral part of how they see themselves as students. The students who are twice-exceptional are entitled to accommodations and modifications in the form of, for example, extended deadlines, printed copies or extra time in exams. Interestingly, a student said that leniency is not always a positive thing for him. He said he was struggling with leniency and learner autonomy and felt the need for extra support, for example, in the form of study hall<sup>2</sup>.

However, on the whole, my impression is that HYSA students cherish the rare amount of student agency they enjoy, learning through self-directed activities that are meaningful and driven by their passions and interests. They also said they appreciate the chance to give regular feedback to teachers and feel their voices are heard.

#### **4.2. Gifted and Talented and PBL**

In the introduction of their case study on PBL, Makkonen et al. (2021) acknowledge that there are numerous studies on teaching sciences to regular students with a PBL approach, whereas there is very limited research on the benefits of PBL in science classes for gifted students. However, there is research on a broader topic, i.e., how to teach physics to gifted students.

Based on research reviewed by Makkonen et al. (2021), the elements particularly suited for gifted students include independence of exploration, real-world problems, being adequately challenged, collaboration, technology-rich classrooms and inquiry-based learning methods. It is obvious that the list

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<sup>2</sup> Study hall is a period of time in the US school day when you go and study in a room instead of attending a lesson.

substantially overlaps with the key features of a PBL environment and thus indicates PBL would have much to offer when meeting the needs of gifted and talented students.

This hypothesis is affirmed by the preliminary findings by Makkonen et al. (2021) indicating that PBL has potential for challenging gifted science students. The results of their case study show that the PBL module in physics managed to engage gifted students, generated interest in learning and students benefitted from learner autonomy. Based on their findings, Makkonen et al. (2021), however, emphasize the need for careful scaffolding by the teacher in regard to collaboration between students. They also encourage teachers to pose real challenges to students, not undermining their potential to excel.

Vicki Massey, who is one of the GATE experts that I interviewed, named [PBLworks](#) one of the sources worth looking into. The other websites (see section 4.1.2.) she recommended also seem to promote working methods that have characteristics of project-based learning: solving real-world problems, inquiry-based learning methods and student choice.

## **5. Field experience in US school: ideas for a PBL/PBELL cycle**

Some of the key objectives behind a PBL/PBELL cycle are to engage and motivate students and to promote collaboration between students. Below you can find a list of activities I have either observed, experienced or read about during my studies in the Fulbright DAI programme. Some activities are similar to the ones already used in our classrooms. Still, I think these slightly tweaked versions can offer fresh ways to activate and engage students are thus worth sharing.

### **Quick writes**

Quick writes are used frequently both in US high schools and at university and they serve different functions. They often work as a springboard for a new topic and the goal is make everyone think actively about an answer to a warm-up question.

In her excellent book *Write beside them* Penny Kittle (2008) introduces 10 quick writes to kick off a writing class. Students have 3-5 minutes and number 1 rule is to write the entire time. Kittle believes these quick writes help students to stop censoring themselves too much. That kind of censoring can be a major obstacle to students' thinking and writing. Therefore, it is important to address the issue.

### **Think Pair Share**

In this activity students first *think* quietly how they would answer an open-ended question the teacher has asked. This first part can also be in the form of a quick write. Then students pair up and discuss their ideas with a partner. At this stage, everyone should feel fairly confident about sharing their ideas with the class – or in a language classroom preferably with a new partner to maximize the talking time for each student.

### **Think Ink Pair Share**

This is a combination of the two previous ones. First students have silent time to think, then time to write. This leads to partner discussions and finally a group share out.

### **Word splash**

A word splash is a collection of words/phrases/concepts related to a topic. They are placed randomly around the topic that is in the centre. This is a warm-up/brainstorming exercise activating prior knowledge and engaging students.

### **Gallery Walk**

A gallery walk can be used to introduce or finish off a topic or to revise for an exam. Large sheets of paper are hung on a classroom wall with a question on top (e.g., What do I already know about US colleges? / What would I like to know about US colleges?). Students write their ideas on these sheets of



paper. Students can then get back to these papers at the end of the study unit to add what they have learnt or maybe to correct information that is not right. Instead of answering questions, students can also start by writing theme-related vocabulary/phrases that they already know and then add new words/phrases as they learn them. A gallery walk is also a good way to make students see what they have learned about the topic (e.g., US schools, couch surfing, extreme weather phenomena) in a language classroom. The focus is on the content they have learned and the foreign language is the means of communication.

### **Paraphrasing Your Partner's Ideas**

When brainstorming ideas for a project/writing assignment, students need to paraphrase their partner's idea before they can add it to their list or vision board. This requires them to listen carefully and think what the partner is saying.

### **Conver-stations**

This exercise has similar goals to the previous one. Student, for example, discuss a set of questions for five minutes in small groups. When the time is up, half the group rotates and moves on to the next group. In their new groups they sum up the earlier discussion they had, feeding each other new ideas and points of view. When summarizing earlier ideas, they are likely to repeat some of the key words and phrases in meaningful context, which reinforces language learning.

### **A scavenger Hunt: Collocations**

This activity focuses on language use and introduces corpuses as an alternative to online dictionaries. This type of language support is an essential element of a PBELL cycle. The activity is based on a list of questions presented by the teacher, for example, what is the most common collocation with the word *knowledge* or what preposition agrees with the word *talented*. Students go to [Flax Corpus](#) and try to

find answers as soon as possible. The questions can focus on topic specific collocations (eg higher education) or be based on common mistakes in students' writing.

## 6. Outlining a PBL Cycle

### 6.1. Outlining a PBL Cycle Around Six Key PBL Features

Based on all the sections above, I will now try to apply what I have learned about PBL/PBLL. I am sketching an outline for a study unit, building it around the six key features of a PBL cycle (Krajcik and Shin, 2014, p. 276). The six key features offer vital support and an important tool for a novice PBL/PBELL teacher, providing a framework for the cycle.

The study unit is for Finnish upper secondary students studying Module 6 (see Appendix 3) and with approximately seventeen 75-minute lessons to cover a module. In order to meet all the objectives for this module, the maximum time allotted for this particular study unit is six 75-minute lessons.

#### 1. A Driving Question

How do you introduce and promote yourself both in writing and orally when

- applying to college abroad?
- applying for a job abroad?

These driving questions are based on the English syllabus (module ENA6) of *National Core Curriculum*. They are authentic, real-life questions that are relevant to 18-year-old students and allow for multiple solutions. The questions challenge students emotionally (promoting yourself), linguistically (formal language) and content-wise (what to include in a personal statement).

#### 2.1. Learning Goals (based on the English syllabus of *National Core Curriculum*, see Appendix 3)

The study unit has links to the following learning objectives of module ENA6. Students

- perceive language proficiency as a working life skill and as social capital
- reflect on their plans for future studies and careers
- advance their knowledge of genres typical for their potential further studies or careers
- practice interactive situations related to studying and working
- improve their skills in expressing themselves, also in formal contexts

**2.2. Learning Goals** (based on *National Core Curriculum -> Foreign languages -> Transversal competences in the subject, p. 185*)

The proposed PBL cycle promotes learning goals in all the transversal competence areas. This is often the case with foreign language modules, because the competences focus heavily on interaction and communication, ie the heart of foreign language learning, and also because the descriptions are quite open. The first line of each bullet point names the transversal competence (see Appendix 2). On the second line I list some key words from the detailed descriptions of each transversal competence.

- well-being and interaction competence:  
promoting self-efficacy, empathy, good manners and constructive interaction
- multidisciplinary competence:  
working on issues and solutions in interaction with others  
meaningful, open-ended and sufficiently challenging assignments
- societal competence:  
tools for active agency in society and the global world  
facilitating the students' transition to further studies and the world of work
- ethical and environmental competence  
skills in acting constructively in different contexts
- global and cultural competence

understanding the usefulness of language proficiency in international cooperation

### 3. Participating in Scientific Practices

Students use various authentic online sources to find information on, for example, the application process, how to write a personal statement or how to make an elevator pitch. The source material is in the form of texts, video clips and sound bites. Students focus on the key information, take notes and share the information in groups.

Scientific practices are not a key focus area in a language classroom where priorities lie elsewhere. Thus, the scientific practices may be the weakest element of a PBL cycle in a language classroom. However, even though the activities of a PBL cycle cannot necessarily be defined as scientific practices, they do, in my opinion, meet the criteria for “sustained inquiry” of [Seven Essential Project Design Elements](#) of high-quality PBL. I see this sustained inquiry as the equivalent of Krajick and Shin’s (2010) scientific practices. Sustained inquiry is defined as a process where students “engage in a rigorous, extended process of posing questions, finding resources, and applying information” ([pblworks.org](#)). These criteria are met during the PBL cycle.

### 4. Collaborative Activities

Students spend a considerable amount of time of the PBL cycle working in pairs and groups practicing different language areas and transversal competences. See the list of examples below. For a more detailed description, turn to section 6.2. Students

- brainstorm, discuss issues, plan together
- take a gallery walk
- value different statements
- collect and share information
- write peer reviews

## **5. Students Are Scaffolded with Learning Technologies**

This is an obvious element of every single class period we teach. My school uses Microsoft Teams where students collaborate, turn in assignments, make recordings or video clips. They have the freedom to choose the tools they are comfortable with and think are compatible with the tasks at hand. Students will have detailed instructions on how to turn in assignments for peer review and feedback from the teacher.

Different ways to scaffold and boost the learning experience in the virtual environment:

- authentic material for reading and listening from different online sources
- online dictionaries (encouraging the use of monolingual dictionaries instead of bilingual ones)
- Flax corpus (for theme-related collocations)
- an online collaboration space for brainstorming / vision boarding / peer reviews
- all the products will be included in their online language profile (compulsory for all Finnish upper secondary students)

## **6. Students create a set of tangible products**

- a personal statement / a college admission letter
- a CV
- a video clip / a recording (either an interview situation or an elevator pitch)

## **6.2. An Outline for a PBL Cycle: Applying to College / Applying for a Job**

In this section I suggest activities and working methods for a five-lesson PBL cycle for Finnish upper secondary students. I have opted to outline possible activities instead of writing individual lesson plans. When it comes to teaching different groups of students, there are simply too many variables to make ready-made lesson plans a viable option. Moreover, this study unit will be drawing elements from an English textbook which will be published in the coming months.

### **Warm-up for Module 6 and the PBL Cycle**

This is an activity for the first lesson of Module 6 that focuses on life choices, future careers and life outside. (For a more detailed description, see Appendix 3.) The goal is to inspire students to think about what they want from their lives, what they are passionate about and what their life choices are based on.

Students watch the clip [The Moth Presents Tig Notaro: R2 Where Are You?](#) and make notes on parts of the story that speak to them on a personal level. After the video, they do a five-minute quick write on their personal reaction to the clip, and then they share their ideas in small groups. There are extra questions on a slide to offer scaffolding for those who might struggle to find things to say.

### **Warm-Up/Brainstorming: A Word Splash**

Students create a word splash on the characteristics of a good college student / a good employee. They work in groups of three and prepare a word splash listing their views. All the ideas are listed in the same document. After max 10 minutes, each student pairs up with a student who was not in their group and shares their group's ideas.

If a student agrees on what their new partner is saying, they first paraphrase the idea and then add it to their word splash. The final versions of the word splashes should have ideas from seven different groups. These versions work as springboards for the writing activities that follow.

### **Gallery Walk: Warm-up and Scaffolding for the Listening Exercise**

Students write their ideas on large sheets of paper hung on the classroom wall, answering these two questions: What do I know about studying abroad? What would I like to know about studying abroad? After the following listening exercise described below and/or at the end of the PBL cycle, students get back to these papers to add what they have learnt or to correct information that is not right.

### **Information Search in the Form of a Listening Exercise**

Students work in groups of three. Each student watches a different video clip on what it is like to study abroad or what the application process is like. They make notes on their findings in English. The idea is to focus on information that will support them when planning and writing their personal statements. When the set time is over, each student has three minutes to share their key takeaways in their group.

[A Day in the Life of a Harvard student](#) (and others)

### **Warm-Up/Brainstorming: Four Corners**

Students reflect on topic-related statements and move to a corner that matches their choice (strongly agree, agree, strongly disagree, disagree), for example, “Studying a degree abroad is a viable option.”, “My English skills are sufficient for studying a degree abroad.”, “An English study programme at a Finnish institute would be a good option.” In the corner, they share their rationale for choosing that corner

with the others before the whole group reconvenes. Another option is to share the rationale with someone from a different corner.

### **Online Research: How to Write a Personal Statement**

Students form groups of three based on their specific fields of interest. Using the online resources and possibly the digital textbook, they make a list of key elements of a strong personal statement.

[How To Write Your Undergraduate Personal Statement | Undergraduate | UCAS](#)

[How To Write a Personal Statement for a University](#)

[Personal statement guides | Undergraduate, Conservatoires, 16-18 Choices | UCAS](#)

### **Quick Write in the Form of Black-Out Poetry**

Students start the lesson with a quick write related to their personal statements. The quick write is based on questions from the teacher, e.g., What demonstrates your passion for the field? What makes you a strong candidate for this field of study? After about 10 minutes, students read through their texts and decide what words of the quick write are the most important ones. They then black out everything but those words.

### **Writing: Personal Statements and Peer Reviews**

Students write their personal statements following the guidelines from the teacher. When writing, they draw inspiration and ideas from the previous activities of the PBL cycle (a word splash, a gallery walk, video clips, online search, a quick write/black-out poetry). Students are encouraged to use monolingual dictionaries instead of bilingual ones and to turn to Flax corpus to check collocations.



Students share their first versions with the teacher, who will give them language feedback, mainly in the form of written feedback abbreviations (e.g., *A* for article, *Sp* for spelling). Students also share their personal statements with another student who will write them a peer review. Questions from the teacher offer scaffolding for the review. The questions focus on the key elements of a strong personal statement. The personal statement should demonstrate original thought and passion for the field (e.g., extracurricular activities, skills, part-time jobs). Moreover, students should be able to verbalize the decisions they are making.

### **Writing a CV**

First, students study CVs from different online sources to identify the key elements. The teacher may scaffold the task in the form of questions, drawing students' attention to these elements. The class also works together to make a list of key terms that they are going to need (e.g., the official English name of their school). Students are encouraged to use some of the free templates available (e.g., on Canva) when they start writing. Again, students give each other feedback to help them improve their work before they turn it in.

### **Warm-Up/Brainstorming: Promoting Yourself and Elevator Pitches**

Students work in pairs, attending an imaginary job interview. "Take turns promoting yourselves in an interview situation for one-minute at a time. It's important *not* to be modest. Try to give concrete examples to illustrate your point. You can cover the topics (listed on the screen) in random order, starting with the easier ones." Possible prompts for this activity are, for example, your language skills, your teamwork skills, work experience relevant to the job, how to deal with an unhappy customer.

## Elevator Pitch

The elevator pitch is going to be in the form of a short video clip that students could send to a prospective employer. Students have the freedom to tailor their pitch to serve different functions.

First, the class watches at least one video clip introducing the idea of [an elevator pitch](#). While watching, they take notes on the key elements and then share their findings in groups of three or an online site (e.g., Padlet). The next step is to watch two actual elevator pitches. While watching, students take notes on what, in their opinion, makes the pitch good and/or how it could be improved. Again, they share their ideas with other students. The actual writing process is scaffolded by the teacher's guidelines and various online sources. Before the recordings, students practice the actual delivery, e.g., pronunciation, extra emphasis on prominent words, intonation and nonverbal communication. Students could also practice by circling around the classroom and making their pitch to at least three different people.

Because many students, understandably, feel uncomfortable sharing their recordings, self-assessment based on a rubric provided by the teacher might be a viable alternative. At the end of the PBL cycle, students will also evaluate how they worked individually and in teams.

## 7. Discussion

This research project focuses on the following two questions:

1. How can PBL be used effectively to develop transversal competences in an EFL class?
2. How can high-achieving students be challenged with the help of PBL in an EFL class?

In this section I will discuss my key findings. The section is classroom-oriented and I suggest practices that could be integrated into a language class.

One of the key sections of this research project is section 6.1. where I outline a PBL cycle around the six characteristics by Krajcik and Shin (2014, p. 276). These characteristics provide a concrete

framework for teachers planning a PBL cycle and offer scaffolding during the planning process. For me this is one of the key findings of the project. Another good framework to guide the planning process is *Seven Essential Project Design Elements* by [PBLworks](#) (see section 3.1.), which offers a very practice-oriented approach to planning a cycle but is also firmly based on research into PBL.

A key characteristic of a PBL cycle is clearly defined learning goals. In *National Core Curriculum*, some of the goals are subject-related, whereas others focus on transversal competences. Linking the contents of a PBL cycle with transversal competences is a key step in the planning process. Personally, I usually first outline the contents of a cycle and then draw links to transversal competences. This helps me to choose working methods that support all the learning goals of a particular module.

I would go as far as to suggest that if you build a PBL cycle carefully around the six key characteristics, that in itself should guarantee that the cycle will develop students' transversal competences. The characteristics and the competences overlap so heavily. The actual challenge for the teacher may be coming up with fresh, new activities and working methods. Section 5 of this research project introduces a few activities / working methods I have observed in US classrooms. Some of them promote both active listening and reflection. Quick writes, on the other hand, are an example of an activity that can serve many different functions (brainstorming, writing practice, reflection). They will be a regular feature of my future language classes.

In my class I have always focused heavily on language learning, trying to maximize the time students use English actively in class. Most of the time this has entailed pair and group work, i.e., collaboration and communication between students. In retrospect, that has partly been an added bonus, not necessarily a goal in itself. Writing this paper has made me more conscious of the social emotional aspects of all the choices that I make in a classroom. I am more acutely aware of how different approaches and activities develop students' transversal competences or 21<sup>st</sup> century skills. Hopefully, I am also more prepared to make choices that support students' social emotional learning.

The field experience offered great opportunities to observe teachers supporting students' SEL by giving students positive feedback, which was a personal learning goal for the field experience. I expected to hear more positive feedback than in Finland and this was, in fact, the case. A great deal of this positive feedback was quite non-specific, mainly expressing appreciation for participation. This type of feedback played an important role in building a non-threatening atmosphere and encouraged active participation. The use of names when giving feedback also seemed important. Most students want to hear their names in a positive context.

Some of the feedback was much more specific. It did not only create a positive atmosphere but also enforced learning by stating quite specifically what made the contribution valuable. This kind of feedback would offer good scaffolding during a PBL cycle and will be another personal learning goal. Research shows that careful scaffolding by the teacher is an essential feature of a successful PBL cycle.

However, not all the scaffolding needs to come from the teacher. Peer reviews offer a valuable tool to feed students forward, for example, during a writing assignment. Furthermore, while writing a peer review, students will inevitably also reflect on their own writing assignment and whether it meets the required criteria. The peer reviews can be based on questions highlighting the key elements of the writing task or on a rubric by the teacher. Rubrics are another topic I would like to delve into as their potential has not been fully realized in Finland.

The PBL cycle in section 6.2. remains an outline but does, however, already have the key characteristics of a PBL cycle. One of the questions to consider is whether to have all the lessons follow each other or whether to cover other contents (e.g., texts, grammar) in between. That would allow students to mull over their assignments instead of taking all the steps in rapid succession.

This question is specific to the Finnish context of teaching. One of the major differences between the US and the Finnish school systems is the number of subjects studied. Finnish 16-19-olds study a minimum of 16 subjects and this has a major impact on school life. Time is in short supply. There is constant

pressure to cover more content and, unfortunately, very little time for reflection. This is a challenge, in particular when it comes to such writing assignments as included in the PBL cycle outlined in section 6.2. These assignments require processing, rewriting and reflection. Thus, it might be a good idea to spread out the lessons of the PBL cycle instead of having them in succession.

The visit to Herberger Young Scholars Academy was enlightening in several ways. It helped me to better understand the difference between a gifted and talented student and a high-achieving student, not forgetting that both the definitions may apply to the same student. However, not all gifted students are high-achievers and vice versa. Also, many students are gifted in a specific area, not all areas. Moreover, they often have difficulty adjusting to the school environment. This is not the case with most of my students.

Although many high-achievers are not necessarily gifted and talented, I think gifted education is definitely an area worth exploring for teachers in regular classrooms. The visit to HYSA offered a glimpse into classes for highly gifted and talented students. I observed teachers challenging students with difficult open-ended questions. Answering the questions would require inquiry-based working methods, collaboration, communication and time. Throughout the day students practiced summarizing the key content and verbalizing their ideas and thought processes.

Lessons also included reflection on the work done. One of these reflections was in the form of a quick write and the teacher quite specifically asked students to write thoughtful, complete sentences. This group had the youngest students, and the teacher carefully scaffolded all the tasks, paying special attention to communication between the students, thus promoting social emotional learning. On the whole, I was struck by the clear structure and careful scaffolding by the teacher during the lessons I observed. Both are essential elements, even when students are highly gifted and talented.

In Finland there no special classes or schools for gifted and talented students and that is unlikely to change in the foreseeable future. However, I am happy to say that my research project suggests that the practices already in place in many Finnish classrooms have the potential to support high-achievers in mixed

ability classes. One of these key practices is differentiation through open-ended tasks. Students work on similar assignments but in their own levels. My research project has encouraged me to continue on this path and take it to a new level. The PBL cycle offers a clear framework for this type of work.

To conclude, the findings of this research project support the hypothesis that PBL has great potential to challenge high-achieving students and build transversal competences. This motivates me to pursue my line of inquiry through small-scale action research in the spring of 2023 when I have the opportunity to test my PBL cycle with three groups of Finnish upper secondary students.

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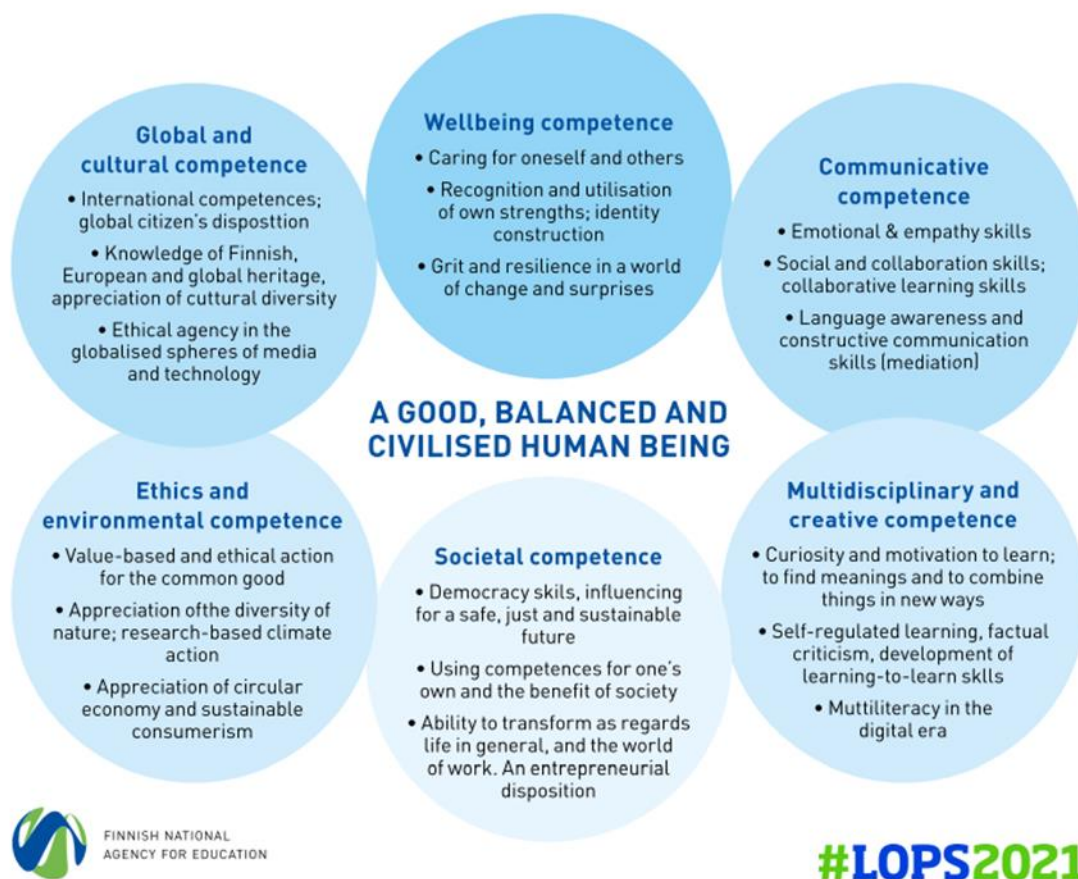
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Appendix 1



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Appendix 2

# 21st Century Skills

How today's students can stay competitive in a changing job market

## Learning Skills



critical thinking



creativity



collaboration



communication

## Literacy Skills



information



media



technology

## Life Skills



flexibility



leadership



initiative



productivity



social skills

### Appendix 3

#### *National Core Curriculum for General Upper Secondary Education 2019: English syllabus, Module 6*

##### **ENA6 English in further studies and the world of work (two credits)**

The task of the module is to develop the students' perception of language proficiency as a working life skill and as social capital in the changing world. The students reflect on their plans for future studies and careers as well as working, also in an international context.

##### Objectives

The objective of the module is that the students

- advance their knowledge of genres typical for their potential further studies or careers
- are encouraged as users of English in different interactive situations related to studying and working
- improve their skills in expressing themselves, also in formal contexts

##### Core contents

- plans for further studies and careers; career flexibility
- completing the language profile for future needs
- national or international organisations or companies as employers
- daily life management and management of the personal finances of a young person entering the world of work