CULTURE OF LEARNING

Scheme for school actions and matrix understanding structure

Something Similar to Manual

To have life (personal, social, professional) one has to claim that it belongs to him or her. Claiming the ownership over anything is always tied to responsibility for that "object". Anytime when we think about quality of that object or about the outcomes it brings we should be aware that quality and results depend on the level of our involvement, awareness, emotions, energy and skills. This is the same is with education, the process, which works the best when free, open, interested, and ready to learn individuals and groups take responsibility for it.

Changing the learning environment in our schools, building new initiatives, implementing theoretical ideas in practice are activities that have no sense without deep involvement. This is why in this project we want deep awareness of actions and active participation not only in "events" but also in the decision-making process. Every school and every person needs to understand what is going on and decide on the level of energy to be invested.

Similarly with materials and readings – they cannot be only given, they should be creatively used, modified, rewritten or reconstructed. The material you read now is not finished and should not be finished ever. It is an on-going project building a portfolio for "how we do things here". Some materials are external, some are produced in one school, others in partnership, some are reports or written reflection, others teaching materials and meetings' plans – all show and support the work over time on building the learning environments of students and teachers.

This material is a collection of various products organized in four sections:

1. the first section „milestones" summarizes our plans described in the project application,

2. the second presents and develops theoretical background of our approach to education,

3. the third offers more detailed explanations and guidance for actions within selected elements of learning environments (the context of learning that might be influenced by

teachers) – every element is discussed in three steps: explanation, implementation and expected outcomes,

4. the fourth section includes useful forms and tools for group work.

1. Milestones

It is expected that the project's outputs, short study courses and multiplier events will result in producing strategies and activities arranged according to "learning culture evaluation and planning matrix/tool" which will allow us to develop and adapt school learning environments to become the 'Culture of Learning'.

The expected changes within schools are as follows:

1. Understood current school culture and necessity for effective change
2. Planned reforms and actions in order to achieve high quality culture of learning built accordingly to seven principles of learning across all sector of school work
3. Increased high quality teaching impacting on better pupil engagement in their learning
4. Pupils practising, honing and applying 21st Century skills through meaningful learning activities
5. Learning activities contextualised to promote transferability of skills and
6. Better understanding by pupils of the need to acquire high level skills for challenges of living in an increasingly globalised world

One of the tools supporting the process of strengthening the culture of learning is "matrix" (intellectual output no 1) presenting and defining areas of work in the school. Every area of the developed "matrix" and "the guidance document" (intellectual output no 2) will include explanation of values, basic knowledge of every aspect, readings, workshops plans, case studies, good practices, teaching/learning materials, research and data, evaluation tools, ideas for implementation, procedures.

Our teaching & learning activities and leadership & management skills development will use Professional Leaning Communities (PLC) methodology approach to set up networks of practice within and between schools (as appropriate and feasible). This will ensure that the following values are central to our project delivery:

1. Supportive and shared leadership,
2. Collective creativity,
3. Shared values and vision,
4. Supportive conditions, and
5. Shared personal practice.

PLCs will serve to two broad project purposes: (1) improving the skills and knowledge of educational professionals through collaborative study, expertise exchange, and professional dialogue, and (2) improving the educational aspirations, achievement, and attainment of students through stronger leadership and teaching.

Our MAIN OBJECTIVE is the developing a 21st Century Culture of Learning for high level skills through: improvement in learner outcomes, change of the professional practice and empower practitioners, creating sustainable change, developing of the system wide leadership capacity with measurable impact. The project's expected outcomes are

- strengthened quality of leadership, pedagogy, communities and policy in school education and
- to strengthen the competencies and learning of all students by organisation of the process of learning in school in the way that helps them to learn effectively through strengthening teachers' professionalism.

We will try to create the organisational culture that will always utilise the following assumptions:

1. Learners are at the centre of the school operation
2. The social nature of learning decides about the educational processes

3. Emotions and motivation are integral to learning
4. Recognizing individual differences makes learning effective
5. Stretching of all students is a rule
6. Assessment should support learning
7. Building horizontal connectedness is a condition of the success

2. Culture and nature of learning. Priorities

It is very difficult to participate in professional discourse, to think about the quality of the education and to introduce changes in the everyday of school practice without awareness of the core themes impacting education today.

Teachers, school principals, administrators and policy makers need to understand that our societies and economies have experienced a profound transformation from reliance on an industrial to a knowledge base. Global drivers bring to the fore "21st century competences", including deep understanding, flexibility and the capacity to make creative connections, a range of so called "soft skills" including good team-working.

Education has been reformed repeatedly and the sense of reaching the limits of educational reform invites a fresh focus on learning – we need new ways to influence the very interface of learning and teaching.

The rapid development of ICT and its importance are re-setting the boundaries of educational possibilities and augmenting the role of non-formal learning environments.

There has been a strong focus and advance in measuring learning outcomes, which in turns generates still greater public and political attention on learning. However, there is no consensus about which outcomes matter the most and educational debates have swirled around opposing poles – between talk of "basics" and demanding "21st century skills", between "standards" and citizenship.

The research base on learning grows but, rather than guiding change, researchers and scientists lament that too many schools do not exemplify their conclusions. At the same time, far too much research on learning is disconnected from the realities of educational practice and policymaking.

(Hanna Dumont and David Istance (2010) Analysing and designing learning environments for the 21st century. In: Hanna Dumont, David Istance and Francesco Benavides (Eds.) *The Nature of Learning. Using Research to Inspire Practice*. OECD.)

More information in chapter 1, pages 19-35)

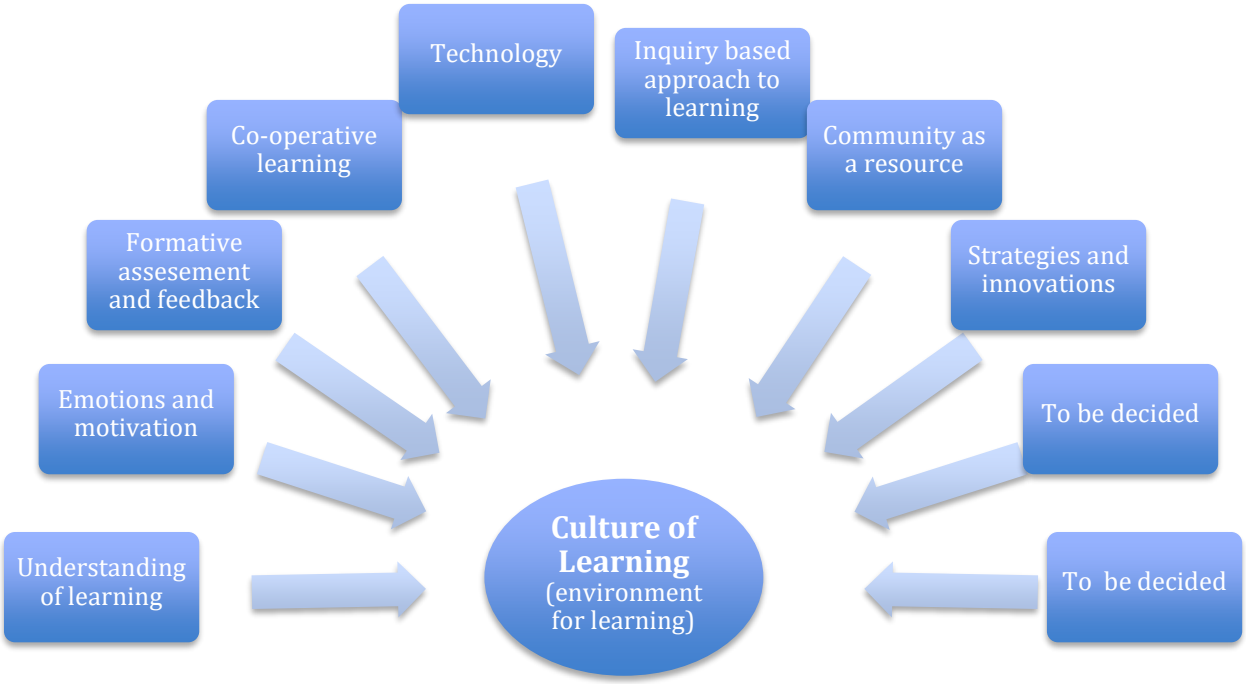
In our project we will try to creatively use and enrich the approach taken by the project Innovative Learning Environments, which encourages to focus on learning itself and to integrate the "micro" level (of every student in every classroom) into the broad frame of the educational processes. To avoid the situation, in which learning that does not happen in school is ignored by teachers, the diversity of learning settings and approaches has to be welcomed. In this way the term "learning environments" is used. The learning environment is focused on the dynamics and interactions between four dimensions:

- the learner (who?),
- teachers and other learning professionals (with whom?),
- content (learning what?) and
- facilities and technologies (here? with what?).

Such dynamics and interactions include the different pedagogical approaches and learning activities in the learning week or term or year – time is fundamental in any sets of relationships, activities cannot create only snapshots. Assessment is integral both through the way assessment objectives shape the content and through the role it plays in the interactions of teaching and learning. This is a more holistic understanding of "environment" than when it denotes only the physical or technological settings of learning.

In our project, built upon approaches presented in OECD publication *The Nature of Learning* we have decided to select the most important elements that together influence the learning environments of our students and decided to work in order to develop. Through the process of deliberation, conversation, creative thinking, testing, experimentation and implementation of plans, critical thinking and modification of our actions the matrix organizing the educational ecosystem, in which the learning processes of our students and teacher are embedded. The matrix will be only a tool or rather road map supporting our work. We hope that using the matrix we will be able to build a culture of learning in every participating school.

Figure 1: Basic areas of learning environments



Source: *Nature of learning*

3. Learning environments in construction

A. Understanding of learning

Explanation

Teachers usually have little time for reflection over theoretical base of their profession and educational activity. Very often teaching becomes a chain of the stressful situations demanding from teachers immediate reaction to demands posed by students and different groups. Everyday duties overload teachers' practice, so there is no time for thinking about nature of the education, nature of learning. Unfortunately, being accurate in all daily task is not enough to become "a real" teacher. To be one it is necessary to think about own role, not only about practical aspects of work, also from the theoretical perspective. It is important to find a balance between practice and theory. Theory without practice is useless, practice without support in theory is counterproductive.

The nature of teaching is not about passing information to students. Teachers' approach to students depends on accepted concept of human nature. The way we see reality influences and decides about our opinion on what is knowledge, what are aims of the education, how the process of learning should be organized and more. It is critical for teachers to be aware of their own, "private" ideologies and understandings. Every team should share and discuss.

Implementation

There are multiple ways to uncover our hidden or not assumptions and beliefs about the world of education. In general the rule of thumb is to open the box and start to think and talk about them and about potential results of having this or this opinion. There is significant difference to work in the group that believes, for example, that every kid may learn in the social interactions and in friendly environment and in the group that is strongly convinced that our brains work like computers and what they need is information to interact with and that there are worse and better computers in our heads. Maybe some beliefs are more supporting and others less, but this is not a case. The most important is to know and understand our (principals, teachers, parents, students) convictions about learning and teaching. When we deconstruct these beliefs, reflect over the consequences and understand we have influence, we are likeable to treat school as an institution, which might me designed and managed in intelligent way, not as natural phenomenon that we have little power to control.

Teachers have different options and methods for organizing the process of deconstruction their beliefs about education. The most important is to start and involve as many as possible and in the next step to broaden the discourse and invite teachers and students.

Readings. Basic: *Nature of learning* – chapter 2 and chapter 3. Additional: Jerome Brunner: *Culture of education*, Gerald Gutek: *Philosophical and Ideological Perspectives on education*

Metaphors. Metaphors help to uncover hidden assumptions and allow to describe certain issue through comparisons with ideas from completely different areas of our lives. It might be start with the request to every person present during the meeting to finish the sentence: Please finish the sentence *Teaching others is like …*

In the next step, the person leading the meting should collect papers and organize it into categories. It might be done individually or better in the whole group. When all metaphors are divided among categories the group should start discussion about consequences of using such a vision of education. What should be taught and why? How these teachers plan the lessons? What style they will present? How they arrange the teacher – student relationship? What is their understanding of the leadership? It is obvious that the persons who say: teaching others is like adventure might organize their classrooms differently from people who say: teaching others is like painting a picture.

In the next step the group should take a look, which categories belong to majority and which to minority and think and talk about consequences for their school. Do we want this? How would we like to see the education process?

It is complex issue and it never should leave towards blaming or praising it is more about creating a language to talk about the school and students. Teachers' and students' roles, aims and methods. Working in the word where everybody has different understanding of "teaching others" makes that work very difficult. When we start to understand people that we work with we also start to understand organizational culture.

Ideological puzzles (instruction will be provided in the attachment)

Roundtable discussion. Who are we and in what do we believe? How does it influence our work? How should we react to conclusion of chapter 3 in *Nature of learning*?

Conclusions and planning. Does it change anything? And now what? What are our plans fro tomorrow, this semester, next year? (For planning process please use form no 1)

Expected Outcomes

The outcome of actions committed within this element should result in teachers and students understanding that different approaches to learning are possible and all people use some kind of it (even subconsciously). After this the common awareness of the diverse approaches in school should appear followed by the reflection on the most suitable perspective for particular group and / or school. It is not necessary to ask everyone to change and share the same understanding but it is beneficial to agree and accept the general direction of thinking about education, about processes of teaching and learning, about roles of teachers and students, about useful and adequate methods, techniques and values.

B. Emotions and motivation

Explanation

Motivation and emotion are essential to education. Without emotionally stable situation within the group and for every learning individual the learning process is very difficult or sometimes even impossible. People, at the first place, need to feel safe, they need to be sure that they are secured and may trust others involved in the situation. Fear or anger block possibility of the effective learning. More over, when learners are bored or feel not competent it also hinder the learning. In schools we usually focus on competencies to be developed and models commonly used to design teaching and learning do not capture all of the complexity that students bring to their learning.

Students develop over the years their motivational beliefs, which are cognitions about the self in a domain. They refer to the knowledge and opinions that students have about how their motivation functions in different subjects and about the effect of different teaching practices on their motivation (it is called “meta-motivation”). Students use their motivational beliefs to give meaning to learning tasks and situations and to their social and educational context. These beliefs might positive or negative and are based on direct experiences in the domain, but also on observations how others performs and what teachers have to say. They determine the choices students make as well as how much effort they will invest and how long they will persist in the face of difficulties (Dumont, Istance, Benavides, pp. 91-94).

Implementation

Readings. Basic: *Nature of learning*, chapter 4

(In: Hanna Dumont, David Istance and Francesco Benavides (Eds.) *The Nature of Learning. Using Research to Inspire Practice*. OECD.)

Principles Jigsaw. Teachers divided in 8 groups (the same number as number of key principles) work on one principle in each group. After reading about assigned principle and discussion to develop group understanding they try to answer four questions.

1/ How is it in our school? 2/ How it should be or how would be improved? 3/ Why is it not like it should be? 4/ What should be done in order to achieve desired situation.

All 8 groups present their outcome of the group. Others react and the whole staff tries to reach the common understanding of the situation in which principle. The priority principles are selected (number depends on teachers decision) and the whole staff work together on the last question – what should be done? To conclude the meeting the plan of implementation should be prepared.

Group Interviews. If it is possible the interviews should be led by students, if not by teachers. The two main questions are: What do I need to be involved in my learning in school? What do I need to be involved in my learning outside of school? Results are presented by student to teachers. Size of the group 5 to 8 students. Number of the groups depends on school decision.

Roundtable discussion. Are we aware of the importance of emotion and motivation in the learning process? How is it visible in design of our school? How should we react to key motivation principles? What can we do to increase motivation of our students? What can we do to support "healthy" emotions of our students?

Conclusions and planning. Does it change anything? And now what? What are our plans fro tomorrow, this semester, next year? (For planning process please use form no 1)

Expected Outcomes

As a result of committed actions members of the school community should be aware of the role of emotions and motivation in the learning process and understand how does it influence students' approaches to learning and their behaviour in the classroom. Teachers will utilize that understanding and knowledge to design and plan their actions. The well-

being of students will increase, they will feel safe in the learning process, ready to take risk and not feel guilty for mistakes. The visible students' engagement will impact their learning inside and outside of the school. Parents will be ready to support their children during learning, when experiences difficulties and also will encourage to face ambitious tasks.

C. Formative assessment and feedback

Explanation

Dylan Williams describes assessment as the bridge between teaching and learning. The concept of „formative assessment" emerged with recognition of the importance of feedback. In most classrooms across the world, evidence about the success of learning activities is typically collected at the end of the learning sequence. More than 40 years ago, Benjamin Bloom suggested that in addition to the assessment used at the end of the learning process, assessment should be also used to provide feedback and correctives at each stage in the teaching-learning process.

Others underlying the fact that the most important factor influencing learning is what the learner already knows, ascertain this and teach accordingly. Assessment is central to effective learning, so the design of the learning environments needs to take account of the fact that learning is unpredictable. Assessment has a key role to play by relating the instructional activities that teachers plan to the consequent increase in learner capabilities. Unfortunately, research shows that still the power of assessment to guide learning is not realized because the summative function of assessment - providing grades and other measures of how much had been learned - is dominant.

Formative assessment might be understood as feedback which is often described as any information given back to a learners about their performance. For bigger precision, feedback should not be just information, but should direct students' future actions in productive ways. The quality of feedback and how it is used are much more important than its frequency. When feedback is given through the details of the correct answer, students learn more than when they are just told whether their answer is correct or not. Formative assessment should encourage the development of autonomy in learning and for students to be able to develop their own skills of self-regulation of learning.

Learning is not just a matter of what is wrong but of developing new capabilities and this requires feedback more as dialogue rather than simply giving correct answers. This requires the learner to become active in managing the process. Feedback and formative assessment should focus on the specific features of the task, and provide suggestions on how to improve, rather than focus on learner, it should focus on the „what, how and why". Black and Williams defined formative assessment as all activities undertaken by teachers and/or by their students, which provide information to be used as feedback to modify teaching and learning activities in which they are engaged (Dumont, Istance, Benavides, pp. 135-146).

Implementation

Reading

(Chapter 6. In: Hanna Dumont, David Istance and Francesco Benavides (Eds.) *The Nature of Learning. Using Research to Inspire Practice*. OECD.)

(P.J. Black, D. Wiliam, Inside the Black Box: Raising Standards Through Classroom Assessment, Kings College London 1998)

Explaining

Conversation with students about feedback, its goals and ways of using it for the improvement of learning. Students need to understand that teachers' opinion about their work may help them in learning and improving during learning. In order to achieve it student needs to know what he or she already knows and what should be learned to allow further development. That information might be received from teacher, friend or self.

When students accept the fact that feedback serves them, not a teacher to grade them there is a chance they will use it. In this way they may also take responsibility for their learning.

Without grade

Students need to know when the formative assessment will be used. That time summative assessment should not be used (no grades). Sometimes students do not know how the work (product) should look like, so to make feedback understandable discussion about correct solution is needed.

Students needs individual conversations with teachers about their work. One of the possible ways to launch the conversation is to ask about received feedback. It is difficult question for students, so it should became a custom - students should expect that question or similar like: what was easy and what was difficult? Do you have an idea how will you approach that task next time? Would you explain the concept we are talking about? Or maybe: talk to your colleagues about that, compare your solution with the example.

Peer assessment

To help students in using friends' feedback teachers need to help make that feedback valuable. It is important to teach how to give useful feedback and talk about rules of the peer assessment: focus on work on on the person, address criteria of the success, point at what was good, wrong and how to improve, recommend what to do next. One of the way to learn it is to imitate a teacher. If teacher gives valuable feedback students eventually will learn it as well. Students will be able to show peers the direction of the development and tell what they should do in order to improve (if they know criteria of the success).

Monitoring students work

Signs - simple technique that allows self-assessment without threat of penalty from a teacher. Student assesses if he or she understands specific task or topic. Thanks to this technique teacher can easily find out which student needs help. One of the possible variation is using colors: red (I am lost), orange (I have doubts) and green (I understand everything).

Cards yes/no - teacher ask question. Students has a choice between two cards (yes and no) and raise a card with selected answer (yes when they know the solution and no when they do not know).

Students create questions - students write questions to a test and later answer these questions. These questions show what students find as important. Answers show if the know the material.

Students write at the beginning of the lesson what do they know about topic and what they would like to know more and at the end of the lesson they write down what they learned.

Students prepare a poster (individually or in group) about what they have learned and later talk about this. Thanks to it teacher and other students may see what authors of the poster have learned.

Reflection

In a defined time students write down all things that they would like to remember and later exchange the list with a peer. In this way they reflect on what they have learned and learn from each other.

Teacher together with students write down 10 the most important aspect of the present subject. The most important part is the discussion about aspects and their importance.

Teacher stops the lecture or presentation and invites students to short conversation in pairs about what they just heard. Thanks to this techniques students may reflect on this what they heard and ask questions.

(D. Sterna, Jak wprowadzić informację zwrotną do uczenia się uczniów?, https://www.edunews.pl/system-edukacji/nauczyciele/4276-jak-wprowadzic-informacje-zwrotna-do-uczenia-sie-uczniow.

D. Sterna, Narzędzia OK, które pomagają uczniom i nauczycielowi, https://www.edunews.pl/narzedzia-i-projekty/narzedzia-edukacyjne/4304-narzedzia-ok-ktore-pomagaja-uczniom-i-nauczycielowi)

Expected Outcomes

Formative assessment, when used appropriately allows receiving information, which allow to recognize how the process of learning is going on in order to help teacher in modification of the further teaching and to help students in learning.

We know that formative assessment is in use when teachers describes goal of the learning in language that is understandable for students and check at the end of the lesson if students reach this goal. Moreover, teachers define criteria of the assessment and build climate supportive for learning, which increases students' self-esteem, involvement, independence, cooperation and responsibility for learning.

D. Co-operative learning

Explanation

The popular conviction that learning happens in silence when students read and/or study quietly have changed recently and teachers encourage students to interact with each other more often. The belief that learning happens through interaction with others gains popularity and scientific support, while impacting teaching and learning. However, it is worth to mention that work in groups can turn into cooperative learning and be enormously beneficial or it can be a little value in this kind of learning while poorly implemented.

Cooperation today became a key concept in the discourse about contemporary, diverse, societies. It is believed that we need to cooperate in order to face extremely difficult challenges of modernity. It is also widely believed that members of the societies struggle with that soft skill of ability to cooperate, and that schools are not dealing well with the expectation that students will learn to cooperate while in school.

A specific type of cooperation – co-operative learning has been suggested as the solution for wide array of educational problems. It is often cited as a means of emphasizing thinking skills and increasing higher-order learning, but which forms of co-operative learning are the most effective and what components must be in place for co-operative learning to work? (p. 162)

Implementation

There are many different forms of co-operative learning, but all of them involve having students work in small groups or teams to help one another learn academic material. Co-operative learning usually supplements the teacher's instruction by giving students an opportunity to discuss information or practise skills originally presented by the teacher. Sometimes co-operative methods require students to find information on their own (p. 162).

Two main categories of the co-operative learning methods are: structured team learning and informal group learning methods. The first one involves rewards to teams based on

the learning progress of their members and is characterised by individual accountability (where learning counts not products) and the second one includes methods more focused on social dynamics, projects and discussions. (Read more in chapter 7th of Nature of learning).

Readings: Nature of learning, chapter 7

Group planning: teachers discuss the main questions: how will we increase the frequency of co-operative methods used in our school (classrooms)? And which methods shall we use in the first place?

Discussion about selection of students for group work: let's talk about possible ways of group construction

Using different group work methods: method „Task in group – change of the group" (students work in group on the task that does not take too long and after finishing they change the group and present the result of their work - jigsaw explained below), method „Debate" (students divided into smaller groups prepare arguments "for" and "against"), method „Support group" (students create a group that work for longer time together offering support during classes and after classes), method „Working on task while mastering social skills" (besides instructions concerning group task students receive also instruction concerning their behaviour and interactions like: be sure that everyone has spoken, go back to task if you notice that you changed subject, ask for help, try to involve everybody in work...) (Look for more methods, for example in Merrill Harmin, *Strategies to inspire active learning)*

Jigsaw:

The jigsaw classroom is a research-based cooperative learning technique invented and developed in the early 1970s by Elliot Aronson and his students at the University of Texas and the University of California. Since then, thousands of classrooms have used jigsaw. Just as in a jigsaw puzzle, each piece — each student's part — is essential for the completion and full understanding of the final product. When each student's part is essential, then each student is essential; and that is precisely what makes this strategy so effective.

A jigsaw classroom is highly structured. Interdependence is required. It is the element of "required" interdependence among students which makes this a unique learning method, and it is this interdependence that encourages the students to take an active part in their learning. In becoming a teacher of sorts, each student becomes a valuable resource for the others. Learning from each other gradually diminishes the need to try to out-perform each other because one student's learning enhances the performance of the other students instead of inhibiting it, as is usually the case in most competitive, teacher-oriented classrooms. Within this cooperative paradigm the teacher learns to be a facilitating resource person, and shares in the learning and teacher process with the students instead of being the sole resource. Rather than lecturing to the students, the teacher facilitates their mutual learning, in that each student is required to be an active participant and to be responsible for what he learns.

How does it work? Students are divided into small groups of five or six students. There is a big task to learn divided into smaller task (the same number of tasks as members of the group). Students responsible for the certain topic meet with students from other groups responsible for the same topic in the group of experts. Eventually each student will come back to his or her jigsaw group and will present a well-organized report to the group. The situation is structured in that way, so the only access any member has to other assignments is by listening closely to the report of the person responsible (https://www.jigsaw.org).

Expected Outcomes

Use of co-operative learning almost always improves affective outcomes. Students love to work in groups and they feel more successful and like subjects taught co-operatively. They have more friends of different ethnic groups and are more accepting of others different from themselves. Regarding achievement outcomes depend on how co-operative learning is used (p. 170).

Learning environments for the 21st century must be ones in which students are actively engaged with learning tasks and with each other. Co-operative learning offers a proven, practical means of creating social and engaging classrooms environments to help students to master traditional skills and knowledge as well as develop the creative and interactive skills needed in today's economy and society (p. 173).

A large body of research show that students involved in cooperative work demonstrate higher level of academic learning and retention than their peers working individually. (…) Cooperative group work increases self-esteem, improves relationships among students and enhances social and educational skills (Frey, Fischer, Everlove, 2009, p.3).

E. Technology

Explanation

Implementation

Expected Outcomes

F. Inquiry based approach to learning

Explanation

Today students, in order to be prepared for tomorrow's workplace, need learning environments that allow them to explore real-life situations and to gain media literacies, critical thinking skills, system thinking and inter-personal and self-directional skills. Recommendations from different organizations have emphasized the need to implement learning that supports inquiry, application, production and problem-solving. Students must be given opportunities to develop capacities in the context of complex, meaningful projects that require sustained engagement, collaboration, research, management of resources and development of ambitious performance.

A set of studies has found positive effects on student learning of instruction, curriculum and assessment practices that requires students to construct and organize knowledge, consider, alternatives, apply disciplinary processes to content central to discipline (for example use of scientific inquiry, historical research, literary analysis, or the writing process) and communicate effectively to audiences beyond the classroom and school. Small group inquiry approaches can be extremely powerful for learning, but to be effective, they need to be guided by thoughtful curriculum with clearly defined learning goals, well designed scaffolds, ongoing assessment and rich informational resources. Assessment design is critical issue for revealing the benefits of inquiry approaches for group effort and individual learning as well as for promoting the success of learning. If one only looks at traditional learning outcomes, inquiry-based and traditional methods of instruction appear to yield similar results. Benefits for inquiry learning are found when the assessments require application of knowledge and measure quality of reasoning (OECD, p. 200-2001).

The goals of the PBL are broader than gaining knowledge - the approach aims to enable students to transfer their learning more powerfully to new kind of situations and problems and to use knowledge more proficiently in performance situations.

Implementation

Readings: Nature of learning, chapter 9

Project-based learning

Project- based learning (PBL) involves the completion of complex tasks that typically results in a realistic product, event, or presentation to an audience. Project-based learning might defined as central to the curriculum, organized around driving questions that lead students to encounter central concepts or principles, focused on constructive investigation that involves inquiry and knowledge building, student driven, in that students are responsible for making choices and managing their work and authentic, by posing problems that occur in the real world.

Problem-based learning

In problem-based learning (approach close to project-based learning) students work in small groups to investigate meaningful problems, identify what they need to learn in order to solve a problem, and generate strategies for solution. The problems are realistic and not perfectly formulated textbook problems but rather are like the in the real world with multiple solutions and methods for reaching them (often used in medical education).

Learning through design

Learning through design has grown out of the idea that children learn deeply when they are asked to design and create an artifact that requires the understanding and application of knowledge. Design activity supports revisions and iterative activity as projects require cycles of defining-creating-assessing-redesigning. The complexity of the work often dictates the need for collaboration and distributed expertise and demands generating ideas, prototyping and planning. It might be found in science, technology, art, engineering or architecture.

Expected Outcomes

Group work benefits students in social and behavioral areas. Self-concept and social measures are related to academic outcomes.

G. Community as a resource

Explanation

Using the community as a resource for learning, the primary goal of academic service-learning is to enhance students' understanding of the broader value and utility of academic lessons within traditional disciplines, while engaging young people in social activities. Academic service learning is an experiential pedagogy in which education is delivered by engaging students community service that is integrated with learning objectives of core academic curricula. Using the community as a resource for learning, the primary goal of academic service-learning is to enhance students' understanding of the broader value and utility of academic lessons within the traditional disciplines, all while engaging young people in social activities. Ideally, the community service the students perform helps them learn better how the academic concepts taught in the classroom can be applied to the situations in their everyday lives (OECD, p. 228).

One of the difficulties students face during learning is gap between theoretical learning (things that they learn about in school) and their real lives - the world outside of the school. That gap influences motivation, ability to learn, beliefs about education and its connection to what is important for them. Ignoring the natural learning resource, which community is for the school, should be seen as waste of the great opportunity for decreasing this gap. Students can address social issues either through direct service or indirect service (for example producing a research report on important issue).

Wikipedia explains service learning as: "An educational approach that combines learning objectives with community service in order to provide a pragmatic, progressive learning experience while meeting societal needs." So, in service learning, students learn educational standards through tackling real-life problems in their community.

Implementation

Readings: Nature of learning, chapter 10

Community learning

Community learning (service-learning) is a teaching method that promotes student learning through active participation in meaningful and planned service experiences in the community that are directly related to course content. High quality community learning blends academic learning, practical experience, personal exploration and reflection on student roles and involvement in their communities. Students explore community issues that relate to their courses, find relevance in their academic learning, gain valuable skills, and experience a deepened sense of civic responsibility, social justice, and commitment to the community. It is different from volunteering and community service. Community learners focus not only on the service they provide, but also on the academic and personal learning they gain as a result of that service experience. Community partners work closely with teachers and students to design the service and learning experience.

Project-based learning

Actively involves students in learning academic knowledge through the development of individual or group projects. Academic services-learning projects are purposefully community-focused and community-based, are often conducted in partnership with members of the community, and are designed with a community needs in mind. Community, like a textbook or laboratory becomes a resource for learning and environment outside school offers students learning opportunities to use their academic knowledge and skills to construct and implement solutions to real-life social problems.

Expected Outcomes

When school is successful in designing valuable community learning, students seek to achieve real objectives for the community and deeper understanding and skills for themselves. Learning occurs through a cycle of students' action and reflection. Students are confronted with real-life issues, they are challenged to study real problems in real time for real people. Rather than focusing on finding the right answer, service-learning experiences engage students in exploring various options, perspectives and strategies. Putting students in charge of the activities can help them to hone their decision-making skills, learn how to take responsibility for successes and failures, and build self-confidence and leadership capacities (OECD, p. 231-233).

H. Strategies and innovations

Explanation

Implementation

Expected Outcomes

4. Learning environments planning and evaluation tools

Form 1: Planning and organization matrix

PLANNING AND ORGANIZATION MATRIX Every planned activity should be driven by following rules and questions about their presence: Learners at the centre. The social nature of learning. Emotions as integral to learning. Recognizing individual differences. Stretching of all students. Assessment for learning. Building horizontal connectedness.				
Elements of the learning environments	**Professional Learning**	**Teaching/ Pedagogy & Learning**	**Leadership & Management**	**Structures/ Policies**
Please use spaces below to present plans, materials, activities, evaluations of school and its partners operations within the elements/areas of learning environments from the perspectives of the four sectors named above				
Understanding of learning				
Emotions and motivation				

Co-operative learning				
Inquiry based approach to learning				
Technology				
Formative assessment and feedback				
Community as a resource				
Strategies and innovations				

Form 2: Self-evaluation matrix

Elements of the learning environments	**Current state from the perspective of the support for students learning**				**Tendencies**		
	++	**+**	**–**	**– –**	**↘**	**→**	**↗**
Form inspired by self-evaluation form used in EU project "Evaluating Quality in School Education"							
Understanding of learning							
Emotions and motivation							
Co-operative learning							
Inquiry based approach to learning							

Technology							
Formative assessment and feedback							
Community as a resource							
Strategies and innovations							