EDUCATION FOR DEMOCRATIC CITIZENSHIP: THEORY AND TEACHING PRACTICE

Session 7/8 (1st): Education for Democratic Citizenship and Human Rights Education:
Cross-curricular implementation

Working on projects

Agoritsa Gogoulou

In Democracy and Education (Dewey, 1916, pp. 89-90), Dewey defined education as 'that reconstruction or reorganization of experience which adds to the meaning of experience, and which increases ability to direct the course of subsequent experience'. Project-based learning (PbL) is rooted the "project method" developed by William Heard Kilpatrick who inspired by the philosophy of John Dewey's work (Peterson, 2012) on experiential hands-on, student-directed learning. As the twenty-first century began PBL experienced a renaissance in the framework of more student-centered and experiential approaches to education that support deeper learning through active exploration of real-world problems and challenges (Pellegrino & Hilton, 2012).

Pedagogically, the concept of project-based learning was drawn from constructivism approach, which argues that students construct knowledge individually in their mind and through interaction with their environment. More specifically, project-based learning was based on Piaget's (1950) cognitive developmental theory and Vygotsky's (1978) social construction theory. Therefore, project-based learning is student-centred and inquiry-based model by nature and is considered an effective constructivist approach for developing high-order thinking skills. Skills of high-order thinking include the higher levels of Bloom's taxonomy that is analyse, evaluate, create as well as problem solving and critical thinking. A key issue to the project method, according to Kilpatrick, is that project is an activity undertaken by students that really interests them.

Project-based learning is often connected to another deeper-learning model that is problem-based learning. Although both approaches include active collaboration of the learners in solving problems, problem-based learning emphasizes more on the process of learning, whereas project-based learning focuses more on the end-product of the learning (Kokotsaki et al., 2016). In the context of a project, the students work collaboratively to solve problems by having the freedom to investigate and explore authentic questions of their personal interests related to real-world problems. Also, a project can contribute to the development of CDC because it promotes to acquiring a combination of attitudes, skills, knowledge and critical understanding.

PBL favors
- key knowledge, understanding, and skills as it is focused on student learning goals, including skills such as critical thinking, problem solving, self-monitoring etc.
- cooperative-collaborative work and the acquisition of communicative competencies.
- challenging and authentic topics: students are engaged in meaningful problem to solve or a question to find an answer to. The project concerns real-world problems, tasks and tools, and may have impact to students' personal concerns, interest, and issues in their lives. Social problems, controversial topics, and socially alive questions

are indispensable elements for the cultivation of civic- and citizenship-related competencies.
- sustained inquiry: students engage in a rigorous, extended process of asking questions, finding resources, studying, criticizing and synthesizing information.
- student-oriented activities: students make some decisions about the project, including how to work and what to create.
- reflection: students and teachers reflect on learning, the effectiveness of their inquiry and project activities, the quality of student work, obstacles and how to overcome them.
- commenting and revision: students give, receive, and use feedback to improve their process and products.
- public product: students make their project work public by expanding, displaying or presenting it to people beyond the classroom.

Having a closer look at the knowledge, skills & competences that a student may acquire while working on a project, the following are considered:
- improved planning, better organization of work and time management
- socialization, cooperation with others, empathy, conflict management
- communication skills in oral or written form and in public speaking
- debating skills, listening to and respecting the opinion of others
- knowledge related to everyday life
- sensitivity to real world problems
- openness towards the world
- development of divergent thinking
- analytical and critical thinking skills related to searching, organizing, selecting, interpreting a variety of knowledge resources
- awareness of one's possibilities and barriers, self-assessment
- taking responsibility for oneself, as well as for others
- development of problem-solving skills and creativity
- promotion of knowledge transfer

Teachers that organize and support projects, emphasize the added value of projects in metacognitive, sociocultural, and communicative skills. The student becomes able to know and understand his or her learning process, to form relationships between peers and with adults in the school environment, and outside school. They learn to act following rules, to collaborate following norms and sometimes following specific roles and are initiated to the ways life community functions. Also, teachers recognize in the project an opportunity to to improve the learning conditions and coexistence in schools, to give meaning to their daily work, to broaden students' view beyond academic performance.

Phases of the project and Teachers' role
In general project methodology includes four major phases:

(1) *Initiation* is the first phase of any project. At first the main idea of the project is to be identified. The main questions that arise in this phase are: What do we do? Why do we do it? Who are to do it? For whom do we do it? Needs analysis is also an integral part of the first phase. In educational projects for example, it is important to collect information on the learning needs, the learners' desires and the learning

environment. Data gathering can be formal or informal, including observation, surveys, questionnaires, interviews, checklists, tests or rating scales. Conclusions should be drawn from these findings and should drive project design and work.

(2) *Planning* (design) is the second phase of the project sequence. In Phase 2 project participants have to create the project schedule and specify any actions needed to carry out the work and have the necessary resources available. It involves a list of tasks and 'task owners' that is, the persons who are in charge of certain tasks. Setting the deadline for task completion is also important. Also, during this phase, the members propose and discuss for possible deliverables, which are things that need to be created in order to meet the goals. Deliverables might be the project report and a number of physical or digital artefacts, such as posters, videos, digital stories, movies, games, volunteer actions or other cultural programmes and many other items or events.

(3) *Implementation* is the phase where the participants work, investigate, are productive and create the specified deliverables. This is also the phase that interim assessments take place, fruitful comments and guidance attempt to achieve the goals on time.

(4) *Closure*, the last phase, is a milestone in project life cycle. It is the phase when the project goes public. The final act is to present the deliverables, the process followed and assess the whole endeavour.

Teachers who make PbL have to adjust from traditional practice; this might take time. In case of interdisciplinary projects, most teachers like working collaboratively with their colleagues when planning and implementing projects. Interdisciplinary projects are a good way for the development of CDC for both teachers and students. Through collaboration, the expertise of the various members is equally valued and members learn from one another through their interactions. To ensure students' active involvement and sustain engagement, it is crucial to involve them in the design (Kwon, Wardrip, & Gomez, 2014). When teachers collaborate, the interests, backgrounds and strengths of each teacher can contribute to a project, they share responsibility for students' learning and they form important professional and personal relationships. Teachers often draw support from each another and can delegate tasks that allow each teacher to feel effective. When teachers participate in the design of interdisciplinary projects, they contribute to the evolution of a professional community by de-privatizing their instruction, discussing students' learning and mobilization and also discussing ways of developing 21st skills in students. Technology allows teachers to stay connected and to develop a personal relationship with other educators in and out of the classroom.

During all processes of teaching and educating, teachers need to engage themselves in reflecting on and evaluating the nature and effectiveness of approaches that have been implemented, both in relation to the whole school culture and to their teaching practices including attitudes, values and dispositions shown in the classroom, in the school and in the society. They need to critically self-reflect and check if they had provided opportunities to the students in decision-making activities and projects, in assessment or in planning civic engagement activities.

The teacher's role in PbL is twofold:

- *Facilitator*: the teacher works with students to frame relevant and meaningful questions and to present logical arguments, guides students in seeking answers and researching, structures knowledge-building tasks, coaches necessary social skills, assesses student progress and teaches self-assessment and peer-assessment techniques.
- *Manager*: the teacher directs project team, small groups and/or independent work experiences. Often, there are multiple activities in the classroom at one time. The teacher has to coordinate all these diverse activities.

Let's have a closer look to the teacher's responsibilities and duties. Initially, the teacher must determine the appropriateness of the topic to be investigated. Projects are productive and enlightening if the topic under consideration is interesting to most of the students. To achieve this, the teacher can benefit greatly from listening to students' spontaneous discussions, observing their activities that often reveal their interests, and probing their thoughts. Teachers act as curriculum planners and developers with respect to both the overt and the hidden curriculum but learners may also have a voice in this process. They may be offered and choose to participate in the decision making on what and how they have to learn through a project. Since a democratic environment and culture in the classroom involve a certain degree of student involvement and choice in their own learning, such participation in project design is a rich mode of implementation of CDC.

Once the teacher has identified a topic of potential interest to the students, s/he can engage them in specifying the related sub-topics. This process helps them to become aware of a wide range of options that could be investigated and studied. As a next step, the teacher facilitates the forming of small groups to investigate particular sub-topics that interest them and discusses with them a feasible time plan. Project design issues require specific forms of leadership, negotiation, dispute management, interpretative and creative forces to function; these are also explained and formulated in agreement with the students.

As the investigation proceeds, the teacher monitors the progress of each group and the whole class. S/he guides them in searching and finding material, in specifying required resources (e.g. visits, interviews) and in defying the deliverables of each sub-topic. The teacher arranges discussions and short-time presentations to the whole class so that the classmates are aware of the content and the progress of the work of each group. Finally the teachers tutors and encourages students for the closure of the project and the public presentation.

Practical issues to be considered by teachers when designing and running school projects are (Kokotsaki et al., 2016):

Time management: teachers should effectively coordinate the project by coordinating its schedule and deciding when to enforce and when to extend a time line.

Getting started: teachers have to orient students, that is, getting them think about the project, facilitating a sense of mission and jointly agree on grading criteria before the start of the project.

Establishing a culture that stresses student self-management: the responsibility is shifted from the teacher to students where they are involved in project design, they make decisions for themselves and they are encouraged to learn how to learn.

Managing student groups: teachers should consider group formation, promote full participation and keep track of each group's progress through discussion, monitoring and recording evidence of progress.

Working with externals: if necessary, teachers may seek collaboration with others, e.g. other teachers, people from organisations and the local authority related to the project in order to ensure the necessary resources.

Using ICT tools: teachers should propose the most suitable technology for the implementation of the project at various levels, e.g. access relevant web resources, sharing material, interacting and exchanging opinions, creating artefacts.

Assessing students and project: grading students may be based on a variety of assessment methods, including individual and group work, collaboration and contribution, self- and peer-assessment, etc.

Technology-enhanced project-based environment

Effective use of technology enhances active, project-based learning. Blumenfeld et al. (1991) asserted that technology could play an important role in enhancing student and teacher motivation to design and work on projects. Technology can offer alternatives to match student knowledge and proficiency, give access to numerous sources of information that allow breadth in project questions, and offer many possibilities for artefact production. Moreover, students, during their work, may have access to real up-to-date data, can utilize a number of usable free tools for interaction and collaboration with others, and can explore various tools to produce digital artefacts.

Computer-Mediated Communication (CMC)

Communication is a process of transmitting or sending a message. This can involve several iterations before mutual understanding is achieved. Success can only be attained when all parties involved has shared the same understanding of what is being communicated. Communication is essential in the development of democracy skills. In cases of distance communication, communication tools may be employed.

Computer-mediated communication (CMC) supports text, graphical, audio, and/or video channels of communication, and multiple modes of CMC are available on Web 2.0 platforms and smart phones (Herring, 2019). CMC involves all services that allow users to gather, exchange, and perceive information through networked systems that aid in encoding, transmitting, and decoding messages. CMC grants users unlimited potential for exposure to new or different ways of collaboration and it occurs in two domains: synchronous and asynchronous.

Synchronous Communication

Synchronous (real-time, same-time) communication happens between people in face-to-face discussion, telephone conversation, radio or video conferencing. Synchronous conferencing occurs when two or more computers are connected to each other, enabling users to communicate with each other at the same time. Users can share text, audio video, and other electronically created files. Synchronous communication is a time-dependent delivery format and provides the opportunity for rapid feedback and simultaneous exchange of ideas. There are certain instances in which synchronous communication is a more helpful

form of communication. For instance, in the context of a project, brainstorming is facilitated if it takes place in real-time – the participants can express and clarify their ideas, can elaborate on others' views, and contribute to a common understanding. However, synchronous communication requires advanced planning to ensure everyone on the team can attend the meeting at a certain time.

Chat

Chat is a form of synchronous text-based communication allowing students and the instructor to meet in "real-time" for conversation, question and answer sessions. Chat offers immediate interaction and feedback and can help develop a sense of community for the learner. On the other hand, chat requires all students to be good typists. Also, if the chat group has too many participants, the conversation may become difficult to follow. Common uses for chat include (Horton, 2006, p. 430):
- Real-time question and answer sessions
- Brainstorming, troubleshooting, and problem-solving sessions
- Oral examinations
- Interviews of experts by learners or researchers
- Study groups, team meetings, tutoring sessions and private meetings with the instructor

Video/Web Conference

A video/web conference is a live, visual connection between two or more people residing in separate locations for the purpose of communication. Nowadays, it provides transmission of full-motion video images and high-quality audio between multiple locations. There are two forms: (a) desktop video conferencing which is a core component of unified communications applications and web conferencing services, and (b) cloud-based virtual meeting room services which enable organizations to deploy video conferencing with minimal infrastructure investment. Video/web conference platforms provide a number of facilities such as
- content (file) sharing
- screen sharing
- whiteboard
- slideshows
- remote desktop control
- group and private chat
- conference recording capabilities
- collaboration in groups
- reactions and polling
- remote meeting management

Besides online education and business world, videoconference can support a number of educational practices. Clark (2017) discusses and reflects upon a problem-based inquiry project that culminated in an international videoconference between multiethnic and multi-faith secondary students. The overall goals for the project were to have multiethnic/faith students identify common community problems, engage in inquiry to find ways to address these issues, and then develop an action plan to address the issues in their community. The videoconference provided an opportunity for students to share action plans they created to address the local problems identified through their inquiry. The problem-based inquiry

project allowed students to examine their positionality and develop public voice related to local issues, while the videoconference provided an audience for the students to engage their positionality and public voice, receive comparative perspectives, and corroborate new knowledge gained from their projects. Clark considers that using public voice through discussion with an audience of international peers, via videoconferencing, to be an effective way for secondary students to reflect on their own values, attitudes, and beliefs regarding public issues, as well as their own civic engagement and positionality within the context of their communities.

Asynchronous Communication

Asynchronous (not at the same time, delayed) communication occurs without users having to be simultaneously at a particular place or time. Team members using asynchronous communication can respond to messages as they're available, with gaps of communication between messages. Participants do not need to be online at the same time or in the same physical location. It gives the team members the possibility to think of the process followed in the project, of the work done and on the proposals and opinions of others.

For asynchronous communication to work well, it is necessary to establish rules.

Set timing expectations: the team as well as the teacher, can arrange a time plan, e.g. due dates and due work to ensure that communication continues to move forward. As feedback on the progress and the work done is necessary, complying with the deadlines and contributing as planned is of great importance.

Logical Organization: Asynchronous communication needs to be organized so everyone on a team has access and can find the information they need. Organizing discussions by channels and threads is a feature of most asynchronous communication.

Electronic Mail (one-to-one, and one-to-many)

Email is the most common form of CMC. An email message can be sent to one or multiple recipients and can deliver as attached files text documents, digital pictures, digital video clips, and other electronic documents. Email among students and between student and teacher can facilitate communication reasons such as set goals, schedules, timelines, and learning objectives with students. Conversely, students can send questions to the teacher and ask for help via email.

Discussion forum

Discussion fora are online spaces that enable asynchronous written conversations to be posted and shared among students via "threads" and "replies." In this way, teachers and learners can contribute ideas to the group. These text-based conversations help learners organize and follow conversations without getting lost in numerous postings. Group members may start with a specific topic, which can be opened up for argumentation, discussion, interpretation, explanation, or further questions by other members of the group.

Forums encourage a creative cognitive process where ideas are put forward and criticized, completed or reformulated during discussions. Contrasting opinions can be grouped in threads stimulating critical reflection and leading to greater coherence in debates. Empirical studies argue that students may be motivated and become more active as this technology enables them to communicate whenever it proves most convenient for them. Also, discussion fora seem to foster participation of introvert and shy students as they feel

uncomfortable to express their views and objections in face-to-face communications (Camarero et al., 2012). The teacher who monitors an electronic classroom discussion has much better access to how each of the students is thinking about the topics than in a face-to-face class.

The students participating in discussion fora during their school live, develop skills for e-democracy as responsible citizens. They learn to articulate their thoughts in clarity, to read and think of others' opinions, to coalesce and formulate productive proposals.

Social Media
Social media is defined as those technologies that facilitate social interaction, collaboration, and deliberation, and comprise of technologies such as blogs, wikis, multimedia media sharing tools, virtual worlds and networking platform. They have the potential of reinforcing class material and positively influencing student's collaborative work, knowledge construction, and stimulating critical thinking skills.

Nowadays, learning management systems (LMS) integrate social media tools (e.g. blogs, wikis, multimedia sharing) in an attempt to fully engage students and provide alternative means that cover diverse learning preferences and needs.

In the spirit of technology for teaching, Web 2.0 tools offer many possibilities. Web 2.0 tools are online software programs that allow users to do a number of different things. They can be used to deliver curriculum content, store data, create/edit video, edit photos, collaborate and so on. These programs are often free and are used by teachers and students both in and out of the classroom. These tools allow the user to go beyond just receiving information through the web. The user is expected to interact and to create content with others. Social media tools are examples of Web 2.0 tools. Web tools can be used to enhance teaching and collaboration among teachers and students as well as increase professional collaboration between educators. In the following, indicative Web 2.0 tools are presented, which can be used in the context of projects.

A **wiki** is a set of webpages that can be collaboratively edited and managed by its own audience directly using a web browser. A typical wiki contains multiple pages for the topic or scope of the project and may be either open to the public or limited to specific members or used within an organization for maintaining its internal knowledge base (Wikipedia). Users, members of the wiki, can create and edit their own webpages. The three main features of the wiki are: open editing, a revision tracking mechanism, and a discussion feature. With open editing, students can create their wiki pages simply by adding content and can also incorporate multimedia to develop their wikis for knowledge building. The track changes feature of wikis can promote collaboration and support students' higher order thinking skills through revisions of shared documents with peers. As for the wiki's discussion features, they provide opportunities for students to detect problems, settle controversies, and reach agreements to revise the shared pages. With these features, wikis have been mostly used as tools to facilitate group projects (Chu et al., 2017).

Edmodo is an educational network that aims at providing teachers with tools to help them connect and communicate with their students. Via the Edmodo app or website, teachers can share content, texts, videos, homework and assignments with their students online. The online discussion forums may encourage less vocal students to share and give more reserved students

a low-stress way to respond to prompts and benefit from peer input. Students can see content, manage deadlines, receive and submit assignments, and interact with the teacher and other classmates by participating in activities and writing posts that include embedded files, links, and media. Users can share documents, links, video, and images using the drag-and-drop feature, integrating files from Google and Microsoft accounts. Students can work in small groups in order to communicate/collaborate with each other, share content and exchange messages in their private discussion forum.

Google drive and Google docs
Google Drive is a file storage and synchronization service developed by Google and allows users to store files on their servers, synchronize files across devices, and share files. Google Drive encompasses Google Docs, Google Sheets, and Google Slides, which are a part of the Google Docs office suite that permits collaborative editing of documents, spreadsheets, presentations, drawings, forms, and more. Files created and edited through the Google Docs suite are saved in Google Drive. Google Drive allows teachers and students to share and comment on documents, spreadsheets, presentations and images.

Οι Deng, Li and Lu (2018), in their study focusing on how a group of first-year teacher education students employed multiple technologies for group collaboration, mention that wiki was recommended to support group collaboration, including sharing files, exchanging ideas, composing a group report collaboratively and presenting the final product. For the collaborative writing of a group report, the students could choose to use either the wiki or the Google Drive. The results show that the participants deemed the wiki as a valuable tool for facilitating interaction and collaboration; they appreciated collaboratively writing the final reports on the wiki. They commented that the wiki offers a central place for the group project, where team members were able to write their own parts of the group report independently while having access to others' work. However, they didn't use the wiki for group communication. When left to choose between the wiki and Google Drive for group work construction, most groups picked Google Drive due to its comparative advantage in synchronous editing.

Web 2.0 tools enhances teacher's innovative potential in designing lessons, and also helps motivate student creativity in project based assignments. They allow learners and teachers to discover new ways of actively and creatively develop their individual competences, achieve the intended learning outcomes and produce imaginative artefacts.

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