

Attachment Programme in Finland

Study Report

August 28 - September 17, 2016

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CHAPTER 1 Introduction

I. Background

The Finnish education system is internationally acclaimed. Finland ranks at or near the top in all recent PISA studies¹, which is organised every three years since the year 2000 by the Organisation for Economic Co-operation and Development (OECD). A delegation from Hong Kong traveled to Finland to find out the secrets of the Finn's education success.

The Attachment Programme in Finland (The Programme) is a pilot programme aiming to promote professional development in learning and teaching in the two places. It is hope that the Programme would also open the door to further partnership and cooperation opportunities in the education sector between Hong Kong and Finland. Moreover, the three-week programme is a pilot programme which combines two distinct types of continuing professional development (CPD) activities – talks/ expert sessions/ visits and ii. school attachment to better meet the needs of EDB officers, teachers and school leaders and enhance the relevance of the programme. The first part of the Programme is a one-week programme targeting at all participants. It is packed with talks/ expert sessions, visits to different education organisations and official departments, including Finnish Ministry of Education and Finnish National Board of Education. Visits to local schools are also arranged for the delegation during the first week. Exclusively for the senior teacher/principal participants is a two-week programme that follows, with a highlight on attachment to three Finnish schools of different levels. During the school attachment, the group of participants are provided with the opportunities to visit a teacher education university, attend expert sessions and workshops for further exposure.

II. Objectives of the Programme

The programme aims to enable participants:

- to acquire knowledge of the Finnish education system and its key features; as well as the focus of basic education modernisation in Finland, in particular LUMA and Entrepreneurship Education;
- to learn about the Education Reform completed in 2015 and the new National Core Curriculum implemented in August 2016 in Finland;
- to enrich their knowledge and views of education and school development;
- to experience school life in the Finnish schools;

¹ <http://www.compareyourcountry.org/pisa/country/fin>

- to be provided with practical tools and ideas for professional development in Hong Kong based on the experience gained and to disseminate such knowledge in the professional communities in Hong Kong;
- to share Hong Kong practices in Finnish schools through communications with their counterparts and experts of the Finland educational sector in various activities.

III. Distinctive features of the Programme

Pre-trip study

The learning journey of the delegation commenced in Hong Kong prior to their arrival to Finland. To make the most of the three-week learning experience in Finland, the participants familiarized themselves with the piles of pre-trip learning materials, including a workbook and multi-media materials on an on-line platform developed by the service provider during summer. Having taken in the latest information on the Finnish education system and its key features, the delegation thought of questions they would like answers for and their expectations on the trip. Then in a sharing session organised by the EDB shortly before setting off, they met up to share information gathered and any insights they had and, more importantly discussed in details the focuses and enquiry points for the coming trip to ensure that the expectations of all 12 members in the delegation were aligned.

During the trip

(1) Expert sessions

The first week is packed with a series of talks/ expert sessions and visits to different official or education-related organisations. Two introductory school visits were also arranged to offer participants the opportunities to learn more about bilingual education in Finland, Finnish matriculation examination and the promotion of STEM education through school tour, lesson observation, and interviews with school managers, teachers and students. All 12 members of the delegation took part in the following activities:

- (a) a visit to Ministry of Education and National Board of Education to understand the Finnish education system, its core features and the New National Core Curriculum 2016;
- (b) a visit to LUMA Centre to understand the promotion of STEM education in Finland;
- (c) a visit to xEdu Accelerator to understand the education technology development in Finland;
- (d) an expert session by experts from the University of Jyväskylä to discuss teacher education-related issues; and
- (e) introductory visits to primary and secondary schools to for lesson observations and discussions with school leaders and teachers.

(2) Attachments

In the first week of the Programme, the delegation had the chance to have a glimpse of the school life in a Finnish school. In the remaining two weeks of the Programme, 7 senior teacher/principal participants had the opportunity to verify through triangulation their observation and learning in the first week by attaching to different Finnish primary and secondary schools (Grades 1-12 / years 7 -18). The 2-week school attachment provided due opportunities for participants to immerse in authentic Finnish school life for a deeper understanding of the education system in Finland. In addition to shadowing classes and school operations, discussions with different school stakeholders, the participants also got the chance to participate in extra-curricular activities and conduct co-teaching with the local teachers in Finland.

Date	Programme	Participants
<u>Week One</u> 29/8 – 2/9	Overview of the Finnish education and its key cornerstones – experts talks and visits in the Helsinki region	All participants
<u>Week Two & Three</u> 5/9 – 16/9	On-site learning and attachment in Finnish schools in Jyvaskyla, central Finland region Attachment Schools: <ul style="list-style-type: none">○ Muurame General Upper Secondary School○ Vaajakumpu Comprehensive School○ Vesanka Primary School	senior teachers / principals

For a detailed programme of the three weeks, see **Appendix I**.

IV. Participants

The delegation is comprised of 4 officers from the Professional Development and Training Division (PDT), 1 officer from the Quality Assurance & School-based Support Division (QASBS), 4 principals/ senior teachers from government secondary schools (GSS) and government primary schools (GPS), and 3 awardees of the Chief Executive’s Award for Teaching Excellence (CEATE). See **Appendix II** for a detailed list of participants.

V. Introductory School Visits/ Attachment Schools

Introductory school visits in the first week

Participants visited a local primary school and an upper secondary school for an initial look into Finnish schools, bilingual education, as well as matriculation examination.

- i. **Kaivoksela Bilingual School, Helsinki** – a school in the city of Vantaa offering classes using English as the medium of instructions
- ii. **Olari High School, Espoo** – a school with an emphasis on mathematical and scientific subjects

School attachment during the second and third weeks

Participants visited local primary and secondary schools in Jyväskylä from 6th to 15th September 2016 to learn more about how Finnish schools response to the new National Core Curriculum.

- iii. **Muurame General Upper Secondary School** (6th-8th September 2016)

Founded in 1995, Muurame General Upper Secondary School is located 14 km from Jyväskylä. It has approximately 200 students and 20 teachers at the moment. “Entrepreneurship Education” and “Sustainable Development” are two of the highlights of the school. The school endeavours to try out or test new ideas and has been awarded the Certificate of Sustainable Development for a number of consecutive years.



Wonderful learning journey in Muurame Upper Secondary School

- iv. **Vaajakumpu Comprehensive School** (9th,12th-13th September 2016)

Vaajakummun Comprehensive School is located in Vaajakoski, the city of Jyväskylä. Vaaja Cumulus is a school offering classes from Grades 1 to 9 for a total of 583 pupils. Haapaniemi Main School is the junior section of Vaajakummun Comprehensive School providing education to 1st and 2nd graders. There are 70 staff members in the school. The mission of Vaajakumpu Comprehensive School is to provide students with a safe learning environment.



Smiling faces are always found in Vaajakummun Comprehensive School

v. **Vesanka School** (14th-15th September 2016)

Belonging to the city of Jyvaskyla, Vesanka village is located 15 km from Jyvaskyla. Vesanka School is a primary school where education is provided for Grade 1 to 6 students coming from surrounding areas of the village. The school currently holds 163 students with 11 teachers. Vesanka School emphasises that a physically, mentally and socially secure learning environment that is conducive to students' health. The school aims to create an open, encouraging, relaxing and positive atmosphere with responsibility shouldered by both teachers and students.



Leaving Vesanka Primary School with inspiring ideas and lovely memories

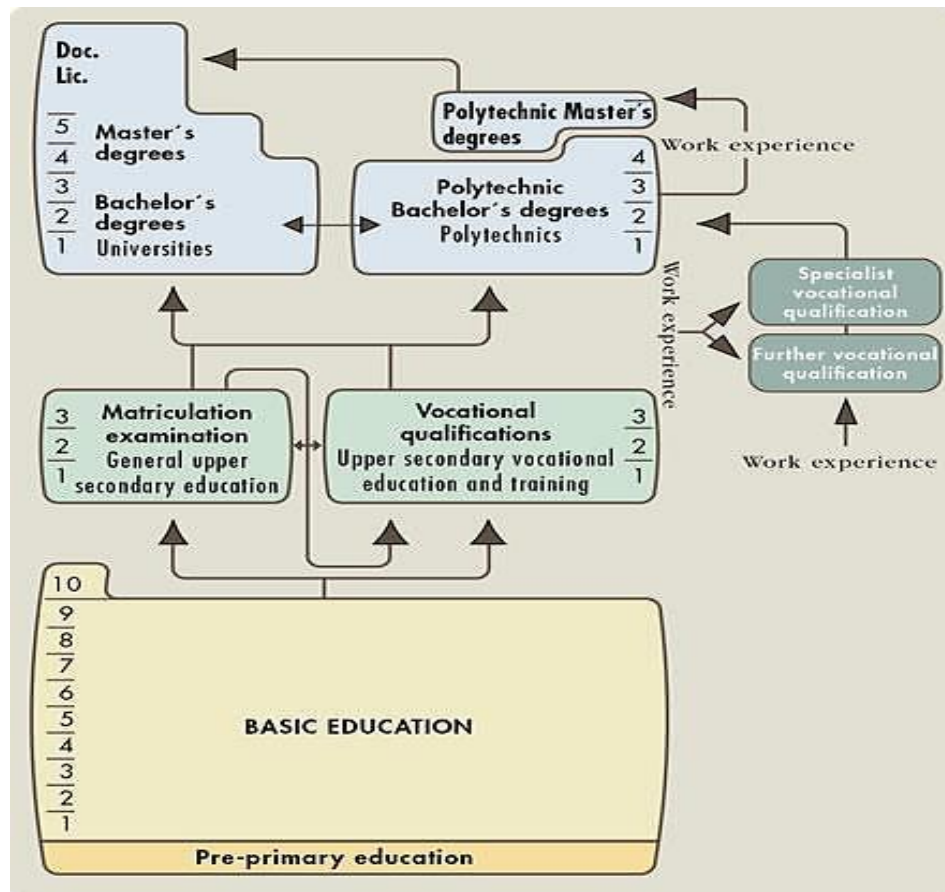
The attachment programme to the 3 schools above has rewarded the group of participants with a fruitful and unforgettable learning experience.

Chapter 2 Finnish Education System

I. Overview

A system with no dead-ends

The Finns take pride in their education system, one with no dead-ends, where both vocational and general upper secondary education lead to higher education. Early childhood education is provided by kindergartens or smaller family day-care groups in private homes. Pre-primary education is compulsory for children of the age of six and has an emphasis on training students' basic skills through play. Basic education starts when a child turns seven and lasts nine years within a single structure. Instruction is usually given by the same class teacher in most subjects in the first six year-classes and by subject specialists in the last three years. There are no national tests for pupils in basic education in Finland and teachers are responsible for the assessment in their respective subjects. Upon completion of basic education, students can choose the General upper secondary education or the Vocational upper secondary education, both of which give students eligibility to continue to higher education, based on their grades in basic education certificate.

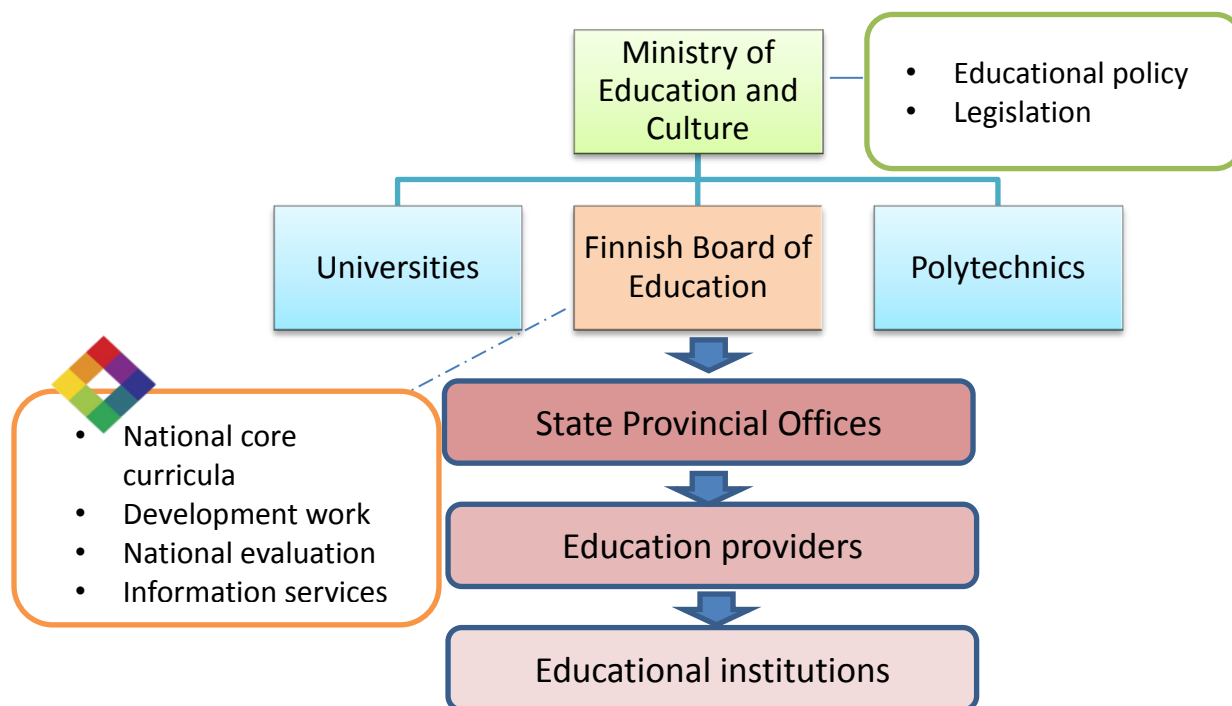


A system with no dead-ends

Local administration and educational institutions play a key role

The national education administration is organized at two levels – the Ministry of Education and Culture (MoEC) being at the national level and the Finnish National Board of Education (FNBE) at the local. The main task of the former is to formulate education policy while the latter is to implement the policy. For example, the MoEC is responsible for drawing up “Basic Education Act and Decree, which regulates the goals for education, and the FNBE is responsible for designing the National Core Curriculum, which sets the general framework for providing and organizing education in Finland. Local administration such as decisions on allocation of funding, local curricula, recruitment of personnel is the responsibility of local authorities, most commonly municipalities or joint municipal authorities, which have the autonomy to delegate the decision-making power to the schools.

Education providers are responsible for practical teaching arrangements as well as the effectiveness and quality of its education, guided by objectives laid down in legislation as well as the national core curricula and qualification requirements. The system relies on the proficiency of teachers and other personnel. There is strong focus on both self-evaluation of schools and education providers and national evaluations of learning outcomes. It is a system based on trust and responsibility, which is made possible with highly educated school personnel.



II. Central Features of Finnish Education – Equity as a Leading Value

Education is free at all levels

Education in Finland is available to all citizens irrespective of their ethnic origin, age, wealth or where they live. It is free at all levels from pre-primary to higher education. In pre-primary and basic education, textbooks, daily meal and transportation for students living further away from the school are free for the parents. At secondary level and in higher education, students or their parents purchase their own books. At secondary level, students have the right to a free meal and meals are subsidized by the state in higher education. Adult education is the only form of education that may require payment.

Every student has the right to education support

Maximization of students' potential is the current thinking in Finland. Teachers are required to treat the children and young people as individuals and help them to proceed according to their own capabilities. All students nowadays in Finland have the right to educational support, so that they can all perform as well as possible in their studies and be able to make correct and appropriate decisions concerning their education and careers. The implementation of Integrated Education in Finland is a good example to manifest the spirit of "EQUITY".

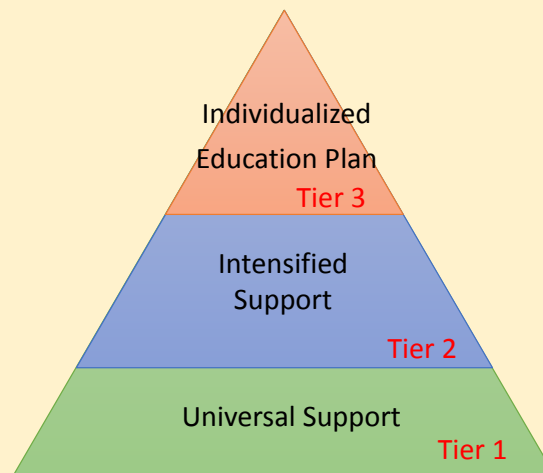


Finnish students are keen to have face-to-face interaction, rather than using electronic devices during their free time.

Spotlight on Integrated Education

Equity is a leading value of Finnish education. Every person must have equal access to high-quality education and training. Therefore, every student has the right to educational support, including both general guidance and intensive support. With a view of preventing existing problems from becoming serious and expansive, *early* identification, intervention and support are crucial for the support of students with special educational needs (SEN students).

According to Ministry of Education and Culture of Finland, all students receive mainstream education at the very beginning of their schooling. However, when students are identified as SEN students and cannot cope with mainstream education, they would receive universal (Tier 1 support) or intensive support (Tier 2 support) in regular schools in hope of helping them get mixed with mainstream classes. However, for SEN student with serious diagnosis, Tier 3 support will be provided and “Individual Education Plan” (IEP) needs to be made especially for that SEN student through a joint conference participated by classroom teacher, special education teacher, psychologist, parent and student themselves. With all kinds of support, students could get broadly based and systematic help so that they can complete compulsory education and be capable for upper secondary education.



3-tier support structure to SEN students

Similar to Hong Kong, there is also a 3-tier support structure to SEN students in Finland. Tier 1 is a kind of universal support under which no extra class is needed to support SEN students while Tier 2 support would provide SEN students with intensified support through which SEN students need special education teachers once a week or twice a week. Extra class after school is also provided for those SEN students under Tier 2 support. For Tier 3 support, Individual Educational Plan (IEP) is to be designed for each SEN student so that high-quality-education could be provided for them.

In-service Training Needs

According to the statistics given by University of Jyväskylä, there are 22-23% primary students receiving support from special education services from the government in Finland, and the number of special schools drops from 362 in 1990 to 99 in 2014. To ensure sufficient special support could be provided to SEN students in Finland, 13% of teachers in each school should have received training of special education needs. To sharpen teachers' skills in handling SEN students, every teacher in Finland is required to complete 6-hour in-service training in one-year time starting from 2015. Trainers from Hospital Schools and Community Centre will give teachers professional training, especially strategies on how to handle violence students in schools.

Professional Support from Special Education Teachers in Regular School to SEN Students

Special Education teachers in Finland are professional in giving care and guidance for SEN students. In Finnish regular schools, special education teachers will work with classroom assistants during lesson by giving prompt and intensive support to SEN students. The former is responsible for curriculum & pedagogies design and student assessment while the latter provides necessary assistance to SEN students during their learning process. All classroom assistants are professionally trained as most of them received the relevant training in their vocational school. In the comprehensive school we attached to, Vaajakummun Comprehensive School (VCS), 14 classroom assistants are hired to work with special education teachers with an objective to provide a comprehensive and intensive for SEN students.

The following pictures show how a special education teacher employs different strategies and designs various pedagogies to help students learn in an efficient way.



Instruction in small step



Individual Guidance



iPad game for Math



Game-based activity designed by special education teacher and run by classroom assistant

All students are equal. Special education class is only a mid-way for SEN students in regular schools. All students are expected to be able to return to mainstream classes after receiving sufficient support from special teachers. The pictures below show the learning condition of one mainstream class with 20 regular students and 3 SEN students.



Students are learning warm color and cool color through listening to a song concerning sauna.



Student is doing his own painting after teacher's instruction.



Classroom assistant is helping a SEN student in finishing her art work.



A piece of painting from the girl on the left.



A piece of painting from a regular student.

Partnership

Community Centres and Hospital Schools are close partners of Finnish schools in giving SEN students care, guidance, treatment and therapy. Whenever SEN students are identified with emotional or behavioural problems that regular school teachers could not handle them, they will either be sent back home for calm or transferred to those supporting groups for professional treatment. For SEN students with serious diagnosis, they might stay at those institutes for a period which may vary from one month to six months. Those students will be sent back to regular schools once specialists confirmed that the students are able to receive normal education. The idea of sending SEN students in need to Hospital School is commended as those students could receive immediate and professional therapy coming from doctors and nurses of the hospital nearby, and their learning opportunity would not be exploited as they can still continue their studies in Hospital School.

School teachers will liaise closely with the specialists of Hospital Schools to work out an appropriate learning plan of the student who is under intensive care in Hospital School. However, places of Hospital Schools are insufficient for the growing demand of SEN students. Take Kukkulan Koulu, which is the only one Hospital School in central Finland, as an example, it has a total number of 4 classrooms that can only accommodate 10 to 12 students at one time. Teachers believe that intensive support should be enhanced so as to ensure that SEN students in regular schools could get sufficient help promptly.



Kukkulan Koulu Hospital School is located at the central of Finland.



Students have normal school life in Hospital School



One of the classrooms in Kukkulan Koulu Hospital School

VCS is famous for its implementation of Integrated Education as it provides schooling not only for its own SEN students, but also SEN students from other schools of the same region. There are a total number of 15 schools with the similar nature as VCS that serve SEN students from other schools of the same region in Jyvaskyla. Parents are keen on sending their students to study this kind of schools because they deem that comprehensive and intensive support provided by the school could help their child grow healthily and happily.



Grade 1 students are keen to learn under the guidance of special education teacher of VCS.

Financial Support

Financial resources are crucial for regular schools to provide necessary learning support for SEN students. Extra funding is allocated to regular schools for supporting SEN students in both Hong Kong and Finland. In Finland, availability of extra allocation of funding in each school is based on the diagnosis of SEN students and number of extra lessons that should be allocated for SEN students, but not the actual number of the SEN students enrolled by schools. For example, in Vaajakumpu Comprehensive School (VCS), the total number of extra lessons for SEN students (both handicapped and autistic students) for 2016-17 school year is 197 lessons, and the school receives around 61,000 Euro as an additional funding for supporting SEN students. With sufficient funds, schools can hire enough classroom assistants and procure necessary equipment for helping students to catch up the learning pace.

Finnish Parents' view on Integrated Education

In Finland, parents of SEN students are more open-minded and they welcome the support given by the school to their child. Labeling effect seems nowhere in Finnish schools which is very different from that in Hong Kong. The major reason behind is the principle of "Equity". Finnish schools would put their emphasis on helping weaker students, rather than gifted students. Therefore, there is no national policy on Gifted Education in Finland. Finnish principals and teachers always alert themselves with the importance of creating equal environment in school. Students will be taught in small class size.

Group teaching will also be organized according to students' performance on different topics. Grouping is changed from time to time and from topic to topic within one school year, therefore no specific group of students would be labeled as inferior learners. Intensive care will also be given to those SEN students with serious problems. For instance, in VCS, teacher-student ratio in a class composed of autistic students is 1:1 as there are 1 teacher with 4 classroom assistants working together to give intensive care for 5 autistic students at one time. To better monitor the learning progress of SEN students and ensure their learning effectiveness, individualized curriculum and personalized learning plan are timely devised and revised by class teachers, special education teachers, psychologist, parents and students altogether. With such joint effort, comprehensive and effective support can be given to students in need.

Conclusion

Finnish Integrated Education fully reflects the core value of "equity". No labeling effects are found and the SEN students are happy in school and enjoy their learning under the good care of teachers, which is quite a bit different from the scenario of Hong Kong where parents are reluctant to disclose to the teachers information such as symptoms their children are showing, making it more difficult for Hong Kong teachers to provide them with the suitable type of support. Why are the Finnish parents more receptive to Integrated Education there? We learnt of some secrets for its success during our attachment to VCS. Firstly, the strategy for the development of Integrated Education emphasizes the importance of the wide basic education network, which supports the rights of every child to attend the nearest mainstream school where students' successful learning and development can be secured as they could learn in the community they are familiar with. Secondly, catering for the needs of SEN students by designing individualized education plan (IEP) for them do help SEN students get appropriate and comprehensive assistance from the school. Thirdly, providing SEN students with prompt and intensified support as early as possible could reduce the number of students in special educational needs. With intensified support given to them at the earliest stage, accumulation of problems relating to learning, social interaction and development could be effectively prevented. Students would then proceed more flexibly and safely from their early childhood to basic education.

Fourthly, Finnish teachers who have been entrusted with considerable pedagogical independence in classrooms, work well with classroom assistants to provide SEN students with personalized learning plans and student-centred activities ensuring their learning effectiveness. Finally, the professional and immediate assistance offered by hospital schools for those SEN students with serious diagnosis could ensure intensive health care services provided for them properly. With all these measures in place, SEN students in Finland could get due professional support.

III. A Steering Culture of Trust and Responsibility

Although both MoEC and FNBE are placed at the top of the hierarchy system of Finnish education, they only steer the local authorities and education providers in the right direction. Municipalities and schools have great autonomy in both administrative and teaching arrangements, like budget management, acquisitions, recruitment, curriculum planning, pedagogies and selection of textbooks.

In Finland, teachers are highly qualified and regarded as professionals who have undergone rigorous and research-based pre-service training and graduated with a strong competence and preparedness in designing, implementing and evaluating the curriculum. Being pedagogical experts with a strong ethical commitment to their work, they are entrusted with the responsibility of delivery of the National Core Curriculum in the classroom. “TRUST” is everywhere inside the Finnish education system.

It is, therefore, of utmost importance for tertiary educational institutes in Finland to offer exceptional pedagogical programmes that educate professionals in the field to be able to do the following things:

- i) Create supportive teacher-student relationships, manage the classroom and collaborate with other professionals and parents. Teachers must be equipped with interpersonal skills.
- ii) Cope with the demands of the everyday life of teachers. They must be psychologically prepared and be flexible in their work.
- iii) Respond to changing needs of school and teaching profession. In other words, teachers should be lifelong learners who keep sharpening their pedagogical and subject knowledge.

This part of the report shows how quality teachers in Finland are selected and how they are trained to equip students with the 7 essential skills in the 21st century.

Admission Criteria and Procedures

A master's degree is the minimum requirement for all teachers in Finland as university graduates have full status as a qualified teacher without internship or probation.

As teaching is one of the most sought-after professions in Finland, universities can select the most talented and motivated applicants for their education programme. For instance, in 2015 the Faculty of Education in University of Jyväskylä received over 2300 applications and only 100 new students were chosen.

Any interested students from an Upper Secondary School with a passing grade in the National Matriculation Exam can sit for the university entrance exam – namely the VAKAVA examination – a test with multiple-choice questions based on 6 to 8 scholarly articles in the field of education. It is not just a memory test but one that requires reading skills, critical thinking skills and general academic study skills needed in educational sciences. Only about 300 students with the highest mark would be shortlisted to continue the application process.

Next, the students would need to take an aptitude test, which aims to measure the potential applicants' personality traits and to eliminate applicants who may have traits that are counterproductive to teaching.

The last stage of the student selection for the Faculty of Education is a panel interview, which is to search for applicants' ultimate motive for becoming teachers and to test their interpersonal skills. The interviewers would also assess if applicants will stay in the teaching profession as a lifelong career. Other consideration includes Finnish language marks in secondary school because both oral and written communication skills are highly valued.

Through these stages, clearly unsuitable candidates and those who do not have strong commitment in education will be eliminated. In the end, only around 5% of applicants will receive an offer, showing how intense the competition is.



University of Jyväskylä

Pre-service training

In order to prepare all student-teachers to be fully qualified teachers, the main principle in Finnish teacher education is that teachers must be research-based, pedagogically trained, ethical and competent. They must enjoy team work and have a strong passion for lifelong learning.

Core field in teacher education includes:

- Learning, teaching and the learning and growth environments that support development
- Basic natural phenomena and mathematical thinking
- Languages, culture and communities in global change processes
- Physical activity, health and wellbeing
- Information technology and the human in knowledge society

Students who are admitted to the Faculty of Education often spend 5 to 5.5 years to complete the master's degree programme with the following choices:

- Early childhood education
- Special education
- Adult education
- Educational leadership
- Primary school education
- Pedagogical studies for subject teachers
- Guidance and counselling



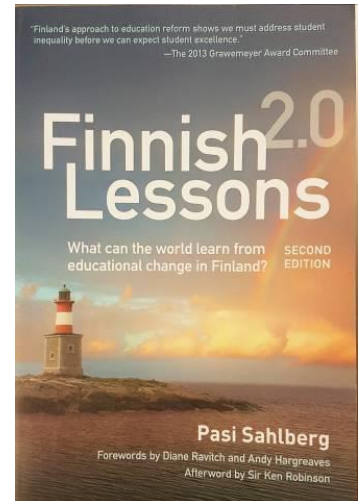
Pedagogical studies are extremely important in Finland Education!

The university emphasizes ethical training in every course though ethical competence is not offered as a separate course. All student-teachers are to be trained in other areas such as:

- Intellectual competence
- Communication and interaction competence
- Cultural, communal and social competence
- Pedagogical competence

Students who want to be a class teacher in a primary school (Grade 1 to Grade 6) have to complete 300 credits through a 3-year bachelor degree and a 2-year master's degree in education. Students who want to be a subject teacher in a secondary school (Grade 7 to Grade 12) have to complete a 2-year master's degree in education after graduation from a subject bachelor degree.

Finland takes pride in its primary teacher education, which is also the most challenging programme because a class teacher (grade 1 to grade 6) is responsible for teaching all subjects of the class and will usually follow the class for 6 consecutive years. Class teacher training focuses not on content knowledge but subject pedagogy and ways to develop students' interpersonal skills and generic competence. With reference to the book titled Finnish Lesson 2.0 by Pasi Sahlberg, the master's degree of education for a primary school teacher includes a wide array of subjects that cover from educational psychology, early childhood education, curriculum theory and evaluation, history education, chemistry education, visual arts education, physical education to cultural diversity in schools among many others.



Student-teachers may be assigned to a normal school or a teacher training school for their practicum. Students will be accompanied by a professional class teacher (mentor) and act as an assistant teacher or co-teacher for the mentor throughout the lesson. Student teachers may also teach under supervision. A teacher training school is a normal school which belongs to the faculty. Professional teachers are also employed in the teacher training school. It is a beneficial experience for the student-teachers because they are observing lessons provided by experienced teachers with in-depth pedagogical knowledge.

In-service training

Teachers in Finland are required to participate in training for a minimum of 3 days every year. Principals receive information from the National Board and keep the teachers informed of most updated training sessions available. The state funds in-service training programmes in the following areas:

- Education leadership
- Increase competences in developing of education institutes
- Subject competences
- Welfare and security - guidance and counseling
- Cultural diversity
- Competence- based education
- ICT and digitalization

In-service training is often considered as a privilege and therefore Finnish teachers are willing to participate actively. To prepare teachers for the curriculum reform in 2016, municipalities run workshops for all teachers; for example, language teachers may need more ICT knowledge to use technology proficiently. E-platforms set up by the local governments are also a useful tool for teachers to share their ideas and resources. An association for teachers of different subjects is set up for experience sharing and additional training. English teachers can pay a reasonable membership fee to join The Association of Teachers of English in Finland. Courses offered by the association are often self-funded but sponsorship by the school is possible. Besides, teachers often enroll in courses offered by Open Universities to enhance their pedagogical competences. It is on a voluntary basis and self-paid.

Although there is no formal appraisal system in place for Finnish teachers, they are in fact reflective pedagogical practitioners. Self-assessment is common among teachers and continuous feedback is given in a form of supportive, developmental and encouraging dialogues, which aim to empower teachers.

IV. All in One: Class Teachers' Roles in Primary Schools

Class teacher system is implemented in preschool and primary school in Finland. It is often that a student has the same class teacher for his whole primary school life. A class teacher is in charge of all subjects or most of the subjects of a class. Although lessons are allocated in the timetable, class teachers have the autonomy to modify the sequence of the lesson and teaching contents according to students' needs. Finland strongly emphasizes the development of students-teacher relationship. However, it is not necessary to have a homeroom lesson for class teachers as they can start their homeroom lesson at any time.



An expert in PBL, Kari Hamynen is also a class teacher in Haapaniemi Main School.



Super Class Teacher, Minna Piippo (Vesanka Primary School) teaches ALL subjects in one class!



Katriina Vihriälä, the Deputy Head of Vesanka Primary School also performs the roles of class teacher in school.

V. Assessment System in Finland


In Finland, education providers have the responsibility to evaluate the quality and effectiveness of the education they offer. The objectives of assessment process are to:

- guide and encourage individual student studies;
- show how individual learning objectives have been met;
- help students to form realistic image of learning and development;
- enhance and support personal growth.

Therefore, it is a misconception that there are no assessments at all in Finland. As a matter of fact, students are assessed and evaluated continually and schools rely on various kinds of ongoing continuous formative assessments.

Formative assessment

Self-assessments are one of the most useful tools for educators in the classroom. In order for students to create their own personalized learning path, they have to find out their own strengths and weaknesses. This kind of assessment helps students become aware of their own progress and therefore, it would be easier for them to establish future-oriented objectives for their own study performances. More importantly, it encourages students to take ownership of their learning. With continuous practice, they will develop the habit of self-evaluation and eventually become self-directed learners who are intrinsically motivated.



Two Stars and a Wish

Name: CHAN CHEUNG WAI, ERIC.

Subject: _____

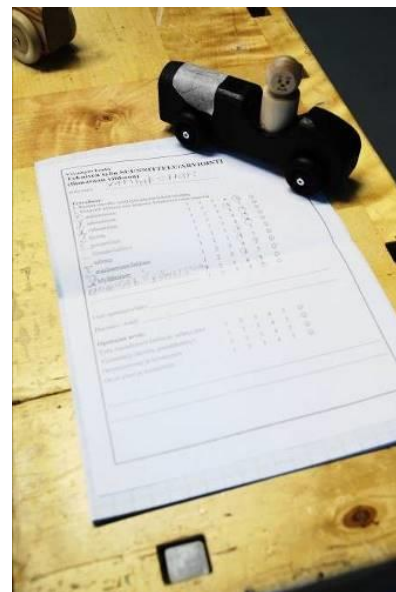
★ Able to follow the instruction to complete the given task.

★ I like it as it can be a truck which I can share with my child, or even a gift from Finland.

🌟 If it is more time for produce, I'm sure that the produce will be more beautiful.

Use the two stars and a wish to tell me two things you really liked about your work and on thing that could be improved.

In Vesanka Primary School, students make their own wooden toy car from scratch and evaluate themselves if the learning objectives are met.



Finnish students are keen to have a simple but empowering self-assessment, which focuses on students' strength and motivates them to do better next time.

In Vesanka Primary School, both self-assessments and peer-assessments are used at the end of the lesson. Students are asked how well they work individually on a scale of one to five, showing their fingers on one hand with their eyes closed while their classmates are also asked to evaluate that individual student without looking at each other. It helps teachers identify whether the student has a lower self-esteem and take necessary actions when there is a major discrepancy between self-evaluation and peer evaluation.



How well have you done today? Have you been a good team player?

Self-assessments may seem like a simple task but it is a crucial skill for students to learn not to judge their own performance based on feelings but evidence with careful analysis and understanding. This is how their critical thinking ability can be trained indirectly. They are also trained to become a problem solver. If they realise that their performance is below average, they would be more willing to take the initiative to find solutions and seek improvements.

Even though there are no standardized tests in school, students are constantly evaluated and would receive either written or oral feedback on a regular basis. Students are given autonomy to do their work and they would receive positive reinforcement if they do well. Teachers are quietly observing and supervising the class and offer feedback to students in need. They do not just evaluate students' academic performance in different subjects, work skills are also taken into consideration, which include:

- skills in planning
- implementing and assessing one's own work
- responsible attitude
- cooperation with others

Apart from parent-teacher conference, teachers often use a platform called WILMA to leave messages that encourage good behavior in class or notify parents where improvements are needed. With the curriculum reform in 2016, the assessment policy is also updated and it emphasizes that all assessments must guide and promote learning. It has been observed that the comments available for teachers to choose on WILMA have been rephrased to sound more positive and encouraging.

Teacher's Markings and Lesson notes

Tuntimerkinnät

Selvitä tuntimerkintöjä Tarkastele tuntimerkintöjä Ilmoita poissaolosta

Aikaväli: Neljä viikkoa Syksy Kevät Lukuvuosi 1. jakso 2. jakso 3. jakso Jokin muu

Päivämäärä	8	9	10	11	12	13	14	15	Yhteensä	Huomioita
Ke	12.11.2014				VUO Kiitos hyvästä työstä					Wed 12.11.2014 Thank you for the good work
To	6.11.2014				VeVa Kiitos hyvästä työstä					Wed 6.11.2014 Thank you - volleyball is going very well
To	23.10.2014				VeVa Liikuntavälineitä puuttuu					Wed 23.10.2014 Sports equipment is missing (towel)
Ke	22.10.2014									Wed 22.10.2014 Permitted absence (dentist)
Yhteensä										

Värien ja koodien selitykset:

- Muu Muu merkintä
- L Luvallinen poissaolo, terveysyyt
- S Selvittämätön poissaolo
- L Luvaton poissaolo
- LM Luvallinen poissaolo, muu syy
- M Myöhästyminen
- Late for school
- Other entry
- Permitted absence, health reasons
- Unsolved absence
- Unauthorized absence
- Permitted absence, other reasons

Leaving encouraging feedback and useful remarks on WILMA

Summative assessment

Unlike other parts of the world where standardized assessments are common and considered necessary, what Finland does have is sample-based assessments for national evaluation of school performance. It is not to assess the performance of individual schools but to evaluate quality assurance of education, effectiveness and to guarantee equal opportunities for all students regardless of their gender and race.

Schools can decide if they are interested in joining the sample-based assessments and later on participating schools can receive reports and feedback from the government. No official school ranking list will be made available so that assessments are treated merely as a tool to improve learning but not to promote competition.

The National Matriculation Examination is the only standardized assessment for every Grade 12 student. They can take it in 1.5 years spreading across 3 consecutive terms. The examination takes place twice a year – fall and spring. The system is flexibly designed so that students can personalize their examination timetable. Many grade 12 students of different schools who were interviewed during our school attachment programme reported feeling reasonably confident and ready for the National Matriculation Exam.

How assessment policy in Finland equips students with 7 key competences in the 21st century

To achieve educational excellence, Finland has chosen an assessment policy that offers an alternative to the conventional performance-based path that intensifies competition. Instead, it allows more flexibility for each individual learner to personalize their own learning path. For example, students are allowed to take certain elective courses like advanced mathematics for interest, or even core subject like psychology, yet they can choose not to take them in the national matriculation examination. They are also given flexibility to arrange their own matriculation examination timetable because the exams take place twice a year, and therefore, most students will sit for slightly less challenging papers like English language in the fall semester, leaving more time to prepare for challenging ones in the spring semester. Teachers show respect and trust in the students' own judgment as students are given the autonomy to assess themselves and their peers. Peer assessments also enhance their ability to work in a collaborative manner. As a result, students in Finland can naturally learn critical thinking, problem solving, information analyzing skills, turning them into efficient self-directed learners who can work independently and in a group.

VI. Reflection

Finnish teachers are the best role models

According to the Teaching and Learning International Survey (TALIS) in 2013, nearly 60% of teachers in Finland felt appreciated and that their profession was valued in the society, a percentage which was remarkably higher than the average of 31% in TALIS countries. 95% of teachers in Finland were satisfied with their work. Teachers in general are so well-respected in the community that teaching is rated as one of the top professionals in Finnish society.

One can conclude that Finnish teachers can enjoy such status because they are professionally trained and ethical educators who dedicate themselves to educating the future generations. They have unshakable trust from the government, municipality, the school management, parents, and students. They enjoy a high degree of autonomy and have relatively less administrative duties so that they can focus on pedagogical work. At schools, teachers often collaborate with their colleagues in lesson planning and school projects. Through dialogues and discussions, they are inspired by one another and can generate more ideas together. Finnish teachers are the best role models for their students to learn the 7 transversal skills in the 21st century because they have the first-hand experience in applying the same skills in their teacher education and workplace.

The crucial role of class teachers

One of the key elements for the success of Finnish education is that teachers strongly emphasize pedagogies and research studies during their studies in teacher education. The class teachers we met can easily figure out suitable teaching approaches with reference to the researches or their experiences. Moreover, they often do self-reflection through professional dialogues with colleagues after lesson. Successful ideas are also shared selflessly among the teachers of schools nearby through teachers' networks.

As the same group of students are taught by one teacher during their primary school life, the characteristics, needs, specialty and strengths of that group of students would be clearly known by the class teacher. Throughout the visits, all class teachers can state the characteristics of their kids precisely.

On the other hand, students are well-behaved and keen on participating in school activities. Peers cooperation can be easily found in classrooms. Bonding between teachers-students and students-students are incredibly strong. Students consider that they are studying in a big family instead of a class.

From observations and the background information we gathered, it can be concluded that class teachers in Finland are well equipped as professional and competent teachers.

With reference to the documents concerning the implementation of 2016 curriculum reform, the role of teacher is to instruct and guide students becoming lifelong learners, taking each student's individual learning approaches into consideration. Since class teachers know the personalities, learning habits and pace, strengths and weaknesses very well, they can play an important role to maximize student's strengths and talent.

As mentioned in the curriculum reform, schools must carry out at least one clearly-defined theme, project or course that combines the contents of different subjects each school year. Since class teachers have to teach almost all subjects in their class, they can easily integrate different subject contents of curriculum and employ the most suitable teaching and learning strategy for the students according to the students' needs and professional judgement. During the attachment programme, it is found that some primary schools have already developed very similar kind of teaching contents for their students.

Most of the 21st century key competences mentioned in the curriculum reforms are generic skills. Class teachers are the key to success of the implementation of the curriculum reforms. They can easily tell their students' strengths and weaknesses and needs based on their observation throughout the whole primary school life of students. For example, competence "taking care of oneself and others, managing daily activities and safety" requires long term development. Knowing their

Chapter 3 Finnish Curriculum Reform

I. The Ground of the Curriculum Reform

Finland has undergone curriculum reform around every ten years since 1970. The latest one in 2014 is the 5th curriculum reform. The reasons for Finland to update the school curriculum once in a decade are:

- To respond to the rapid changing world
- To equip students with the skills reacting to future challenges and the ever-changing working society
- To provide an up-to-date learning environment to students, such as more innovative, more collaboration, more student-directed learning, more participation, more technology, more internationalization etc.
- To increase students' learning motivation and thus their joy of learning

The main focuses of the latest reform in 2014 are:

- Developing students' seven transversal competences -
 1. thinking and learning to learn
 2. looking after oneself, managing daily activities, safety
 3. cultural competence, interaction and expression
 4. multi-literacy
 5. ICT-competence
 6. competence for the world of work, entrepreneurship
 7. participation and influencing, building the sustainable future
- Transforming from WHAT to learn to HOW to learn
- Development of the skill of learning to learn and lifelong learning
- Exploring new teaching pedagogies

II. Planning Process and its Implementation in 2015-2018

The planning process of the curriculum reform was transparent and involved different parties. The Finland curriculum reform involved a Steering Group (chaired by FNBE and involved MoEC, Teacher Education, Teacher organization, textbook publishers organization and education provider), a Coordinating Group (FNBE and chairs of the working groups) and 36 Working Groups (chaired by NFBE; involved teachers, education providers and teacher education personnel).

The national guidelines in National Core Curriculum of Basic Education, Pre-primary Education and Voluntary Additional Basic Education were ready in December 2014, while that for General

Upper Secondary Education were ready in September 2015. After that, the guidelines were modified and successfully implemented in the local curricula in August 2016. The follow-up action and evaluation of the reform will be carried out in the 2015-2018 cycle. The feedback received from surveys and results of the curriculum analysis would be useful for reflection and facilitating the planning of the next reform.

National regulation and general framework such as objectives, contents, lesson time and pedagogical guidelines for each subject were set in the core curriculum. Education providers and schools have the autonomy to make decisions and conceptualize the National Core Curriculum. More precise guidelines based on students' specific needs and schools' characteristics were set in local curricula.

III. Highlights of the new National Core Curriculum

The National Board of Education uphold three goals in the new National Core Curriculum, namely, to strengthen the activity of the pupils, to increase the import of studying and to create experiences of succeeding of every child.

Overall framework of the whole curriculum

The curriculum reform began with defining the main objectives for education in the government decrees. The government issued a decision on more participatory, physically active, creative and linguistically enriched schools and integrated teaching and learning. In order to facilitate students to access more on Arts and social issues and promote doing exercises, the government increase the numbers of Music, Visual Arts, Social Studies and Physical Education lessons.

Environmental protection is vital to the development of the world. Students' interest on environmental protection is also a key area to be addressed in Finland. The Finnish government promotes the integrated environmental studies in grade 1-6, including Biology, Physics, Geography, Chemistry and Health Studies. As for language studies, the government provides sufficient financial support to municipalities to provide more language studies.

Broad-based competence

The New National Core Curriculum focuses on the development of students' competences so as to equip students to meet the challenges in the future. The competences are the mixture of knowledge, skills, values, attitudes, capacity and will for tomorrow. Seven dimensions of broad-based competences (i.e. 7 transversal competences) are identified, namely:



Diagram of 7 transversal competences

The new core curriculum is basically developed based on the 7 transversal competences. They are developed as challenges for schools to work on, rather than solely for students' learning objectives. At national level, the competences were divided into three stages (i.e. Grade 1-2, Grade 3-6 and Grade 7-9) and the learning objectives of core curricular for subjects includes the competence goal. The competences will also be assessed in the subject assessment. At local level, the local authorities and schools should take the proactive role to consider their own way to develop students' transversal competences, for instance, some local authorities and schools focused more on the strategies to promote Entrepreneurship Education based on students' needs (a case on how entrepreneurship education is promoted in a school in Jyväskylä will be discussed in chapter 4)

Multidisciplinary learning module and Collaborative learning practices

Based on the new National Core Curriculum, at least one multidisciplinary learning module, such as PBL, should be provided for students annually at all schools. The objective of this arrangement is to allow students understand the interdependencies between different subjects and combine the use of skills and knowledge learnt from different subjects.

The multidisciplinary learning module is a tool for integrated learning, and teachers should act as facilitators to guide students to plan and study the topics or phenomena they are interested in. In addition, students may work with different subject teachers simultaneously in the projects. Students have to collaborate and think of how the problems could be solved by interviewing, searching for information and working with others to seek solutions, thus their problem-solving skills, curiosity and motivation are developed in the process of multidisciplinary learning. Apart from the

obligations to implement multidisciplinary or PBL module once a year, the schools could decide the topics and arrangement based on their needs.

Assessment Culture

Assessment for learning and Assessment as learning are advocated in the new National Core Curriculum. Assessment is an important means to support learning, which is a crucial part in the learning process. Teachers are required to provide versatile assessment and instructive feedback to students. For improving the quality of teaching and learning, teachers and students should make good use of assessment result for self-reflection. Teacher should develop students' skills for self-assessment and peer assessment in terms of giving and making use of constructive feedback.

Under the new curriculum, the assessment methods are diversified. As for the assessment during studies, students receive a school year report at the end of the school year, which let students understand how well they have achieved in different subjects, in verbal assessment or numerical grades. To ensure the equality in assessment, national assessment criteria for a numerical grade 8 are defined in the National Core Curriculum in all subjects at the end of 6th grade and 9th grade, which are the major transition phases. Teachers should use the criteria to assess students' performance. To encourage students learning from the assessment and avoid vicious competition, students' performance is not compared with each other's. Teachers should help students familiarize with the objectives, know their strengths and areas for improvement. As for the final assessment at the 9th grade, it aims to assess how well the student has achieved the objectives of the basic education syllabus in different subjects and it constitutes the basic education certificate.

IV. Key issues and debates

Given the transparent preparation and comprehensive public consultation procedure of the new National Core Curriculum, there is no big controversy on the curriculum reform in Finland. Most Finnish people are satisfied with the new curriculum. However, from the presentation of the Finnish government officials, it is noticed that there are still some arguments on the setting up of national assessment criteria for the students in the transitional stages (i.e. the 6th grade and the 9th grade), since some teachers worry that this arrangement could not cater for learners' diversity and individuals' learning needs.

V. Reflection

From the Curriculum Reform in Finland, we could see their dedication to the strive for excellence in education. Though Finnish Education is always at the top ranks in the world, they still insist on improving the quality of teaching and learning.

When compared with Hong Kong, we share various common elements in our education systems and curricula, for instances, project learning and multi-disciplinary learning, generic skills and 7 transversal competences. What makes us different is worth some thought and in-depth analyse.

In the new core curriculum reform, 7 transversal competencies are upheld. It serves as the major initiatives to help students face the challenges in the future. If this initiative is conducted in other countries, teachers may find it difficult in the paradigm shift from emphasizing on teaching subject knowledge to developing students' competencies in lessons. However, it seems that Finnish teachers are able to adapt the changes and think of various strategies to develop students' competencies, for example, from our observation, students could learn to be more innovative and collaborative through the programmes of entrepreneurship education and STEAM education designed by Finnish teachers. Also, in order to facilitate students to understand the 7 transversal skills, a school designed a more interesting and simplified version chart of the 7 transversal skills (Please refer the latter part on MONO Teaching). From the observation in Finland, we found that Finnish teachers are adaptive and professional to transform the National Core Curriculum to School-based curriculum. Finnish teachers' expertise may be the critical factors for their success. Hence, it inspires us to think about how we can help Hong Kong teachers develop their expertise in pedagogy and curriculum planning, especially the skills in developing students' competencies.

The latest result of PISA 2015 showed that the international ranks of Finland in several items are slipping. But a famous Finnish educator, Pasi Sahlberg, said that 'In one way, Finland remains one of the highest-performing school systems in the world...What we need to underline here is that PISA tells us only a small part of what happens in education in any country. Most of what Finland does, for example, is not shown in PISA at all.' Professional teaching expert may be one of the parts which international assessment does not shown. Should we lift our vision higher to focus on what Finland has successfully done in Education?

Chapter 4 Implementation of National Core Curriculum in Local Schools

I. Implementation of Entrepreneurship Education

Background

Finland is the first country in the European Union to embed entrepreneurship education in the school curricula at different education levels. The Ministry of Education and Culture in cooperation with other ministries and stakeholders such as regional authorities and business organizations issued Guidelines for Entrepreneurship Education (2009) with a view to putting a stronger focus on entrepreneurship at all levels of education and better collaboration between key players in the development of teaching pedagogies to support entrepreneurship. Due to full school autonomy in Finland, the ways of the implementation of entrepreneurship education may vary.

Transversal Entrepreneurial Skills

National objectives in Finland relating to entrepreneurship education can be found in national lifelong learning strategies which generally include the “Key Competences Approach”. The National Core Curriculum 2016 sets out 7 key competences, the 6th being entrepreneurship.

According to the Key Competence Framework, the entrepreneurship key competence refers to an individual’s ability to turn ideas into action. It includes creativity, innovation and risk taking, as well as the ability to plan and manage projects in order to achieve objectives.

Video of Principal Aki on Entrepreneurship



<http://goo.gl/BKB58y>

How does Entrepreneurship Education help students develop the key competences as specified in Finnish National Core Curriculum 2016?



<http://goo.gl/OpIbeO>

Why is Entrepreneurship Education important for students in the 21st century?

Jyvaskyla Entrepreneur School

Jyvaskyla Human Technology 2013-1 P.8-9

<http://jyvaskyla.netpaper.fi/1248>

The Entrepreneur School Model – Jyvaskyla Entrepreneur School

4 upper secondary schools in the region of Jyvaskyla have developed the Entrepreneur School Model. In a Jyvaskyla Entrepreneur School, entrepreneurship education generally builds on active, collaborative and interactive teaching pedagogy. In Muurame Upper Secondary School which is one of the four Jyvaskyla Entrepreneur Schools, there are three central themes in their local

entrepreneurship education curriculum: transversal entrepreneurial skills, project-based learning and entrepreneurship practice.

In a Jyvaskyla Entrepreneur School, the overall goal of entrepreneurship education is to give students the attitudes, knowledge and skills to act in an entrepreneurial way. Everyone learns to think in an entrepreneurial way, even if they do not start their own business. It manifests itself in an upper secondary school context in different ways of collaboration and in a commitment to tackle different tasks well and take responsibility for one's own work. Besides, closer cooperation between stakeholders in education and business is one of the means used to promote and implement entrepreneurship education.

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List of Godfather Company.

Promoting Entrepreneurship Education Through Establishing Network with Local Enterprises

In Muurame Upper Secondary School, there is the system of “Godfather Company”. The School endeavours to establish a close network with some local enterprises. Each class in the school will be sponsored by a Godfather Company which might offer their professional expertise and advice to the students in some practical cases and provide some financial sponsorship as well. Job-shadowing activities and workplace visits to the Godfather companies are frequently organized. Such kind of close cooperation with local enterprises definitely enables students to discover the authentic world of business and prepare them for their own future career endeavours.



<http://goo.gl/pjjDwp>

*Video of Teacher Heli's
View on “Godfather
Company” system*



<http://goo.gl/cBwfGn>

*Video of Student Arron's View on
“Godfather Company” system*

Promoting Entrepreneurship Education Through Project-based Learning in Murrame Upper Secondary School

Another main focus of the entrepreneurship education curriculum in Murrame Upper Secondary School has been laid on students’ active participation and personal experience in conducting projects. The Entrepreneur School trains students to work in an entrepreneurial way by means of team-work and project-based learning through cooperation with different organisations and enterprises. Students work in small groups with a project. They usually come up with their own project ideas, thus their motivation is better than in those so-called projects dictated by an outsider like the teachers. Students cannot wait for the teachers to ‘teach’ them, instead, they learn by “doing”. In project learning, students have opportunities to learn about their strengths and weaknesses, and they can develop skills that they will need later on in their working life, or their studies after upper secondary school. An essential part of entrepreneurship education is the interaction with local enterprises. Students may work for companies with a project, or they may get a ‘godfather’ or ‘godmother’ who is an experienced entrepreneur to guide and coach them in their project. Taking an entrepreneurship project conducted by a group of second year students in the Murrame Upper Secondary School as an example, those 17-year-old students planned an event day for the participants to enjoy a very popular recreational activity - skiing. The group of 11th graders dealt with all preparatory work, including the promotion of the activity among the students. The involvement of local enterprises was also crucial to the success of such entrepreneurship education project. The teammates in the group successfully got the sponsorship from a local supermarket for all the drinks and food (mainly sausages) for the event day.



Excellent Big Event!

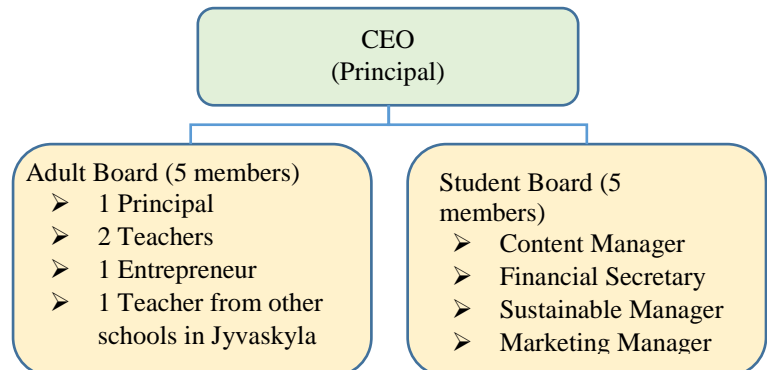


<http://goo.gl/dXkdyv>

A movie on the event

Entrepreneurship Practice

Practicing entrepreneurship is the third key element in an Entrepreneur School. In Murrame Upper Secondary School, students can work for the co-operative run by the school. A co-operative is a group of people acting together to meet the common needs and aspirations of its members, sharing



Organisation Chart of Co-operative

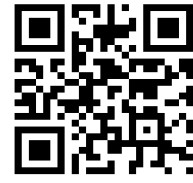
ownership and making decisions democratically. What makes co-operatives unique is that they are run not by institutional investors or distant shareholder, but by their members who are the students and teachers in the school context. The school principal acts as the CEO in the cooperative while students form the student board run the co-operative. One of the members in the student board serves as the accounting officer who does the book-keeping work and prepares the income and expenditure statement of the co-operative. The co-operative employs some workers, who are mainly students, to provide different kinds of services such as clean-up service to the members of the community. All employees of the co-operative get paid for their labour service.

***Video of Principal Aki on
Entrepreneurship***



<http://goo.gl/KtW3UX>

***Video of Student Arron's
View on Co-operative***



<http://goo.gl/MJZSbX>

How would you promote the Entrepreneurship Education to other schools? What valuable experience would you like to share with them?

Paradigm Shift in the Role of Teachers in an Entrepreneur School

Apart from the local curriculum, Jyvaskyla Entrepreneur Schools go further in fostering a paradigm shift in the role of teachers in entrepreneurship education. The teaching pedagogy in such Entrepreneur school has brought a new spirit of enthusiastic teamwork to upper secondary schools in the Jyvaskyla Region. Teachers take on the role of coaches instead of their conventional role while students conduct their entrepreneurship projects. In entrepreneurship education, project learning is conducted by means of team learning. The entrepreneurship coaches have an important task in the teams because they have to be able to see what stage of development the student teams have reached and provide appropriate support at the right times. Teachers participate in on-the-job training sessions outside the school. Entrepreneurship education teachers are required to have work placement in some local enterprises for a few days. These working days give teachers a broader view on today's working life than a few-hour visits can do.



<http://goo.gl/REJxj9>

***Video of Teacher Heli's
View on "the role of
teachers in
entrepreneurship
education"***



<http://goo.gl/JavH0O>

***Video of Teacher Heli's
View on the role of
coaches***

Current Development in Entrepreneurship Education

The Entrepreneur School Model developed in Jyvaskyla Region has been so successful that its best practices are currently being introduced into more than 20 other upper secondary schools around Finland. In 2009, a network of 23 upper secondary schools from all parts of Finland started a project to develop and promote entrepreneurship education. The network is called entrepreneurship network and the project is funded by the Finnish National Board of Education. Entrepreneurship education in the network has developed into a spirit of ‘intrapreneurship’. Not only is entrepreneurship education one subject among the others, but it also means an enterprising attitude in studying and in teaching. Notwithstanding the possibility of making mistakes, an enterprising person – student or teacher – is willing to try new initiatives.

II. Strategies for Developing Students’ 7 Transversal Competences at two local schools

A. Vaajakumpu Comprehensive School (VCS)

Student Council is common and active in Finnish schools. Students can develop a strong sense of responsibility and citizenship through the participation in affairs of Student Council.

Student Council of VCS is an organization composed of 2 student representatives elected from each class. Equity is respected as all students, no matter Grade 1 or Grade 6, have the right to vote and exercise their influence over school policies. Unlike Student Unions in Hong Kong schools, members of Student Councils in Finnish schools are empowered and entrusted to express their views on school policies concerning student affairs. Members of Student Council are eligible to take part in the discussion of school affairs with teachers and principal. For example, a coffee machine is successfully added in school for Grade 7 to Grade 9 students after negotiating with the school management by Student Council. Is it acceptable for Hong Kong schools to purchase a coffee machine for students in school?



Student Council meeting is in session



Coffee available for 7th to 9th Graders only.

School tuck shop in VCS is another example to show how students are trained to be future leaders. Tuck shop in VCS is a business wholly owned and run by Student Council. Students are the only people taking charge of procurement and stocktaking. Despite the fact that school would assist Student Council in producing Income and Expenditure Statement and keeping the money of the tuck shop, Student Council bears the whole responsibility of the tuck shop and is accountable to all students in VCS as IE Statement is made transparent to the public periodically.



Student Council runs the tuck shop on their own. As decided by Student Council, candies are not allowed to be sold there.

Operation of VCS tuck shop is a kind of learning process through which students’ skills of planning, problem solving, communication and creativity are sharpened. Students are ready for becoming future leaders armed with transversal competences, including “thinking & learning to learn”, “entrepreneurship” and “participation”.



Tuck Shop is in operation

B. Muurame Upper Secondary School (MUSS)

Apart from participating in the student council as a class representative, students can develop their leadership skills by participating in school activities and by learning how to work in group projects.

MUSS organizes a Forest Camp for its students every three years and all students participate in it. Students interested in becoming a tent manager must take the initiative to enroll an additional course in advance to learn all essential skills. They then can instruct their team members how to set up the tent and lead the group to accomplish all kind of tasks that involve survival in the wilderness or crisis management. All students in the same tent also need to take turn to keep the fire burning throughout the night. This whole-school activity clearly provides the students an opportunity to sharpen their leadership skills and enhances their ability to be a responsible team player.



What a great sense of achievement when the tent is successfully set up!



Students having discussion and solving problems together. Collaboration is the key!

Taking care of oneself and others is one of the transversal competences highlighted by the new curriculum reform. Student Guides in MUSS is an example to help students develop such competence. Having volunteered themselves to become student guides, students have to make a plan of their own for every detail after receiving teacher's instruction. Experienced senior form students (Grade 12) are in a team with new students in Grade 10 and their job is to welcome guests and give them a campus tour. Grade 10 students are only the newcomers of the school so they learn the ropes mainly by shadowing and observing their seniors who talk about their school life in vivid details, answer visitors' questions and demonstrate how to carry a conversation or how to make small talk, an art that is uncommon in Finnish culture.



An experienced student guide answering visitors' questions.

Students who take an optional course on entrepreneurship education, a project-based programme, are required to organize an event in a group. A student interviewee shares how his group prepares a winter day event for the Taiwanese guests at school. No adults are involved at all in the preparation for this 3-hour event for 150 students. The student who is elected to be the project manager has to set up meetings with his group members and also with suppliers and sponsors. They need to discuss and plan every little logistic detail so that the event would run smoothly. Through this experience, he has learnt firsthand what it means to be a leader in the group. He overcomes the biggest challenge of time management and has learnt to delegate work to different members of the group effectively. He also becomes aware of the importance of good social skills and adopts a management style to keep his members motivated. This example illustrates how crucial it is for students to develop their leadership potential through group projects and team work.



Showing the Taiwanese guest how to do ice fishing in Finland.



Project leader and his team getting ready on the big day!

III. Strategies for Implementing the Multidisciplinary Learning Modules – PBL

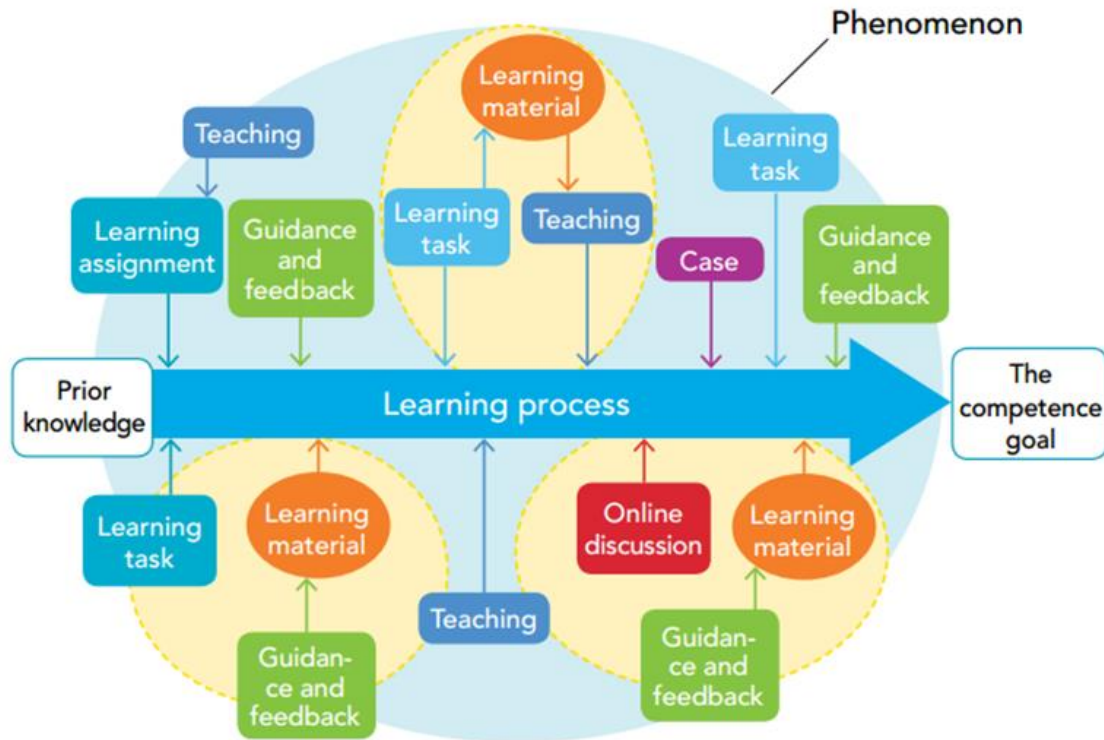
Starting in August 2016, under the new National Curriculum Framework, schools in Finland are required to conduct at least one extended period of PBL in every academic year. This type of student-centered pedagogy involves a dynamic classroom approach in which students acquire a deeper knowledge through active exploration of real-world challenges or phenomena. PBL, which is an active and inquiry learning, is characterized by three basic tenets: skill-based learning, authenticity and multi-disciplinary in nature.

In line with the Key Competence Framework under the National Core Curriculum 2016, various transversal skills are embedded in PBL. Such type of skill-based learning can successfully foster a greater depth of understanding of concepts, broader knowledge base, improved communication and interpersonal social skills, enhanced leadership skills, increased creativity, and improved writing skills. Most importantly, students work together to solve real-world problems in their schools and communities. The enhanced problem-solving skills often require students to draw on lessons from several disciplines and apply them in a very practical way.

PBL gives a holistic view of real-world phenomena in an authentic context. In PBL, the starting point is by no means the integration of traditional school subjects whereas the focus is rather on some current and authentic scenarios or phenomena in the real world. Authenticity is accordingly the key requirement for the transfer and practical application of knowledge in such student-centred learning.

PBL is inter-disciplinary or multi-disciplinary in nature. The phenomena are studied as complete entities in their real context. The information related to such real phenomena is analyzed and studied by crossing the boundaries among subjects. In the region of Jyväskylä, PBL is interpreted with a simple diagram on the following page. Comprehensive schools are encouraged to implement “Mono Teaching”, which is a multi-disciplinary pedagogy. In “Mono Teaching”, students in Jyväskylä are engaged in some student-centred activities on one of the following themes: 100th Anniversary of Finland Independence, European Union and self-management transversal competence.

Three examples of how PBL is implemented in local schools of Jyväskylä and the impact on student learning observed during school attachment are detailed in **Appendix III**.



Phenomenon Based Learning Process.

IV. Key to Success in Implementation of Phenomenon Based Learning

How do we conduct PBL in a successful way? How do we motivate our students to finish a cross-disciplinary project effectively? What should we prepare for the implementation of PBL? We can find the answers from Mr Kari Hamynen, an experienced class teacher of Haapaniemi Main School. Mr Kari has over 30-year experience in the implementation of PBL in Finland, he deems that the investigation starting from real-world phenomena is important. Only authentic issues would give students real experiences that arouse their learning motivation. As long as they face challenges, they would find their way to tackle it. Therefore, kicking off the PBL from a problem would be a good start. Second key to success is “Autonomy”. Students should be entrusted with their abilities and teachers should always be patient with students’ immature ideas and carelessness. PBL is a long learning process in which students would undergo several learning checkpoints. Early intervention and negation not only undermine students’ creativity, but also demise their motivation, which would make the implementation of PBL never succeed.



<http://goo.gl/EKsWj2>

*Video of Teacher Kari's
Tips of successful PBL*

V. Reflection

Entrepreneurship Education in Finland: Its Success and development of transversal competencies

The two most important factors explaining the success of the implementation of Entrepreneurship Education and the development of other transversal competences are trust and autonomy.

Firstly, schools in Finland are trusted as valued partners and even experts in the curriculum development and they have broad pedagogical flexibility in inculcating the 21st century skills in their curriculum at the local level. Due to the miraculous operation of the system of trust, schools in Finland are committed to taking “risks” in launching new initiatives. The Jyvaskyla Model of Entrepreneurship Education is an vivid example. The Principal in the Murrane Upper Secondary School has a strong conviction that notwithstanding the possibility of making mistakes, an enterprising person – student or teacher – is willing to try new initiatives. Such kinds of commitment and conviction stand him in good stead for his endeavor in the implementation of Entrepreneurship Education.

Secondly, teachers in Finland are autonomous professionals, respected for making a difference to young people’s lives. In Finland, it is a common saying that they are professionals akin to doctors, architects and lawyers. Hence teachers are expected to perform in their workplaces like professionals: the exercise of professional judgment, creativity and autonomy individually and together with the other counterparts to search for the best ways to help their students to learn. In the Murrane Upper Secondary School, the high autonomy enables teachers themselves to take the initiative to take on the role of coaches instead of their conventional role while students conduct their entrepreneurship projects. When the teachers have thought of such an effective and conducive way of teaching their students, those committed teachers are willing to participate in on-the-job training sessions outside the school with a view to learning how to become a coach in Entrepreneurship Education.

Comparison of the implementation of PBL in Finland and Project-Based Learning in Hong Kong

From 1980s onwards, Finland has started the implementation of PBL while in Hong Kong, Project-based Learning has been one of the 4 Key Tasks introduced by the Education Bureau. Although the names of the initiatives between the 2 lands are different from each other, they still embrace certain similarities. Firstly, both stress on skills, rather than knowledge. With the same objective of fostering students’ independent learning capabilities, the implementation of Project-based Learning in Hong Kong and the PBL in Finland commonly help develop students’ generic skills. Both types of learning initiatives provide students with learning opportunities in which independence, collaboration and thinking skills are developed while knowledge is acquired

simultaneously. Secondly, both take investigative and interdisciplinary approach. Characterized by the inter-disciplinary nature, both PBL and Project-based Learning tackle a phenomenon or an issue holistically from different perspectives of various subject areas. However, concerning the first difference between the PBL and Project-based learning, the PBL is in fact a type of anchored learning, where the questions to be asked and issues to be inquired are naturally anchored in holistic and genuine real-world phenomena, and the information and skills to be learned can be directly applied across boundaries between subjects. But the tenet of authenticity is less stressed in Project-based Learning which usually starts with a “problem” or an “issue”. Students have to understand and comprehend the problem from different perspectives and explore different ways to approach the problem or the issue to develop their creativity, critical thinking and problem-solving skills. In terms of curriculum, PBL has been structured as an integral component in the new Finnish curriculum. Under the new National Curriculum Framework, schools in Finland are required to conduct at least one extended period of PBL in every academic year. However, for the Project-based Learning in Hong Kong, it is not compulsorily included in school’s curriculum. With the deepening of the curriculum reform, the implementation of Project-based Learning has been increasingly effective. Project Learning, which is now a common and essential learning experience for Hong Kong students, is nevertheless not a compulsory component in the curriculum.

Common difficulties faced by the teachers of Finland and Hong Kong when implementing PBL

Reform is not an easy task to be implemented as conservatives or traditionalists would always hold negative view towards changes, which may form a great obstacle to the success. The implementation of PBL, no matter in Finland or in Hong Kong receives oppositions from teachers with conservative mind. Teachers are the key persons to guide students to step on the right track and achieve the expected outcome. The role of teacher in PBL should be as facilitators, coaches, advisors and intermediaries to obtain optimal results in accordance with the power of imagination, creativity and innovation of students. However, paradigm shift from teacher-centred to student-centred under the implementation of PBL would make those conservative teachers feel uncomfortable and insecurity. They would not devote themselves to help students build their knowledge and skills through the strategies of PBL, which could hardly make it a success. Apart from teachers’ mindset, teachers’ professional development is also crucial for the smooth implementation of PBL. Cooperative learning strategies are employed throughout the process and teachers should give more freedom to students to explore their own learning and construct their own meaning. In order to effectively implement PBL, it is highly required teachers with abilities to help students solve problems, improve content knowledge and enhance their multi-intelligence skills, especially to deal with students with low ability, lack of motivation and lack of focus. Do all teachers in both Finland and Hong Kong have sufficient knowledge and abilities to address to the

above concerns? Professional development programme on effective implementation of PBL should be conducted and networking among schools should be built up for enhancing teachers' confidence and skills in implementing PBL.

Lessons learnt from Finnish schools when implementing a new initiative

Innovation could not take place over a night. Starting from small steps is the most important guiding principle to lead its way of success when implementing new initiatives. Like Vesenska Primary School, MONO teaching as a kind of PBL is only implemented for P5 and P6 students. As there's no prior experience about how MONO teaching is implemented in Jyvaskyla, teachers need to try out different means to ensure the effectiveness of the implementation. If it starts in full scale and in high speed, it would be difficult for teachers to monitor its progress and control its quality. Instead, the school wisely spends a lot of time in conducting SWOT analysis of the school, ensuring there's sufficient resources and knowledge to launch the PBL in an efficient way. With the school's meticulous preparations, favorable climate is created and MONO teaching is implemented effectively with positive feedback received from both students and teachers.

Giving teachers sufficient room for the implementation of new initiatives is another success factor. As advised by the professor of University of Jyvaskyla, teachers' work load must be taken into consideration when a new initiative has to be implemented. Otherwise, teachers would not have enough room and energy to start new initiatives. Preparing teachers' readiness for change is important as teachers are the key persons to carry out those changes in school. Without their support, changes will not take place properly and effectively. School leaders should give teachers enough space to implement new initiatives. For example, professional trainings and sharing sessions should be organised to. With shared knowledge and experiences, teachers would be more confident in implementing the new initiatives.

Student leadership training in Finland and Hong Kong

Equity, respect and trust are the core values of Finnish education. Students enjoy their schooling no matter in Kindergarten, Comprehensive and Upper Secondary Schools because every student in Finland is being respected and entrusted. Students are given learning opportunities at every corner of school. They have choices to develop their talents and walk out their own learning path under the care and guidance of teachers. Personalization is another feature of Finnish education.



Small kids are entrusted to learn independently in a forest.

The main task of teachers is to discover students' different strengths and capabilities, and maximize them to the full through various strategies. Learner-oriented approaches should be adopted to take needs of different learners into account. With different strokes for different folks, Finnish students are well-equipped for the transversal competences through empowerment.

Education must evolve to meet the needs of the world which is ever-changing. Both Finnish teachers and students dedicate themselves to turning Finland into a competitive country through learning from the past, doing at the present and planning for the future. Knowing the importance of training up students to be future leaders, teachers in Finland would render their support to students in corner, rather than stand in front of them. They well believe the principle of "Learning by doing" through which students' potentials are developed and they are well equipped with life-long skills and trained to be life-long learners with a global view.

"Every student is a leader; Everyday creates leaders" is the leading principle of every school in Finland. Although all schools visited have no concrete papers and policies on the development of student leadership, students are well-armed with various leadership skills, including communications, collaboration, critical thinking, planning and etc. They are trained to be proactive, responsible, dedicated and expressive through their daily school life.

What does leadership mean? What kind of qualities and character traits do good leaders possess? What kind of leaders should our future generations be? There are no one-size-fits-all answer to these questions because leadership can be defined in many different ways. One thing remains constant and that is teamwork. Leaders have to work with people and therefore, they also have to be a team player. While the more structured leadership training programmes in both primary and secondary schools in Hong Kong are undoubtedly desirable and may be even necessary under the current education system, it might also be beneficial for schools to put equal emphasis on social skills building, helping students to learn how to get along, how to work towards a common goal and how to be a good team player.

The Finnish education provides an insight on how leadership can be developed naturally in everyday group projects and class activities. The examples above emphasize the importance of being proactive, , being able to get along with others, to communicate ideas effectively, to think critically and to solve problems, the essential survival skills for future generations. Students in Hong Kong are fortunate enough to be given multiple opportunities to excel at school because most schools already have a structured leadership programme in place. With relentless encouragement from the teaching staff at school and generous support from the school management, students will be equipped with all necessary skills to stay competitive in the 21st century.

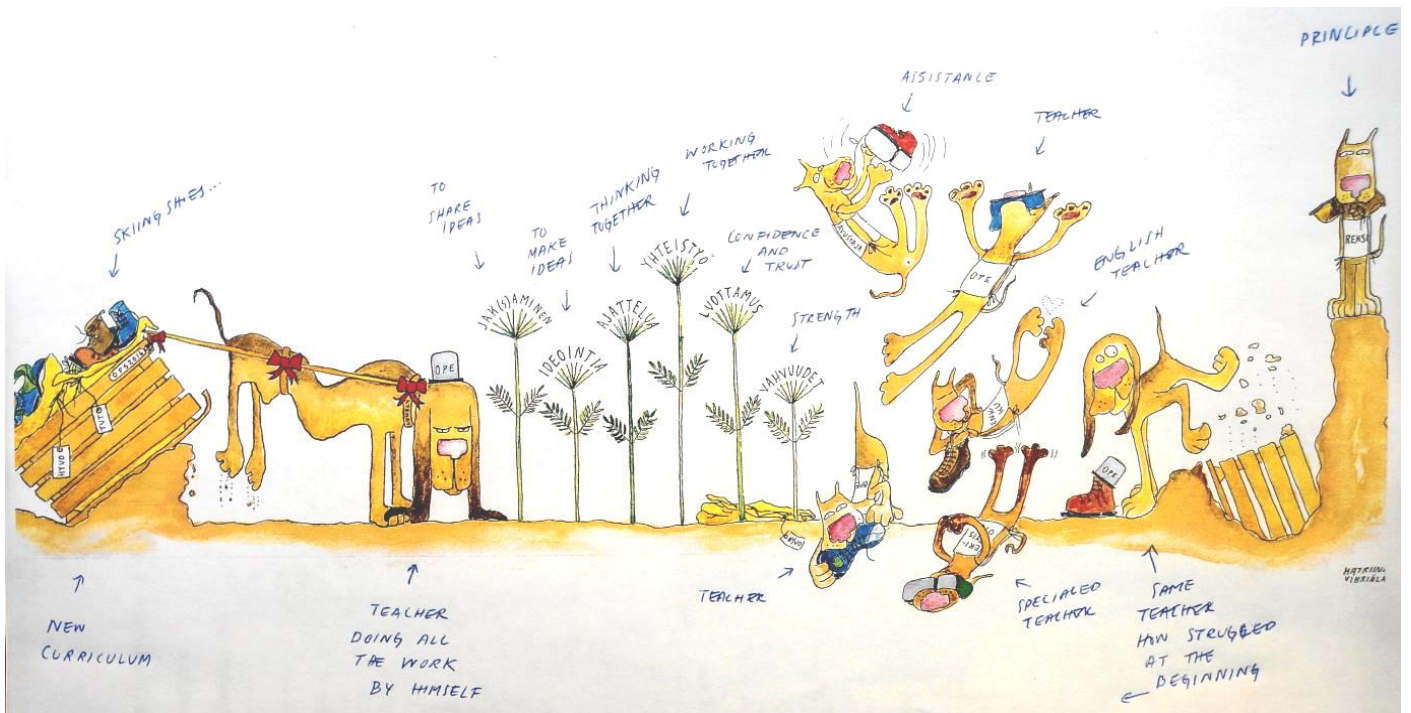


Joel Linna, the Principal of Vesanka Primary School is teaching students how to make a car in group.



We should believe in children's capabilities and power. Opportunities should be for everyone.

What do you think about Finnish teachers' view on the new National Core Curriculum implemented in August 2016? The following picture, which is drawn by Katriina Vihriälä, the Deputy Head of Vesanka School, might give you the answer.



The End

Detailed programme (3 weeks)

**Government of Hong Kong Special Administrative Region
Education Bureau
Attachment Programme in Finland**

Week I

WEEK 1: OVERVIEW TO THE FINNISH EDUCATION SYSTEM AND ITS KEY CORNERSTONES - EXPERT TALKS AND VISITS IN THE HELSINKI REGION	
Participants: 12 representatives from Hong Kong Education Bureau and schools in Hong Kong	
Sunday, August 28, 2016	
	<p>6.00 Arrival to Finland, flight AY 0070 from Hong Kong Pick-up from the Helsinki airport and transportation to the hotel <i>Pick-up by bus driver</i></p> <p>Accommodation in Sokos Hotel Presidentti, Eteläinen Rautatiekatu 4, Helsinki Free time and rest</p>
Monday, August 29, 2016	
8.30	<p>Pick-up from the Sokos Hotel Presidentti Meet Ms. Anna Korpi in the hotel lobby</p> <p>Transportation to the University of Helsinki library</p>
9-11.30	<p>OPENING SESSION Welcome with Programme overview</p> <p>EXPERT SESSION: EDUCATION SYSTEM Introduction to the Finnish education system and its key cornerstones <i>Ms. Kati Loponen, Lead Expert, EduCluster Finland</i> Location: University of Helsinki library, meeting room Kaisa hall 7062</p>
11.30	Short tour and introduction to the new University of Helsinki library
12.30-13.30	Lunch at Restaurant Sunn

14-16	<p>Walk to Finnish Ministry of Education</p> <p>VISIT TO FINNISH MINISTRY OF EDUCATION Discussions on the recent developments of the Finnish education <i>Ms. Birgitta Vuorinen, Counsellor of Education, Finnish Ministry of Education</i> <i>Ms. Sanna Vahtivuori-Hänninen, Project Manager, Finnish Ministry of Education</i> <i>Location: Meritullinkatu 1, Meeting room Venla</i></p> <p>Discussion topics:</p> <ul style="list-style-type: none">✓ Overview and discussion on the educational use of ICTs in Finland✓ Recent spearhead projects of the Finnish education✓ Development of teacher education in Finland
16.00	Transportation to the hotel
Tuesday, August 30, 2016	
8.30	Pick-up from the hotel
9-11	<p>VISIT TO FINNISH NATIONAL BOARD OF EDUCATION Curriculum development in Finland, New national curriculum of 2016 <i>Ms. Erja Vitikka, Counsellor of Education, Finnish National Board of Education</i> <i>Location: Hakaniemenranta 6, Helsinki</i></p> <p>Topics and specific discussion topics:</p> <ul style="list-style-type: none">✓ Background to the reform and the key aims✓ The new elements in the 2016 curriculum✓ Focus on 21st century skills, creativity
11.30-12.30	Lunch at Restaurant Meripaviljonki

12.30	Walk to xEdu Accelerator Programme
13-15.15	<p>EDUCATION TECHNOLOGY DEVELOPMENT IN FINLAND VISIT TO XEDU ACCELERATOR PROGRAMME</p> <p>Introduction to xEdu Education Accelerator Programme http://xedu.co/ Introduction to the unique model of public-private partnership in developing education start-ups and EdTech solutions together with businesses and public schools in Finland Meeting with Finnish education technology start-ups <i>Hosted by Mr. Niko Lindholm, Programme Director, xEdu Accelerator Mr. Pasi Silander, Department of Education, City of Helsinki Location: Fontell House, Siltavuorenpenger 7</i></p>
15.15	Transportation to LUMA Center
15.30-17.00	<p>VISIT to LUMA Center / Development of STEM Education in Finland</p> <p>LUMA Centre Finland was established is an umbrella organization for the collaboration of schools, universities and the business sector, with the aim to promote and support life-long learning, studying and teaching of STEM subjects on all levels of education. Case examples of collaboration cases. <i>Hosted by Mr. Lauri Vihma, Planning Officer, LUMA Center Location: University of Helsinki, Exactum house, Gustaf Hällströmin katu 2 b</i></p>
17.00	Transportation to the hotel
Wednesday, August 31, 2016	
8.15	Pick-up from the hotel
9-11.30	<p>EXPERT SESSION: TEACHER EDUCATION</p> <p>System of teacher training in Finland, examples from all levels of education Connection to PISA success factors Teachers role in implementing the new National Core Curriculum 2016 Impact of curriculum reform in initial teacher training <i>Dr. Matti Kuorelahti, Head of the Department, Faculty of Education, University of Jyväskylä Dr. Jukka Lerkkanen, Director, Jyväskylä Open University Mr. Pasi Ikonen, Programme Manager, University of Jyväskylä Location: Heureka, the Finnish Science Centre</i></p>
11.30	Lunch in Café Einstein

12.30 - 14	EXPERT SESSION: TEACHER EDUCATION System of in-service training and upskilling in Finland Impact of reforms in in-service training Key factors of high quality teachers and professional communities <i>Dr. Matti Kuorelahti, Head of the Department, Faculty of Education</i> <i>Dr. Jukka Lerkkanen, Director, Jyväskylä Open University</i> <i>Mr. Pasi Ikonen, Programme Manager, University of Jyväskylä</i>
14-16	Presentation of the Heureka Science Center Visit to the science museum and exhibition http://www.heureka.fi/en
16.00	Transportation to the hotel
Thursday, September 1, 2016 School visits	
8.15	Pick-up from the hotel
9-15	INTRODUCTORY SCHOOL VISIT: PRIMARY SCHOOL, Grades 1-6 / years 7-12 Kaivoksela Bilingual School in Helsinki <i>Ms. Satu Ollila, Principal</i> <i>Ms. Anna-Leena Säde, Vice-Principal</i> Topics: ✓ Initial look into the Finnish primary schools ✓ Bilingual education in Finland
15.00	Transportation to the hotel
Friday, September 2, 2016 School visits	

8.15	Pick-up from the hotel
9-15	<p>INTRODUCTORY SCHOOL VISIT: GENERAL UPPER SECONDARY SCHOOL, Grades 10 - 12 / years 16-18</p> <p>Olari High School in Espoo <i>Hosted by Ms. Kaisa Tikka, Principal</i></p> <p>Topics:</p> <ul style="list-style-type: none">✓ Initial look into the Finnish general upper secondary schools✓ Finnish matriculation examination✓ A look into the high school with a special task in STEM education
15.00	Transportation to the hotel

**Government of Hong Kong Special Administrative Region
Education Bureau
Attachment Programme in Finland**

Weeks 2-3

WEEK 2: ON-SITE LEARNING AND ATTACHMENT IN FINNISH SCHOOLS IN JYVÄSKYLÄ, CENTRAL FINLAND REGION	
Participants: 7 participants from Hong Kong schools	
Saturday, September 3, 2016	
	Free time and rest in Helsinki
Sunday, September 4, 2016	
	Check-out from the hotel in Helsinki Transportation by minibus to Jyväskylä Check-in Sokos Hotel Paviljonki, Lutakonaukio 10, Jyväskylä Free time and rest
Monday, September 5, 2016	
8.00	Pick-up from the hotel
8.30-9.00	OPENING SESSION: Overview of the programme of the week <i>Ms. Kati Loponen, EduCluster Finland</i> <i>Location: EduCluster Finland HQ</i>
9.00	Transportation to University of Jyväskylä
9.30-12.00	INTRODUCTION TO UNIVERSITY OF JYVÄSKYLÄ Visit to Faculty of Education and discussions with university experts <i>Professor Marja-Leena Laakso, Dean, Faculty of Education</i> <i>Dr. Tiina Silander, Head of the Department, Department of Teacher Education</i> <i>Dr. Emma Kostiainen, Pedagogical Head of Teacher Education</i> <i>Mr. Pasi Ikonen, Programme Manager, University of Jyväskylä</i>

12.00	<p><i>Location: Ruusu puisto Building, University of Jyväskylä</i></p> <p>Lunch</p>
14-16	<p>EXPERT SESSION: ASSESSMENT System of Assessment in Finland Assessment for Learning, not for tests. Practical examples and discussion <i>Dr. Juhani Rautopuro, Finnish Institute of Educational Research, University of Jyväskylä</i></p>
16-17	<p>REFLECTION: What did we learn last week? What was new? What was the same as at home in Hong Kong? What did we not understand? What do we want to learn this week? <i>Ms. Kati Lopenen, EduCluster Finland</i></p> <p>Orientation to the attachment days ahead</p>
17.00	<p>Transportation to the hotel</p>

Tuesday – Thursday, September 6-8, 2016 ATTACHMENT DAYS: GENERAL UPPER SECONDARY SCHOOL, Grades 10 - 12 / years 16-18	
7.30	Pick-up from the hotel
8-16	<p>ATTACHMENT DAYS IN GENERAL UPPER SECONDARY SCHOOL: MUURAME UPPER SECONDARY SCHOOL <i>Hosted by Principal Aki Puustinen</i></p> <p>Presenting the Muurame Upper Secondary School by Principal Aki Puustinen and the selected teacher(s). Presentations & walkthroughs.</p> <p>SPECIFIC VIEWPOINTS AND TARGETS OF UPPER SECONDARY ATTACHMENT DAYS:</p> <ul style="list-style-type: none">✓ Observing the everyday life in a Finnish Upper Secondary school through the eyes of teachers and students. Shadowing classes, walkthroughs, discussions with the teachers and students.<ul style="list-style-type: none">○ Practical examples: e.g. Inquiry-based learning, STEM education in Finnish upper secondary, learning activities, learning resources, student evaluation.✓ Principals' work in Finnish upper secondary schools. Shadowing school operations, discussions with the principal and other administrative personnel.<ul style="list-style-type: none">○ Practical examples: e.g. timetables, school resources, learning materials, stakeholder cooperation.✓ Finnish matriculation examination. Presentation by principal/teachers. Discussions with the principal, teachers and the students. <p>Reflective Q&A's session with the principal and teacher(s) after each visiting day.</p>
16.00	Transportation to the hotel

<p>Friday, September 9, 2016 ATTACHMENT DAYS: LOWER SECONDARY SCHOOL, Grades 7-9 / years 13-15</p>	
7.30	Pick-up from the hotel
8-15	<p>ATTACHMENT DAYS: LOWER SECONDARY SCHOOL, VAAJAKUMPU COMPREHENSIVE SCHOOL <i>Hosted by Vice-Principal Jerker Polso</i></p> <p>Presenting the Vaajakumpu Comprehensive school by Vice-Principal Jerker Polso and the selected teacher(s). What does it mean in administration and in practice to have Lower Secondary School & Primary School as a Comprehensive School? Lower Secondary School point of view. Presentations, walkthroughs and discussions.</p> <p>SPECIFIC VIEWPOINTS AND TARGETS OF LOWER SECONDARY ATTACHMENT DAYS:</p> <ul style="list-style-type: none"> ✓ Observing the everyday life in a Finnish Lower Secondary school through the eyes of teachers and students ✓ Subject teacher's multiple tasks as educators. Shadowing classes, discussions with the teachers and students on curriculum related issues & assessment, demo lessons/sessions for Finnish student <ul style="list-style-type: none"> ○ Practical examples: e.g. Inquiry-based learning, STEM education in Finnish lower secondary, learning activities, learning resources, student evaluation. ✓ Principals' work in Finnish lower secondary schools. Shadowing school operations, discussions with the principal/vice-principal and other administrative personnel. <ul style="list-style-type: none"> ○ Practical examples: e.g. timetables, school resources, learning materials, stakeholder cooperation. <p>Reflective Q&A's session with the principal and teacher(s) after each visiting day</p>
15.00	Transportation to the hotel

WEEK 3: ON-SITE LEARNING AND ATTACHMENT IN FINNISH SCHOOLS IN JYVÄSKYLÄ, CENTRAL FINLAND REGION	
Participants: 7 participants from Hong Kong schools	
Monday, September 12, 2016 ATTACHMENT DAYS: LOWER SECONDARY SCHOOL, Grades 7-9 / years 13-15 (continued)	
7.30	Pick-up from the hotel
8-15	<p>ATTACHMENT DAYS: LOWER SECONDARY SCHOOL, VAAJAKUMPU COMPREHENSIVE SCHOOL <i>Hosted by Vice-Principal Jerker Polso</i></p> <p><i>Continued from Friday</i></p>
15.00	Transportation to the hotel
Tuesday, September 13, 2016 ATTACHMENT DAYS: PRIMARY SCHOOL as a part of a Finnish Comprehensive school, Grades 1-6 years 7-12	
7.30	Pick-up from the hotel
8-15	<p>ATTACHMENT DAYS: PRIMARY SCHOOL VAAJAKUMPU COMPREHENSIVE SCHOOL <i>Hosted by Vice-Principal Jerker Polso</i></p> <p>Presenting the Vaajakumpu Comprehensive school, Vice-Principal Jerker Polso and the selected teacher(s). What does it mean in the administration and in practice to have Lower Secondary School & Primary School as a Comprehensive School? Primary school point of view. Presentations, walkthroughs and discussions.</p> <p>SPECIFIC VIEWPOINTS AND TARGETS OF PRIMARY SCHOOL ATTACHMENT DAYS:</p> <ul style="list-style-type: none"> ✓ Class teacher as an autonomous professional. Finnish class teacher's daily work. Shadowing classes, discussions with teachers and students, demo lessons/sessions for Finnish students <ul style="list-style-type: none"> ○ Practical examples: e.g. STEM education in Finnish primary schools in relation to curriculum, different learning activities, learning resources, Phenomenon-based studies, ICT, learning environments and creativity, Integration of immigrants in basic education.

<p>15.00</p>	<ul style="list-style-type: none"> ✓ Principals' work in Finnish primary schools. Shadowing school operations, discussions with the principal/vice-principal and other administrative personnel. <ul style="list-style-type: none"> ○ Practical examples: timetables, school resources, learning materials, stakeholder cooperation. ✓ Curriculum reform of 2016 in primary level. What has changed? Shadowing classes, discussions with teachers & students ✓ Self-assessment & evaluation. Shadowing classes, discussions with teachers & students. <p>Reflective Q&A's session with the principal and teacher(s) after each visiting day</p> <p>Transportation to the hotel</p>
<p>Wednesday – Thursday, September 14-15 ATTACHMENT DAYS: PRIMARY SCHOOL Grades 1-6, years 7-12 (continued)</p>	
<p>7.30</p>	<p>Pick-up from the hotel</p>
<p>8-15</p>	<p>ATTACHMENT DAYS: PRIMARY SCHOOL VESANKA PRIMARY SCHOOL <i>Hosted by Principal Joel Linna</i></p> <p>Presenting Vesanka Primary school. What does it mean to be a primary school of a village? Are the differences compared to a bigger school in the city? <i>Principal Joel Linna and teacher Mari Nieminen</i></p> <p>SPECIFIC VIEWPOINTS AND TARGETS OF PRIMARY SCHOOL ATTACHMENT DAYS:</p> <ul style="list-style-type: none"> ✓ Class teacher as an autonomous professional. Finnish class teacher's daily work. Shadowing classes, walkthroughs, discussions with the teachers, demo lessons/sessions for Finnish students <ul style="list-style-type: none"> ○ Practical examples: e.g. STEM education in Finnish primary schools in relation to curriculum, different learning activities, learning resources, Phenomenon-based studies, ICT, learning environments and creativity. ✓ Principals' work in Finnish primary schools. Shadowing school operations, discussions with the principal/vice-principal and other administrative personnel. <ul style="list-style-type: none"> ○ Practical examples: timetables, learning materials, stakeholder cooperation. ✓ Curriculum reform of 2016 in primary level. What has changed? Shadowing classes, discussions with teachers & students

15.00	<ul style="list-style-type: none"> ✓ Practical example: Joint multidisciplinary learning activities and phenomenon-based learning in primary schools - Wednesday classes 3&4, Thursday classes 5&6 ✓ Self-assessment & evaluation. Shadowing classes, discussions with teachers & students. <p>Reflective Q&A's session with the principal and teacher(s) after each visiting day</p> <p>Transportation to the hotel</p>
Friday, September 16, 2016	
8.30	Pick-up from the hotel
9-12	<p>WORKSHOP: CREATIVITY</p> <p>How did we see creativity supported in the different levels of the education system? What is the role of assessment in encouraging transversal skills and creativity in education? <i>Ms. Kati Loponen, Lead Expert, EduCluster Finland</i> <i>Location: EduCluster Finland HQ</i></p>
12-13	Lunch
13-16	<p>FEEDBACK AND WRAP-UP SESSION OF THE PROGRAMME</p> <p>REFLECTION: What did we learn overall over the past weeks? What was new? What was the same as at home in Hong Kong? Do we still have open questions? What do we take home to Hong Kong with us? How do we communicate the lessons learnt to colleagues? What are the next steps? <i>Ms. Kati Loponen, Lead Expert, EduCluster Finland</i> <i>Location: EduCluster Finland HQ</i></p>
16.00	Closing and farewell
Saturday, September 17, 2016 Departure	
	<p>Check-out from the hotel in Jyväskylä Bus to Helsinki Airport Trip home to Hong Kong</p>

Participants List:

Team	Name	Division/ School	Remarks
TeamA	Mr YUNG Po-shu, Benjamin	PDT Division, EDB	Taking part in Week 1
	Ms CHEUNG Shu-yam, Josephine	PDT Division, EDB	
	Ms LEE Yee, Virginia	PDT Division, EDB	
	Mr CHENG Ka-ki, Edmond	PDT Division, EDB	
	Ms HO Lai-han, Stephenie	QASBS Division, EDB	
TeamB	Ms LI Wai-bing, Vickie	Sheung Shui GSS	Taking part in all 3 weeks
	Mr CHAN Cheung-wai, Eric	Homantin GSS	
	Mr TSOI Wing-keung, Daniel	Shau Kei Wan GSS	
	Mr YU King-tsz, KT	Hoi Pa Street GPS	
	Mr SUNG Po-wa, Leo	HKUGA Primary School	
	Ms WONG Ching-ye, Jeanie	HK Baptist Convention Primary School	
	Ms HO Kin-ling, Holly	Good Hope School	



We all are keen LEARNERS!

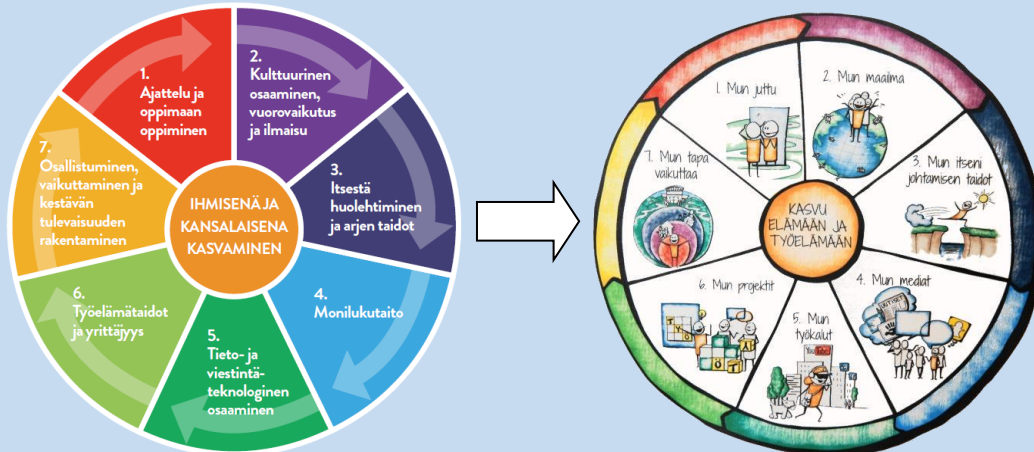
Phenomenon-Based Learning (PBL) in Practice

A. MONO Teaching

Background:

In response to the 2016 Finnish new curriculum reform implemented by FNBE, Jyväskylä municipality took the initiative to start teaching defragmenting and multidisciplinary learning modules, called “MONO” under which schools in Jyväskylä region will design their own curriculum consisting of the nature of PBL. Owing to the fact that it is the first time that Jyväskylä municipality tries out her region-based PBL, they adopt the concept of mono which implies “adventurous” and “high-risking”, as “mono” is a kind of skiing boot commonly used by Finnish when they are skiing during winter.

Teachers of Vesanka School are positive and proactive to the new curriculum reform. Teachers not only put up all posters concerning the 7 transversal competences to be developed among students everywhere in the school premises to alert everyone the importance of the upcoming new curriculum reform, but Katriina Vihriälä, Deputy Head of the school also designs a simplified but interesting version, illustrating the 7 transversal competences from students’ point of view.



How easy for students to understand the 7 transversal competences!

In September 2016, Vesanka School kicked off the MONO Teaching “Self-esteem” as the theme. The project emphasizes on developing students’ transversal competences through interdisciplinary approach as stated in the document of National Core Curriculum. Mr Joel Linna, the Principal of Vesanka has led his staff with aspiration to work out the school-based MONO Teaching since January 2016.

While the Principal was preparing all logistic work, like timetabling, staffing and mobilizing resources, teachers from different disciplines, including Craft, Cookery, Visual Art, Music, Health Management and Language collaborated in devising teaching plan and preparing materials under the guidance and leadership of the Principal. A whole-school approach is truly reflected.

ryhmaohj.	1	2	3	4	5	6	7
1. viikko	Blue	Green	Purple	Red	Orange	Yellow	White
2. viikko	Grey	Blue	Green	Purple	Red	Orange	Yellow
3. viikko	White	Grey	Blue	Green	Purple	Red	Orange
4. viikko	Yellow	White	Grey	Blue	Green	Purple	Red
5. viikko	Orange	Yellow	White	Grey	Blue	Green	Purple
6. viikko	Red	Orange	Yellow	White	Grey	Blue	Green
7. viikko	Purple	Red	Orange	Yellow	White	Grey	Blue

Timetable for implementation of MONO in Vesanka School

Implementation

Target Students: 5th Graders and 6th Graders (56 students in total)

Duration: 14 weeks (7 weeks for each term)

Objectives: After the project, the students are able to:

- (1) recognize their own strengths and weaknesses
- (2) collaborate and communicate with one another and express their own view to others in an efficient way
- (3) appreciate one another
- (4) grasp the gist of self-management skills

Flow:

- (1) Students are divided into 7 groups and each group has to finish 7 tasks within 7 weeks for each term.
- (2) Each task lasts for 3-hour. MONO lessons are structured in school time-table and allocated to each class throughout the year.
- (3) The theme of all 7 tasks is “Self-esteem” which aims at developing students’ 7 transversal competences through multi-disciplinary approach. Each task has its own focus:
 - (a) Making Shelf (Craft)
 - (b) Cooking Pan-cake (Cookery)
 - (c) Self-understanding – emotion (Visual Art)
 - (d) Concentration & Relaxation (Music)
 - (e) Health Management (Food & Nutrition)
 - (f) Story Telling – Showing one’s feeling (Language)



Students enjoy the MONO Teaching Lesson.

(4) Students are required to collaborate with one another to finish the assigned tasks. During the process, teachers act as instructors and observers. Students are given sufficient room to discuss and organize how their tasks could be completed. Teachers will observe the performance of students, give suggestions and make assessment accordingly.



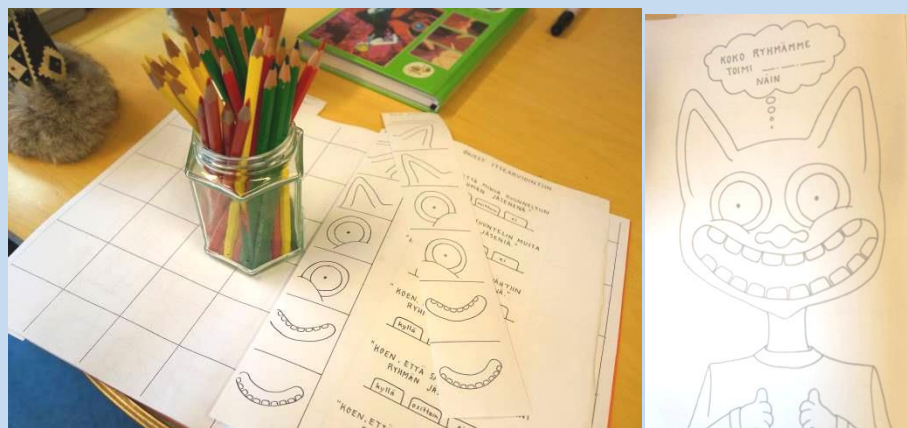
Teacher attentively observes students' performance.

(5) Whenever necessary, students are required to perform or present their work.
(6) After completed the task, students are requested to finish both self-evaluation and peer-evaluation before the end of lesson. During the process, students can have more understanding of themselves, especially when the discrepancies of the score between self-evaluation and peer-evaluation appear.



Self-evaluation, Peer-evaluation and Debriefing on Students' Performance

(7) Teachers record all the assessments made by himself/herself and students in a log book which belongs to that group of students. Students' strengths and weaknesses are recorded clearly.



Assessment tools for students' self-evaluation

(8) Teachers responsible for guiding students to complete the next task will take reference to their performance recorded in the log book of the previous task and devise appropriate strategies to ensure all students are on task. Prompt advice will be given to students whenever necessary during the process. Same kinds of evaluation will also be done at the end.

(9) The same process will be conducted for the remaining tasks until all the 7 tasks are fully completed.

(10) By the end of the MONO Teaching, students' self-understanding will be enhanced and their self-esteem will be raised through a series of self-reflection and self-improvement during the process of the tasks.

B. STEAM Education: Forest Activities

Background:

The forest activities arranged by the teachers of Haapaniemi Main School demonstrates an example of excellent multidisciplinary learning in STEAM Education through PBL. A grade 2 class teacher, Kari, collaborated with other class teachers to plan and supervise various learning tasks. Through the tasks, students are able to learn:

- Transversal competences, such as ICT competency, learning to learn & think, etc.
- The 21st Century Skills, including communication, collaboration and creativity
- The natural environment around them and scientific investigation skills
- Leadership and communication skills
- Life-skills to survive

Implementation:

Prior to the forest activities, class teachers completed the following preparation and briefing:

- Study rhymes and articles related to forest together with students
- Use Google Earth to introduce geographical location of Jyvaskyla, the school and the forest
- Conduct map study on the forest and practice the use of compass if necessary
- Prepare safety measures (e.g. First Aid bag) and remind students of all the required precautions
- Brief students of the learning tasks to be done

On the day of the forest activities, 6 teachers took a 10 minutes' walk with three classes of 2nd graders, 1st graders and pre-school students to a nearby forest.



Get ready to enjoy forest activities!

Before arriving at the study field, 4-5 students from different grades were strategically grouped up so that the high graders could help take care of the lower graders. It facilitated peer support and the lower graders could learn from their senior graders by modeling.



At the study field, students were arranged in groups to complete necessary tasks set at the 5 learning stations by rotation. At each learning station where task instructions could be found, students performed multidisciplinary learning tasks tactfully designed for them.

Station 1: Continue the series of natural materials! Come up with your own series!

Students were required to collect some natural materials, such as sticks, stones, leaves, and arranged them in a series. It did not only actualize the concept of series in Mathematics, but also promoted observation in scientific investigation.



Mathematics is Fun!

Station 2: Use crayons to rub 5 different surfaces and leaves on paper



Students are required to touch and observe the surface pattern of 5 different natural materials, such as stone, woods and leaves. Use crayons to rub these natural patterns onto a sheet of paper afterwards.



Students practiced the skill of rubbing and produced their own **art work**, it surely developed students' **creative mind**.

Anywhere can be a classroom!

Station 3: Take 2 photos from the same place. One is Overview, another one is close-up.

Imagine that you are a little ant, what our world will look like. Take the picture!

To develop basic **ICT competency**, basic operation of iPad and its camera function were introduced beforehand. It was observed that students were familiar with the use of iPad and able to use it as an investigative tool. The iPads were well protected by non-slippery rubber case with handles. Moreover, students can unleash their imagination by zooming in the natural world.

Ota 2 valokuvaa samasta paikasta.
Toinen lähikuva ja toinen yleiskuva.

Kuvittele, että olet pienen pieni, millaiselta maailma näyttäisi. Ota kuva!



Look! It is amazing!

Station 4: Build “Mandala”!

“Start at the middle, twisting the center and continue the pattern outwards”. A mandala is a spiritual and ritual symbol in Indian religions, representing the universe.

Based on their previous learning of “Mandala” during lesson, students were required to build their own mandala by using the natural materials. It provided an excellent opportunity for

students to develop their **creativity and innovation**, the essential 21st Century competences.

Rakentakaa maahan pyöreää mandala!



Aloita keskeltä ja jatka kuviota kiertäen keskustaa.



Natural Mandala in Finland!

Station 5: Make a forest portrait with your group members! Look for some suitable natural materials on the ground.

Through this task, students were trained to collaborate and celebrate their success with their team. It was observed that Finnish students are incredibly imaginative.



Tehkää ryhmän yhteinen metsämuotokuva!



Etsikää sopiva kohta ja kerätäkää materiaalit luonnosta.

Besides the above tasks, extra activities were prepared to enhance students' **Science investigation skills**. They include:

- Collect, observe and classify 10 natural forest materials. In addition, collect natural forest materials which match the forest colour chart.
- Collect small natural forest materials or insects, observe their feature through magnifying glass.



- Measure the diameter of stump and count the year rings.
- Take photos of the clouds if the weather allows.

Students were allowed to learn in their own way and class teachers just gave essential support to facilitate their learning. For example, some students tasted some raspberries and blueberries found in the forest; some

students working like a little engineer used sticks and stems to build wooden frames,!



House Building!

After about 2 hours of fantastic learning, students enjoyed their healthy lunch with the beautiful sunshine in the forest. After lunch, students returned to school and continued their learning under the coach of a local artist. He was invited to teach students to finish a plant art by using natural materials collected from the forest.



Lunch Time!

Conclusion:

Stimulating different senses of students, the forest activities can cater for the diversified learning needs of students. Moreover, it cultivates students' positive attitude towards learning and multidisciplinary skills through different tasks. It actively empowers students to take responsibility and credit for their learning process. The forest activities which are arranged year round, including winter, enable students to learn various tasks such as skiing and studying animals' footprints on the snow.

In short, having over 30 years' experience in promoting PBL, Kari's arrangement is in line with the focus of Finland's new curricula:

- In addition to the classroom, environments outside the school should be utilized more.
- Emphasize on transversal competences, such as “Thinking and learning to learn”, “Interaction and expression skills”, “Managing daily activities and taking care of oneself and others”, “ICT competence”, “Social participation and responsibility”.
- Each school year, every school must carry out at least one multidisciplinary learning modules.

Moreover, the following 21st Century skills are also developed:

- Collaboration
- Agility and Adaptability
- Initiative
- Curiosity and Imagination
- Accessing and Analysis information

C. Theme-Based Activity: Learning about Europe

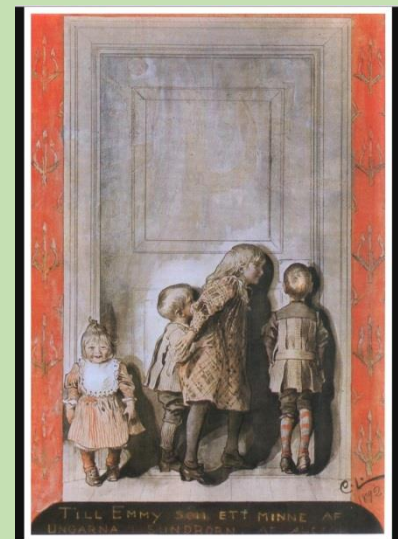
Background:

School teachers of Haapaniemi Main School have built a close connection with teachers from different European countries through joining an international organization, called CIMO which is an expert organization in international mobility and co-operation. In the field of education, CIMO supports schools' networking and international projects. In 2015, the school took part in a youth project, named ERASMUS with an objective of developing, transferring and implementing innovative practices among 8 European countries, including Finland, Sweden, Britain, Rumania, Germany, Norway, Spain and Holland.



The activity helps enhance students' global view

As all these 8 countries are located on the continent of Europe, "Europe" is set as the theme of ERASMUS. Learning arts and languages of the 8 countries from each other is the major aim of the project. Sweden is selected as the "Country" to be focused on this year while Britain was chosen as the theme-country last year. Teachers from the 8 countries design their own curriculum and relevant teaching materials in order to enhance their students' understanding of Sweden. Students consolidate what they learn about Sweden and present their learning outcomes to the participating schools from other countries through e-channel. The project not only enhances students' global view, but also develops their 21st century skills, including creativity communication and collaboration skills.



*"The day before Christmas"
by Carl Larsson*

Implementation:

Teachers start the project by adopting an inter-disciplinary approach. The project is designed for Grade 2 students of the school. Teachers teaching Grade 2 students are working together and devise what elements are to be included into the project. Owing to the fact that a class teacher in Finland teaches all subjects for their own class, Kali, one of the class teachers leads his students to learn the country of “Sweden” through different subjects he teaches, including Music, Visual Art, Craft and Folk Dance. Students could learn the Swedish culture from different subject-perspectives.

The whole project is conducted in different stages and its main feature is the integration of four subjects from the Arts Education Key Learning Area. Firstly, the class teacher uses the music lesson to let students have a clear concept about Europe through playing a music video concerning European Community. Secondly, the class teacher uses VA and Craft lessons to let



students know a Swedish painter named Carl Larsson through his famous art work called “The Day Before Christmas”. Students are then requested to enrich the content of the painting by putting decorations onto the painting where students’ creativity skills are developed. Thirdly, the class teacher teaches students Swedish Folk Dance so that they can have more understanding of Swedish art and culture and perform the Swedish Folk Dance as their final project. All participating schools from the 8 European countries video-tape their performance and send their clip to each other so that students can have a broader view on the understanding of Sweden once they view the work of their fellow students from other countries. Students’ holistic and global views are constructed through inter-disciplinary and inter-national learning.



Students are always creative!

Conclusion:

The conduct of theme-based Activity is one of the approaches to implement Phenomenon Based Learning. With a core theme, teachers from various subject-discipline collaborate and play roles in different perspectives to lead their students to think more holistically. As long as learning is close to real-life experience, students can better motivate themselves in the pursuit of knowledge. Through the above theme-based activities about Sweden, students are exposed to the environment they are familiar with as Swedish is an official language of Finland. Not only can students learn about Sweden and Europe, their competences in “Thinking to learn”, “Interaction” and “Expression” are also greatly enhanced throughout the process of the activity.