E-government 2.0 education in practice

A good teacher’s handbook.
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Introduction

The subject of the present work, prepared as part of the “E-government 2.0 in practice” project, is e-gov 2.0 teaching methodology. This manual aims at establishing which is the most efficient method of extending learners’ knowledge, skills and social competences related to the area of e-gov 2.0. We will also try to offer the most detailed possible description of the offered methodology ready to implement while launching trainings and study programmes at universities other than TEU.

This work has been designed primarily as a manual offering ready-made, complete solutions. But it can also serve as a source of inspiration for anyone willing to do their own research into the topic and work out even more perfect methodological solutions. This material can, therefore, be used for the purpose of both creating a comprehensive educational programme and preparing single classes by particular teachers and trainers.

While formulating the main principles of the e-gov 2.0 teaching methodology, we focused on the already existing and proven methods and tools which were chosen to guarantee a high level of the education process. Bearing in mind the specificity and the underlying ideas behind e-gov 2.0 (dialogue, participation, prosumption, feedback, new technologies, communities, collaboration, transparency, etc.), we’ve chosen solutions
that will make it possible to fulfill the teaching outcomes put forward in the study programme description, being, at the same time, in line with the spirit of e-gov 2.0.

As a result, the manual features not only a number of suggestions relating to the education process itself (e.g. motivating factors, designing educational space, presentation), but also detailed descriptions of the following ideas: flipped classroom, case study, project-based learning, mobile learning and web-based learning (especially blended learning). Presented to the readers are also several dozen electronic tools and applications to be used in many different ways as part of the e-gov 2.0 teaching process. Finally, what comes as the last part of this work is a list of methodology-related recommendations with special emphasis on the role of particular methods and tools in the whole of teaching process and on how to efficiently incorporate them to educational programmes, syllabi, projects and classes. “Arsenal of a good educator” The term “arsenal” has been used here to denote a series of different measures, tools and actions that have or may potentially have an influence on the learning efficiency demonstrated by class members. Below we present an introductory chapter, its main aim being to systematise knowledge that may turn out to be useful while teaching students.
"Arsenal" good teaching

The term - "arsenal" of a good tutor is understood by authors as a set of all kinds of resources, methods and activities that have or may impact the effectiveness of learning of a class participant. Being aware of what elements affect the quality of the process is, as it seems, crucial for the professionalization of teaching workshop the of each university teacher.

This chapter serves as an introduction, its purpose is to structure the knowledge that can be useful when teaching students¹. The argument consists of a discussion of selected concepts and issues relevant to the process of an efficient and effective learning. At the outset, two groups involved in the process of knowledge transfer and learning shall be presented. Then, two basic, classic types of classes shall be presented, i.e. working with large group of students and working with a

¹ In the following chapter, the authors related to concepts included B. Sajduk, Nowoczesna dydaktyka akademicka. Kto Kogo Uczy?, Kraków 2014, http://dydaktyka-akademicka.pl/1.
smaller one. The next part of the description will concern methodology of developing professional multimedia presentations. The argument will conclude with addressing an interesting idea of ‘reversing of a lesson’. It should not be forgotten that a ineffective teaching results in discouraging students and engendering antipathy towards a subject taught. It is crucial to remember that teaching others is a skill, that can be acquired, and equally importantly, and that needs to be continuously improved. Perhaps, part of the following observations will not be new to readers/teachers, and certainly, not every of the proposals will be adequate to each course, however, every remark presented below is based both on the authors’ experience, best known practices, as well as major publications.

Characteristics of teachers and learners

At the beginning, it should be noted, that the improvement to teaching workshop cannot be limited to merely raising a level of one’s own knowledge. Professional competence and skills, although essential, are insufficient to process knowledge transfer efficiently. The quality of classes is made up of a lot of factors, forming a unique style of teaching. That original style of teaching is composed of seven factors: lecturer’s knowledge and experience – mentioned earlier, lecturer’s personality, quality of interpersonal communication, lecturer’s motivation and attitude, image of a perfect lecturer, material elements of a lecturer’s image, as well as educational technology. A good lecturer must be aware that the intellectual development should be accompanied by reflection on developing his or her own style of teaching. Using a large simplification, it can be assumed, that knowledge and skills are transferred by means of two meta-styles.

Meta-style of teaching

The first meta-style focused on transferring knowledge is referred to as academic, usually associated with narrowing the educational instruments of a person conducting classes to input methods – lecture. However, in a positive sense, the academic meta-style represents working in a master-student relationship. Ideally, a master should be characterized by: passing hierarchy of values, including, passing methods of conduct by providing consent for observation and participation of students, refraining from imposing views and decisions, as well as not seeking to be students’ life guru, friendliness and willingness to provide assistance, mainly – their own time.

The second meta-style is coaching, usually associated with teaching adults and passing them knowledge related to developing soft skills. In this meta-style, the knowledge passing process is carried out by means of two

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approaches — facilitation and/or moderation. The aim of the facilitation is to raise a group’s efficiency, a facilitator’s actions are focused on improving the process of communication and interaction between members of the group. Moderation is concentrated on supporting a group in the implementation of a specific task. A moderator is not limited only to caring for the improvement of the group process, it is also important to structure work, motivate and build appropriate relationships between team members. It should be emphasized, that the specificities of work of a moderator and a facilitator significantly differ. Moderator is responsible for two work dimensions: outcome, results achieved (hence the involvement of a moderator has a substantive dimension), as well as dynamics of group processes (hence the involvement has also an interpersonal dimension). Facilitation, however, is primarily focused on supporting a group process, and a facilitator is not responsible for the substantive dimension of actions taken. It seems that people, who want to learn in a modern way, using modern methods, find it challenging to try building a compromise between the above mentioned positive master’s approaches and techniques used by coaches during. Obviously, conducting lectures is often the best solution used in the educational process. Nevertheless, when the focus is on work with a small group, it is advisable to adapt coaching tools.

The ‘Science’ magazine published research results, which are a good illustration of the above argument. The researchers conducted an experiment, participated by two groups of students from the University of British Columbia. One group pursued a curriculum where the lecture was the main method — input form of passing knowledge conducted and implemented by an accomplished lecturer with a considerable scientific achievements. The second group was taught by an educator without significant scientific achievements, who was using activating teaching methods, especially group work. The experiment showed, that students taught by activating methods were able to achieve results more than twice better than the students taught with traditional method — although the it utilizes multimedia presentations. Therefore, it seems that Anna Sajdak’s observation ‘the aftermath of many scientific discussions is the conclusion, that the education process at a university must cease to be identified only with the learning process, and instead it should evolve in the direction of creating educational opportunities for self-study, as well as enabling and supporting all sorts of students’ learning processes. The aim should be, therefore, seeking balance between academic meta-style of teaching which is knowledge-transfer oriented, and coaching meta-style, as well as excessive concern for the good atmosphere and the participants’ mood. The diagram below is an attempt to illustrate the golden mean, where the red square symbolizes the way of teaching, which on one hand — does not have

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6 See: A. Sajdak, Paradigmy kształcenia studentów i wspierania rozwoju nauczycieli akademickich. Teoretyczne podstawy dydaktyki akademickiej, Kraków 2013, s. 203.
to be a lecturer’s monologue, and on the other – is not limited to a ‘show’, but building a good atmosphere in a lecture hall.

**Motivating students**

Motivation is commonly divided into two major categories: internal and external one. Internal motivation to learning is a desire that has its roots in one’s internal mental states, which, in turn, manifest themselves in the willingness to take action, e.g.: ambition and an urge for self-development, character traits, fear of punishment. External motivation, on the other hand, is formed by elements from the outside of a given person that make him/her ready to take an action, such as the teacher’s personality, rewards and punishments system, evaluating completed tasks and fostering a learning-friendly environment. Teachers can also increase students’ motivation level by being more expressive with gestures, maintaining eye contact and properly modulating their voices. Crucially, educators should be truly interested in the subject of the class they are giving. They ought to present various examples (both positive and negative) and draw analogies⁷. Importantly, thanks to the cited examples, learners can take advantage of knowledge they already possess to make references to what the teacher is discussing at a given moment. While introducing new ideas, it’s also very important to keep the audience’s interest in the subject at a satisfactory level. This can be achieved, for example, by asking questions or holding quizzes (e.g. with the use of polling kits).

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**Creating educational space**

One of the elements that are crucial for teaching and yet underestimated by so many is the possibility of teaching exerting an active influence on the shape of a given
educational space. Making learners swap their chairs or move during classes help, among others, to draw a clear line between two topics and get them concentrated again. Besides, such elements often enhance the teacher’s work, as suggested by the Ontario Institute for Studies in Education. Indeed, its members have proved that teachers tend to concentrate on the middle and left sides of the classroom, clearly neglecting the right one.\(^8\) Interesting in this context is also an observation made by Allan Pease, an expert on non-verbal communication, that in rooms in which learners are seated in rows a “learning sphere” is created including the first rows and the middle part of the room, whereas the part around the room’s back corners forms an area where learners would remember the least from the class.\(^9\) And this is why it is so recommended that teachers also roam around the classroom.

**Presentations**

Multimedia presentations, used by presenters to enhance their speeches, are nowadays believed to be an indispensable element of the teaching process. As suggested by Cliff Atkinson, one of the authors of a manual devoted to this type of materials, extensive research on the nature of the learning process has clearly demonstrated the usefulness of multimedia presentations in teaching.\(^10\) Yet, what remains problematic for many is how to properly use programmes designed for presenting data so that they foster learners’ efficiency in assimilating knowledge\(^11\). Bearing in mind the need for high efficiency during studies and trainings related to the area of e-gov 2.0, we warmly encourage all authors of didactic materials to familiarise themselves with the following contents.

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\(^11\) No one specific technical solution is recommended here, though without doubt one of the most popular ones is MS PowerPoint, enjoying a 95% share in the whole of software used for creating presentations. Pöhm, M., *The PowerPoint Fallacy*, Innsbruck 2011, p. 20.
Effective presentations

*Guide to Persuasive Presentations* published in 2010 by Harvard Business Review contains a list of 8 points to be double checked by anyone preparing a presentation.\(^{12}\) **Firstly**, the author should be capable of answering, within 30 minutes, the question of what his/her presentation is about. Business speeches aim at presenting to the audience the benefits of listening to the presentation. Similarly, introductory presentations made as part of the teaching process are meant to introduce the topic to the audience members and motivate them to actively participate in the class. Ensuring a high level of the presentation’s visual attractiveness, so typical of business presentations, helps to keep the participants interested in the topic.

**Secondly**, it is important to be aware of what type of audience one is dealing with, as well as to try to predict the questions they will want to be answered. Thus, it is crucial that the educator is focused not only on actually sharing all the necessary information, but also on questions that the presented content may arise. Revealing in this context are the suggestions made by Nancy Duarte specializing in professional presentations, who encourages teachers to always consider what kind of transformation they want to cause in their audience. And so, before any classroom presentation it is fundamental for educators to ask themselves two questions: what will they know at the beginning and what are they supposed to know after the presentation?\(^{13}\)

**Thirdly**, each presentation should have a clearly delineated, attention-drawing beginning which will get the audience involved so much that they will want to stay in the room till the end of the lecture. And it doesn’t necessarily have to be an anecdote or a joke. Posing a question with the answer to be revealed only towards the end of the speech, for instance, can bring about the same effect.

**The fourth point** has to do with touching up the closing part, which should take the form not so much of a summary, but rather of an encouragement to use the received pieces of information in practice.

**The fifth** element entails bringing the preceding parts into a coherent whole. It’s always good to have some additional materials that can be used when the original ideas have already been exhausted.

**The point number six** touches upon the necessity to carry out a test in real-life or close-to-real-life conditions, possibly with the presence of significant others who will be

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patient enough to listen to the whole of our presentation, which will make it possible to estimate its duration.

The seventh point on the checklist presented in the *Guide...* relates to checking the conditions in which the presentation will be held and the equipment to be used. It’s recommended to print one’s slides and, if only it is possible and legal, save the used materials on one’s data storage device.

The last, eight thing that the presenter needs to take care of is his/her appearance, as well as good mood and self-esteem. Helpful in this respect may be pieces of advice provided by Amy Cuddy, an American social psychologist, who points out that there is a correlation between striking different poses by people and staying in them for a while, and the secretion of hormones (testosterone and cortisol) influencing their physical and mental state, which, in turn, determines whether or not a given person is assertive. The author advises all the people who find it difficult to manage stress and stage fright to stand, a couple of minutes before an important speech, in a position in which they feel safe and powerful. This may increase the level of their assertiveness and, as a result, enhance their self-esteem.

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The title slide should include the name and surname of the speaker, the title of the presentation, the date of the class, and – if it forms part of a bigger whole – the number of the class, the date, the place and, optionally, the emblem/logo of the institution that the presenter represents. Apart from that, Nancy Duarte encourages speakers to always put an introductory slide featuring a picture or an illustration, before the title one to create a positive first impression. The "contents" slide presents a well-structured agenda of the meeting/class with clearly outlined main points. The slides with proper content constitute a great majority of the entire presentation. As has already been mentioned before, the best solution is to create one’s own, original template for each slide category. Apart from space for all necessary information, the slides presenting proper content should feature three areas with the following pieces of information:

- name of the topic/issue discussed at the moment of referring to the part of the argument when a given aspect is raised; a clear reference to a particular part of the contents (usually in the upper-right corner),
- number of the present slide (e.g. 34/49), ideally in the bottom-right corner,
- if applicable, a source reference.

Importantly, in professional presentations it is always the case that both graphical elements and slides’ headings directly correspond with the topics covered, will slides never fully covered with text. At this point it’s worth mentioning, once again, Nancy Duarte, who advises presenters to present just one idea on a single slide. Finally, the closing slide is reserved for giving thanks to the audience for their attention and, optionally, providing information on how they can contact the speaker (e.g. an e-mail address).

Several pieces of advice and inspiration

It’s also good to be aware certain “tricks” that can be used during classes:

- In the presentation mode, the PowerPoint programme allows for editing the content, for example by adding drawings to slides. If the educator uses a mouse, the tools needed for that are to be found after moving the cursor over the screen’s bottom-left corner. Besides, during the slide show you can easily darken the slides by using the “b” (standing for “blackout”) button. Analogically, the slides can be whitened with the use of the “w” (standing for “whiten”) button. This effect can substitute a whiteboard or a flipchart. You only have to darken a given slide and use the dark surface to draw, for example in white, on it.
- You can use a wireless mouse during a slide show as a remote control.
- While working on a presentation, remember that if you scale the size of a picture or any other slide element keeping the Shift button pressed, the proportions

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of this element will be preserved with any further changes.

- Helpful in calculating proper proportions and designing slides is also *activating in the Overview Tab* the option: *Ruler, Grid lines, Runner.*

- In her interactive publication Nancy Duarte also promotes an interesting idea of creating Slidedocs, a specific form of communication based on the combination of traditional text documents, a teleprompter and slides. You can access the book free of charge at: [http://www.duarte.com/slidedocs/](http://www.duarte.com/slidedocs/).

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**Preparing quizzes in Microsoft PowerPoint**

Duration: app. 4 minutes  
Language: English  
Author: Ben Ryder  
Title: *Creating a quiz using PowerPoint, 19 X 2014,*  
[https://www.youtube.com/watch?v=e189nwao doQ](https://www.youtube.com/watch?v=e189nwao doQ)
Flipped classroom

Core of the method and its main characteristics

Another interesting method of giving classes, which has enjoyed a growing popularity, is the so-called Flipped Classroom. The method integrates, in a systemic way, elements of lectures and the use of modern technologies with the practice of giving classes to small groups of learners. At its heart lies the idea of reversing the traditional teaching model in which the teacher shares, usually in the form of a lecture, his/her knowledge with students, later on asking them to complete at home tasks related to a given subject. On the contrary, the idea underlying the flipped classroom model is that learners assimilate the material presented to them in class on their own, at home, while the time of direct contact with the teacher is devoted to solving problems and doing exercises together.

17 This idea has also received some harsh criticism; See for example: Barnett, P. E., Let’s Scramble, Not Flip, the Classroom, 14 February 2014, https://www.insidehighered.com/views/2014/02/14/flipping-classroom-isnt-answer-lets-scramble-it-essay.
To fully understand the idea of flipped classroom, one should also become familiar with the findings of a research carried out by American scholars who, for one full week, constantly monitored the brain activity of a student. The results have clearly shown that the levels of brain’s activity during sleep and classes (as well as watching TV) are actually very similar. Based on that some educators have drawn the conclusion that it’s absolutely necessary to change the predominant teaching style and replace it with a more efficient one based, among others, on the flipped classroom method.  

An unquestionable advantage of this method is that every learner assimilates the new material at their own pace. Besides, the time spent in class may be used to jointly solve specific problems relating to the material learnt by the students at home, which makes it possible for group-based education to be more individualized. Depending of a way of incorporating it by the educator, it may serve as an inspiration for students to undertake their own search for knowledge and develop their analytical skills, at the same time promoting group work. To fully exploit this model’s potential, it’s often necessary to use


**See:** Stoltzfus, M., How Socrates can stimulate your brain activity, 13 May 2014, https://www.youtube.com/watch?v=o8a1dsv5IXo
modern technologies. Indeed, the lecture to be listened to by the class members is registered and published online (in the form of a podcast or a video), thanks to which everyone can access it at the most convenient moment.

Importantly, the materials given to students to work on at home, don’t necessarily have to have the form of lectures. If only they don’t limit the copyright holder’s rights, they can actually be any materials available in the Internet.

Given its specificity, the flipped classroom method is a great tool of getting learners actively involved in the education process, which is crucial in the case of students of e-gov 2.0 courses (creating an environment/community, motivating, feedback). And this is why it’s really worth drawing on the idea of flipped classroom while preparing classes.

**Advantages and disadvantages of flipping classes**

**Advantages**

- It makes it possible for the educator to replace the traditional lecture-based method with workshop-based one
- Since materials are registered, students can access them in time most convenient to them
- It enhances the process of creating knowledge by the entire group
- Thanks to this method teachers can freely shape the order in which particular contents and tasks will be presented to learners in class

**Disadvantages**

- Teachers need to prepare all the materials on their own, which is time-consuming and requires them to have knowledge on multimedia materials
- It may sometimes open the space for certain students to take an easy way out
- For the flipped classroom method to be efficient, all the in-class activities have to be very well-thought-out
Case study

Core of the method

Paul R. Lawrence, a sociologist and professor of business at the Harvard University, accurately described a case study as "(...) the vehicle by which the chunk of reality is brought into the classroom to be worked over by the class and the instructor. A good class keeps the class grounded upon some of the stubborn facts that must be faced in real life situations. It is the anchor on academic flights on speculation. It is the record of complex situations that must be literally pulled apart and put back together again for the expression of attitudes or way of thinking brought into the classroom." The main aim of the case study method is to develop in learners the skill of solving problems to be faced by them in their professional lives. Given the specificity of this method, as well as the availability of many interesting case studies prepared as part of the "E-government 2.0 in practice" project, we highly recommend this method to be used during trainings, summer schools and studies on e-gov 2.0.

Description of the method

The case study preparation process usually entails three major stages, which apply both to the author’s material and the ones used as a ready-made material.\(^{20}\) The first stage aims to establish the objective and define the target group. The instructor should ask themselves the following questions: what precisely is the case study meant to present and in what way is it supposed to correspond to the form and ideas behind a given class and the entire course. It necessarily has to be grounded in a real-life situation or event, something that has truly happened. The second stage includes collecting data and creating materials. Crucial here is setting the difficulty level in such a way as not to hinder the fulfillment of the established objective. It is also important to adjust the complexity of language to the learners’ level. In publications on this topic one may find a number of typologies that classify case studies into many different categories\(^{21}\). Yet even more significant than all these categories is the fact that case studies may substantially differ in forms (some of them being multimedia ones) and topics.

Finally, the aim of the third stage is preparation for discussing the case study along with the learners. This entails preparing a lesson plan, teaching aids and questions that will be used during the class. Central to a class based on the case study method is a classroom, lively discussion facilitated by the teacher that may be further enhanced by the use of a wide range of other teaching methods (e.g. group work, role-playing, active usage of information found on the Web). The key challenge in designing a flipped class lies in striking a balance between the content of the case study and its complexity – it’s not good to overload the material with too many topics, but if it turns out to be too easy, the learners will provide answers to the questions just immediately after reading it. The author of a case study should divide the work into phases of gradually delving deeper into the topic. A metaphor that can be useful in gripping the sense of the case study method is that of peeling off subsequent layers of the onion.

Advantages and disadvantages of the case study method

Advantages
- It fosters students’ creativity and independence in formulating their opinions. It also enhances their analytical skills
- It makes it possible for the educator to fulfill a range of teaching objectives (related to both knowledge and social skills)
- A well-designed case study opens a space for applying various activating techniques, such as role-playing, when learners have to assume the roles of characters described in the case study.

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Given that this is a very flexible method, it is easy to modify the realisation method by adding elements of group work or Internet-based activities.

Disadvantages

- Preparing a case study on your own is time-consuming and requires a lot of work.²²
- It's highly difficult to find a material that perfectly fits a given class.
- One of this method's drawbacks is the risk of materials quickly turning outdated. Actually, some suggest that the "life-span" of a case study amounts to 2-3 years.²³
- If used in a didactic environment, this method requires the teacher to be very skilled in managing group processes.

Practical advice

- While moderating a discussion, during its first stage it's better to avoid questions that narrow down or limit possible interpretations of a given phenomenon. It is the group, and not the moderator, who are supposed to discover the meaning and sense of the analysed case.
- At the very outset of joint work with the group it is worth establishing key facts, for example by asking a randomly chosen person to present them and then, add his/her own commentaries.
- It's important that moderators help their groups to differentiate pieces of primary and secondary information so that the latter can develop a hierarchy of problems illustrated in the material and make an attempt at formulating a generalization, this is to say at pointing out the way in which the analysed problem may relate to real life and their future professional lives.
- An equally important part of the process of teaching with the use of the case study method is analysing along with the group the positive and negative results of decisions described in the text, as well as their possible variants. Here, actually, lies the greatest educational potential of this method.
- The common work on a given case study should be closed with a summary during which the educator will make reference to the conclusions from the group discussion and, if possible and necessary, to the accurate solution of the case.
- One of the conditions of efficiently using a case study is asking proper questions in a group. At this points it's worth remembering about a few question


categories,\textsuperscript{24} namely: questions about specific information (Who? Where? When? Does what?); analytical questions (How? Why?); questions about alternative actions (What and how have you done?); hypothetical questions (What if...?); questions about predictions and simulation ones (What will happen if...?); generalising questions aimed at arriving at general truths (What, on this basis, can...?)

Project-Based Learning

Core of the method

At the heart of the project-based learning method lies assigning to students complex, highly practical tasks to be completed individually or in groups, demonstrating genuine engagement, self-reliance, responsibility, and the skills of cooperation, critical analysis of sources, risk management, and finally, presentation skills. Subject to evaluation is not only the final outcome, but also the very process of achieving it, with evaluation being both quantitative and qualitative (in the form of the most precise possible feedback).

There are, generally, two types of projects usually carried out with the use of this method:

- research projects, aimed principally at broadening the participants’ knowledge and skills
- and local actions projects aimed at increasing the participants’ competences and social skills.

The Project-based learning method appears to be ideal for conducting classes as part of e-gov trainings and studies for it allows students to become familiar with practical aspects of related main tools, processes and phenomena. This, in turn, makes it easier to translate theoretical knowledge into practice and, as a
result, achieve better learning results, which is of crucial importance in the case of e-gov 2.0.

Description of the method

Project documentation distributed to students before the beginning of work should include: a well-defined topic, information on who is realising the project, clearly stated primary and secondary aims, a time frame of the entire project and of its particular stages, tips concerning work methods, recommended sources, and clear evaluation criteria for the whole work, particular stages, engagement level and the final presentation. One should also establish the scope and organisational conditions of the project in such a way as to ensure the biggest possible room for the participants’ own work, creativity and working out non-standard solutions, this is to say to provide them with relatively high autonomy in terms of conceptual work and project-related actions.

While preparing a project to be used in class, it’s worth incorporating varied activities requiring from learners different types of competences and work organisation. One should consider:

- the use of electronic tools
- the use of sources different from one another both from the formal point of view and in terms of the applied interaction type
- contact with real-life enterprises/institutions/organisations
- interactions with other project teams
- differentiating the elements of the final product

Advantages and disadvantages of project-based learning

Advantages

- A high degree of the participants practice-oriented development
- Usually: a relatively low cost of preparation and implementation
- Faster absorption of the material and a better understanding of the presented processes
- An opportunity for students to show their best side and spread their wings
- A great opportunity to enhance their social competences

Obviously, the final choice of activities should always be consistent with the main aim of the class and the teaching outcomes that are supposed to be achieved.
• A chance for students to combine different competences and parts of interdisciplinary knowledge and translating them into practical outcomes
• Allows for diagnosing students’ potentials, talents and interests
• Makes it possible for educators to develop their teaching skills

Disadvantages:
• Highly time-consuming
• It’s hard to maintain a steady pace of work and the participants’ motivation level
• High or very high amount of work to be done by students
• It’s difficult to evaluate the extent to which particular team members were engaged in the project
• The risk of unhealthy competition between teams
• Opens the room for uninterested students to avoid work
• It the case of ambitious and charismatic students: the risk of dominating the group and, as a result, hindering the majority of teaching outcomes.
Mobile learning

Description and core of the method

Mobile learning doesn’t form a separate teaching method, serving rather as a means of supplementing the already existing solutions. M-learning, widely adopted in the process of teaching new technologies, draws mainly on the use of mobile devices and the possibility of wireless data transmission. An interesting example of how smartphones can be used for class purposes is the Kahoot application (https://getkahoot.com/) allowing, among others, for conducting an knowledge test.

Particularly worth presenting in the context of education based on mobile devices are QR (Quick Response) codes and Augmented Reality. QR codes are two-dimensional symbols used for coding chosen information that can be read out by a mobile phone or a laptop featuring a camera and free software. And, most importantly, a QR code makes it possible to add references to any kind of material (such as a printed out text), and so, transfer, with the use of an URL address, a reader of a traditional text to a multimedia material. In other words, while reading a traditional material, he/she also has access to
Applications designed for creating QR codes

QR codes can be generated on-line and free of charge for example via these websites: http://www.qr-online.pl/ and http://qrcode.kaywa.com/). They allow for generating codes encompassing a wide range of information, including a traditional text, a URL address or an e-mail address. And remember, if the address to be processed into a QR code is too long, you can always shorten it with the use of one of the available free Internet applications: http://goo.gl/ or http://tiny.pl/.

Augmented reality provides the opportunity to combine a view from a mobile phone, tablet or other device with another one, generated by a computer program. As a result, the user receives not only traditional visual content, but also additional information on what actually they are presented with. The effect of accompanying a visual content with pieces of information appearing on the screen in real time can form an attractive supplement to the traditional education process.

An application allowing for augmenting reality

An interesting application, which needs to be installed on a laptop or a mobile phone, is the Aurasma program (http://www.aurasma.com/). To enjoy the possibility to create material free of charge, one only needs to create an account. To have access to the program’s full functionality, on the other hand, registration via mobile phone is needed.

Mobile technologies have become a hugely important part of our lives and we use them on a daily basis for work, entertainment, social life and civic activities. Participants of e-gov will most probably be very familiar with them, which is why we recommend not merely presenting contents in the m-learning mode, but also using mobile applications during classes and while realising projects.

Advantages and disadvantages of m-learning

Advantages

- Provides students with an easy access to didactic materials.

Disadvantages

- One needs to possess sufficiently advanced mobile devices with proper software
Web-Based Learning (e-learning & blended learning)

Core of the method

The underlying idea behind Web-Based Learning is using electronic tools and broadly understood new technologies for educational purposes. What is now being considered as the optimal e-learning variant is hybrid learning, also known as blended learning. It will be presented in a greater detail in further parts of this material.

Blended learning entails combining traditional teaching methods and tools (e.g. a lecture, a laboratory, office hours, a test, a presentation, a discussion, a board game, a case study) with e-learning solutions (courses, applications, multimedia lectures, webinars, on-line quizzes and exams, on-line games, discussion forums, videotutorials/screencasts, podcasts, etc.) and – nowadays – also m-learning solutions (educational applications, social tools, geolocation, and multimedia tools such as a camera or voice recorder).

What are e-learning materials? Since the method is developing in the world of electronic media, one should be careful while formulating definitions, avoiding academic and governmental ones for these hardly ever (well, actually, never) keep up with the changes in the development of new technologies and the related phenomena. Especially pertinent in this regard are observations of Piotr Peszko, the author of the http://blog.2edu.pl blog. In his
view, e-learning materials are any materials that are available on the Internet and make us learn/develop, irrespective of their formal characteristics, the used technology, the distribution platform and author. This assumption seems to be reasonable, especially in the era of prosumption and the democratization of knowledge\(^25\).

**Trivia: postgraduate studies in the field of e-learning design and implementation**

At the moment there is only one university in Poland offering studies in the area of e-learning development. And it is with great pleasure that we acknowledge that this university is our Tischner European University in Kraków. To learn more about the study programme in designing and implementing e-learning, visit the website: [http://www.wse.krakow.pl/pl/studia/studia-podyplomowe](http://www.wse.krakow.pl/pl/studia/studia-podyplomowe)

It goes without saying that any project related to e-gov 2.0 simply implies the need for applying the blended learning method. In the first place, it is efficient from the point of view of the teaching process and it makes it possible to bring the idea of the flipped classroom into life. And secondly, students and training participants should be given the opportunity to become familiar with all the intricacies of Internet and the possibilities it offers to anyone involved in creating e-gov 2.0 structures within the correspondent unit of the territorial government.

**Description of the method**

As for objectives blended learning is no different from traditional one: the process should be well planned and aimed at the fulfillment of concrete, previously established outcomes in the form of the development of knowledge, skills, attitudes and social competences.

The difference lies in the conscious incorporation into the education process of remote learning elements, which — it should be underlined — are by no means inferior to traditional tools in terms of efficiency (if only the educator understands their inner workings and the way in which people learn in front of a screen).

The most important, non-technological difference between stationary and blended learning, on the other hand, relates to the idea that within the traditional model knowledge is “stored” for future usage, while e-learning promotes accessing needed information *just in time.*

**How to design b-learning?**

- The departure point in the case of designing an educational solution should always be existing problems and established aims, technological issues always being of secondary nature.
- Always bear in mind that the learning environment in this case is the Internet, with all the consequences.
- The whole of material ought to be divided into small modules, ideally of a dozen or so minutes long each.
- Remember about a monitoring system controlling participants’ progress with the use of revision tasks.

E-learning is not only about asychronic communication forms such as a forum, e-mail, a board, comments or shared documents. It also offers a wide range of synchronic solutions, from widely available instant messengers to software/services supporting webinars and teleconferences.

E-learning means not only substantive content and multimedia, but also usability\(^\text{26}\) and accessibility\(^\text{27}\).

The esthetic value of materials is of no lower importance than the substantive one.

Be prepared for optimising the efficiency of the server for deadline periods.

If you really want to get the participants involved, you should consider adopting storytelling techniques, this is to say tell an interesting story with the use of e-learning.

Interactions are key for getting a user of an e-learning material engaged.

It’s worth taking advantage of materials published under a Creative Commons licence (as well as trying to create materials like that on your own).

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\(^{26}\) In Usability 101: Introduction to Usability (http://www.nngroup.com/articles/usability-101-introduction-to-usability/) Jakob Nielsen described usability with its 5 main features: learnability (how easy it is for users to understand the inner workings and learn the system during their first encounter with it), efficiency (once users have learnt the system, how quickly they can use it), memorability (when users return to the system after a break, how difficult it is for them to become proficient users again), errors (how often they are committed by users, how serious they are and how easily users can recover from them), satisfaction (how pleasant it is for users to use the system).

\(^{27}\) Accessibility is a feature of electronic solutions that ensures access to its full functionality independently of the used software, the type of the user’s device or other specific characteristics of the user such as disability.
**It acts as a catalyst for the development of ICT competences in an organisation**

- More quantitative and qualitative data for the analysis of the participants’ work
- A low barrier for entering the course encouraging self-development

**Disadvantages:**

- Laborious and time-consuming preparations – a high production cost
- Limitations may occur related to equipment or software
- They require at least the basic level of ICT competence
- Varied quality levels of the available materials
- It’s difficult to maintain a steady level of motivation in the participants
- A low barrier for leaving the course
- It’s necessary to possess a wide range of competences and a well-developed team
- Sometimes: low financial efficiency
- Gadget overload: following the path of technical development instead of meeting the users’ needs and defining specific educational objectives

Subject to evaluation is not only the outcome but also the whole process which led the team achieve it.

It appears that webquests, which may be compared to playing here and hounds in the Internet, haven’t quite entered their golden era yet. The materials (and especially their esthetic value) available on-line seem to suggest that this method’s potential has been developed so far only to a minimum extent. Nevertheless, there are reasons to believe that webquests’ potential will finally be exploited to the fullest, just as it was in the case of board games, which, after a long period of having been associated, stereotypically, just with a ludo board, are now in their heyday. According to the classical structure, a webquest includes the following stages:

- Introduction – a general, motivating description of the project.
- Task – instructions for particular groups and a description of the product to be created.
- Process – an overview of the stages that need to be completed to do the task.
- Sources (resources) – a list of links to the on-line resources necessary to complete the task.
- Evaluation (assessment criteria) – a summary of the project, sometimes including a presentation of ready materials prepared as a result of students’ work.

Practical advice

Webquest is a specialised form of blended learning. It is a kind of project method during which the participants try to arrive at a solution to a given problem using mainly Internet sources (selection of information and the skill of critical thinking being crucial here) and then, present the outcomes of their work.

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solution, one needs to think about their structure in a creative way, demonstrating a lot of flexibility. And, most importantly, students should be provided with broad autonomy.

**Where to search for inspirations for webquests?**

- http://webquest.org – a service run by the San Diego State University Department of Educational Technology, this is the university where the webquest method was invented.
- http://questgarden.com/26/10/1/060524172659/index.htm – an interesting example of a webquest (though with a clearly outdated design)
- http://www.teacherweb.com/tweb/webquests.aspx – a tool supporting the creation of webquests
Game-Based Learning

Core of the method

To cut a long story short, central to the idea of game-based learning are different types of didactic games including: board games, card games, big format games, theatrical games, outdoor games, computer games, mobile games, social games, and console games. A didactic, or a training game, is a well-thought-out training activity characterised by concrete content and a didactic objective going beyond the very fulfillment of a given action. The formal shape of the game is of no importance here – what matters is that the game has been especially designed or adapted from a game created for a different purpose to achieve the previously established and clearly defined learning objectives.

The idea behind incorporating games to a curriculum is that with the highest possible level of engagement and, at the same time, with absolute safety resulting from the lack of other than game-related consequences, we create a highly practice-oriented, inspiring and activating developmental environment.

Description of the method

As the very name suggests, a game remains at the very heart of the method. Yet what is equally significant is the nature of the related education process usually consisting of three main elements: introduction of rules, the very game, and a discussion. For the method to be truly efficient, then, it is necessary to choose a game that will be consistent with the established learning objectives, as well as to conduct a game in a professional way, exploiting its potential to the full.

A game can be made part of a curriculum in several ways. It can serve, for instance, as an introduction to a series of topics (players committing mistakes create a shared context for next classes) or a summary of a course (players take advantage of the whole of knowledge acquired during classes to achieve the highest possible result). It can also mark the beginning or the end of a course (in such cases subject to comparison are not only the obtained results, but also the strategies employed in the context of the input and output levels of knowledge), or even be used to assess the results (instead of a test, exam or any other form of this type).

A game itself includes three main stages: an introduction of rules, a game, and a summary-discussion. The last part requires a lot of preparation and attention on the part of the educator for it is primarily thanks to it that we can take full advantage of the game as a tool, provoking reflection in the players and transferring the experiences from the game into the realities of the daily life.

Advantages and disadvantages of Game-Based Learning

Advantages:
- A high level of the participants’ engagement
- A relatively low-cost simulation
- A high innovativeness level of games as a developmental tool
- The possibility of getting involved even the most conservative groups of students
- Developing educators’ teaching competences
- The highest potential in terms of shaping learners’ attitudes from among the available methods
- Provides students with an in-depth insight into the subjects presented with the use of the game
- Enhances the university’s image of a practice-oriented institution

Disadvantages:
- The moderator needs to devote a lot time and work to prepare it
- Games available on the market display different quality standards from the didactic point of view
- Games demonstrate different grades of efficiency in terms of shaping attitudes or enhancing knowledge and skills
If not conducted properly, a class may turn out to be overly play-oriented.

No or not enough of time for a follow-up discussion – not using the game to its full potential.

The triumph of form over substance – some learning objectives may be achieved more quickly and easily, not necessarily with the use of games.

Practical advice

**Where to get a game from?** The most important thing to bear in mind is that a game used as part of a course should fulfill the previously formulated learning objective. The educator or trainer conducting a class may choose from among the following alternatives:

- to purchase one of the ready-made didactic games available on the market,
- to commission a group of specialists with preparing a dedicated game,
- to use of the games available to borrow or made available under an open licence,
- to adopt a chosen entertaining game for the purposes of the educational environment, or to design a game on their own.

As far as the first two options are concerned, you should be prepared for an expenditure of around 700-17,000 zlotys for a ready-made training game (a licence for 10-48 players, depending on the title) or of 500-1500 zlotys for a single play of a computer game for a 20-member group.

If, however, a given person prefers to design a game on their own, the “GROWe granie” manual may be a good start, offering detailed advice on how to create one’s own didactic board game. You can also use the book “Włącz się do gry. Jak zorganizować grę miejską?”

In order to adopt an already existing game for educational purposes, it’s worth starting with a brief overview of its demo (in the case of computer and mobile games) or instruction (in the case of board games) which publishing houses usually make available in the form of PDF files. This will make it possible to carry out initial assessment of the game’s potential and move on to the second stage, i.e. giving a try to a few selected games. If we’re dealing with a computer/mobile game, this already means a concrete expenditure or purchase. In the case of board games, however, it can be minimised by participating in one of many meetings organised all over Poland by shops selling games, clubs, cultural centers, pubs or informal associations gathering board games fans. Indeed, it is already after several preliminary plays that a given game’s usefulness for educational purposes can be determined.

Finally, it’s time to say a few words about games available under an open licence. Especially worth mentioning in the context of

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Polska Akcja Humanitarna (Polish Humanitarian Organisation), *Włącz się do gry. Jak zorganizować grę miejską?*, [http://www.pah.org.pl/m/1307/W%C5%82%C4%85czy%C4%99%20do%20gry.%20Jak%20zorganizowa%C4%87%20gr%C4%99%20miejską%2085%3F%20Pakiet%20dla%20szk%C3%B3%C5%82%20zip](http://www.pah.org.pl/m/1307/W%C5%82%C4%85czy%C4%99%20do%20gry.%20Jak%20zorganizowa%C4%87%20gr%C4%99%20miejską%2085%3F%20Pakiet%20dla%20szk%C3%B3%C5%82%20zip) (access: 17.03.2015)
e-gov 2.0 and related topics are the following titles:

- “Rozegraj miasto”
  (http://konsultacje.um.warszawa.pl/content/gra-edukacyjna-rozegraj-miasto),
- “EnerCities”
  (http://www.enercities.eu),
- “Marketing manager”
  (https://www.nbportal.pl/rozrywka/gry/marketing-manager/gra)
- “That PM Game”
  (http://thatpmgame.com/) or its Polish counterpart:
- “Symulacja projektu EVM”
  (http://octigo.pl/inne-produkty/symulacjaprojektu-evm),
- “Matemaniak”
  (https://moodle.matemaniak.pl/course/view.php?id=3&section=9),
- “Buerokratopoly”
  (http://www.buerokratopoly.de/ – available in German),
- a series of “civic” games
  (https://www.icivics.org/games/), and many others.
Gamification

Core of the method

Technically speaking, gamification is not a teaching method. It should rather be thought of as a motivation method. Yet we’ve decided to include it in this work because of its unquestionable innovativeness, a huge potential and inspirational value. What, then, gamification is and is not?

Well, principally, its sense doesn’t reside in playing games during classes. For more information about playing didactic games, consult the section of this manual devoted to the Game-Based Learning method.

Gamification, on the other hand, aims at creating for the training participants a motivation system that will be based on chosen elements and solutions to be encountered in famous games and that will be engaging for the students to a degree ensuring changes in their attitudes in line with the established learning objectives. Such changes may include, for example, an increased attendance in a class, a higher frequency of students’ individual work, learners using tools previously completely unknown to them, elimination of the existing deficits in the participants’ social competences. In the majority of cases a gamified environment is
not actually a game. Solutions used in games are, then, here applied as elements supporting the educational process, rather than a complete and fully functional.

It should be added at this point that gamification is not an engagement method used exclusively in education. It has also enjoyed a number of successful implementations in many other sectors, such as business, management, HR, marketing and advertising, baking, personal development, operation of non-governmental organisations, as well as in other spheres of human activity.

Description of the method

The gaming elements most often enumerated in literature on the subject as the ones incorporated as part of the gamification process of didactic classes include: clearly defined objectives, including indirect objectives and the final one; challenges in the form of individual and/or group tasks; feedback in the form of progress bars or verbal/visual notifications in response to actions and decisions made by users; difficulty/advancement levels – a status, trophies and badges awarded for completing given actions (collecting); collaboration and competition – both for individuals and teams; different difficulty levels; virtual resources enhancing the development of potential (of an individual or of a team) and exchange between players; fighting against the boss in the big final; action sequences (motivation-action-result); personalisation; the player’s autonomy; the importance of the decisions and actions made by the player; exploration; winning/losing; communication channels shared with other players; the element of uncertainty/surprise; players’ interaction with the gaming environment and other players; an aptly told story (storytelling).

At the moment there is no universal gamification solution in Poland that could be used as part of different kinds of classes. However, one can/could attend several courses devoted to gamification at a few Polish universities in Kraków (including Tischner European University), Bydgoszcz, Opole, Warsaw, Nowy Sącz, Gdańsk and Poznań. Gamification solutions tend to be worked out by individual persons, educators who are particularly interested in the method. Therefore, it can be said that the method of gamifying classes in Poland has just entered the testing phase.

Advantages and disadvantages of gamification

Advantages:

- An extremely high level of getting the participants involved
- Developing educators’ teaching competences
- The possibility of getting involved even the most conservative (in relation to their age, environment, profession, personal experience, etc.) groups of students
- High innovativeness and motivational power of the tool
• Promotion of individual solutions and implementation of creative ideas
• Enhances the university’s image of an institution applying modern methods
• An ever bigger interest on the part of the academic world, from the point of view of both research and particular implementations, also in Poland
• A tool bringing about real changes in people’s behaviours

Disadvantages:
• Laborious and time-consuming preparation
• A relatively small amount of real-life and properly described implementations to be used as a source of inspiration in Poland
• Lack of stability – it’s easy to work out an ineffective gamification
• The issue of efficiency questionable from the point of view of financial costs, organisation and logistic costs
• Too big “playification” of classes (supremacy of entertainment over learning objectives) in the case of improperly conducted ones
• Gamification may easily transform into a manipulation tool (this is a frequently faced problem related to gamification in business, marketing or HR)
• No research so far on long-term effects of gamification on participants’ mentality and behaviours
• If there are flaws in the way classes are being conducted, gamification may not only not increase the participants’ motivation level, but, actually, decrease it, causing, at the same time, an increase in the quality of classes
• A source of frustration in the case of unreal objectives

Practical advice

The best way of learning is, obviously, learning from the experiences of others. It’s worth, for instance, having a closer look at the materials to the course designed by Lee Sheldon (Indiana University) referred to in primary sources as one of the first examples (and the most classic one) of gamification: https://gamingtheclassroom.wordpress.com/syllabus/.

And as for Polish authors, among the ones who have shared their know-how on the subject are:
• dr Michał Mochocki (Kazimierz Wielki University in Bydgoszcz)
  http://mmochocki.blogspot.com/2013/02/how-i-gamified-my-lectures.html,
• dr hab. Prof. UG Joanna Mytnik-Ejsmont (the University of Gdańsk):
• dr inż. Agnieszka Ławryniewicz and dr hab. inż. Mikołaj Morzy (Poznań University of Technology):
• dr hab. inż. prof. WSTI Marek Cieciura (Poznań University of Technology):
  http://www.cieciura.net/ua/
We enjoy collaborating and are open to new, shared projects

If you’re looking for a partner to a gamification-related project, write us to: grywalizacja@wse.krakow.pl
Agent-Based Learning

In IT terms, an agent is an individual operating in a concrete environment, able to communicate with users and other agents, monitoring the immediate surroundings and reacting to them – making autonomous decisions in order to achieve goals formulated during the process of designing the agent or its activity. The commonly known example best illustrating the way an agent works is that of... an assistant in the older versions of MS Office (a clip). An agent needs to be designed in such a way as to be prepared for receiving false data or not receiving it at all; can use symbols and abstract notions, as well as communicate in a natural language; carried out operations in real time; can learn from previous experience; can translate possessed data into pieces of information and these – into actual knowledge that he/she later takes advantage of.

Agent systems are used for simulating fragments of reality and examining in what way changes in one agent influence changes in other agents and, particularly, the entire system. It makes it possible to make approximate estimations or precisely identify optimal values for particular system’s components, optimal meaning allowing for the system to work in line with the user’s intentions.

32 Agent (programming), http://pl.wikipedia.org/wiki/Age nt_%28programowanie%29 (access: 17.03.2015)
Obviously, simulations based on agent systems are not flawless, one of them being that sometimes partly wrong/incomplete answers are submitted.

From the point of view of using agent systems in local government units, one of their key advantages is that they offer the possibility of enhancing knowledge management.

However, it needs to be emphasized that simulations based on agent systems require high implementation costs. Still, these costs may later on eliminate other ones (i.e. truly generate savings) that an organisation would have to incur in the case of groping in the dark and, as a result, not being able to identify the existing problems.

The course of the evacuation of local population in the face of a tsunami, according to different scenarios

Duration: app. 10 minutes
Language: English
Author: Banda Aceh
Title: Tsunami Evacuation Simulation for Banda Aceh, https://www.youtube.com/watch?v=w1nh58jfZ-s
Below we present a selection of tools (programs and applications) that can successfully form part of the process of designing educational classes. Needless to say, they should be used only when the educator feels a real need to do so. And don’t forget: these are just tools and whether or not they are be used properly depends to a great extent on the educator’s inventiveness. Importantly, the efficiency of the use of these programs and applications will also be determined by students – their technical limitations and the grade of their familiarity with the adopted solutions.

**Kahoot**

https://getkahoot.com

Kahoot is a free application for creating online quizzes. The application allows to add images and videos (via YouTube) and determining the time limit needed to respond. Most importantly, Kahoot works with mobile devices, enabling their use during classes. In addition, the results of a resolved quiz are exported to the xls file.
Wix

http://pl.wix.com/

A free application used for creating web pages easily, user does not need to know any programming language, a website is created only by means of editing images on the computer screen. The free version should meet expectations of most academics. The application can be successfully used for creating a course page or as part of home assignment.

Gliffy

http://www.gliffy.com/

A very intuitive application for creating online diagrams / patterns / charts and mind maps. The program allows to save the results of work in the form of image files, and after registration collaboration with other users. The application can be used by students to create for example various kinds of mind maps. Of course, thanks to the ability to save projects as graphic files, they can be used as a teaching aid or, for instance, as a complement to multimedia presentations.
Applications improving the look of teaching resources

**Canva**

[Canva](https://www.canva.com/)

A free application used for quick creating of attractively looking materials i.a.: presentations, posters, postcards, documents, business cards and graphics used by social networks. The application can successfully used as a tool supporting the creation of teaching materials.

**Animoto**

[Animoto](https://animoto.com/)

An application used for creating presentations containing text and consisting of photos and videos. The free version allows to create a five-minute presentation, the application contains a lot of ready-made solutions, thus preparing an interesting presentation which
does not require advanced graphic skills. Intuitively simple operation, makes that program a perfect tool to be successfully used during classes, e.g. as a form of task. Educational license allows free access to the full version of the program.

**Sway**

[Image: Sway.png]
https://sway.com/
The web application developed by Microsoft for creating interactive presentations and websites. The process of creating presentations is largely automated, the application helps customize the look of developed material with regards to aesthetics. In order to be able to use the program having a Microsoft account is required. The application can be successfully used as an alternative to standard multimedia presentations.

**Joomag**

[Image: Joomag.png]
An application is designed to create multimedia publications online, which are based on PDF files. Even the free version allows to create very advanced documents. It is possible to add interactive elements e.g. video or audio files, as well as ‘Share’ button on Facebook, to e-books. The application can be successfully used both for web publishing of teaching materials and promoting scientific research.

**Calaméo**

[Image: Calameo.png]
http://en.calameo.com/
The application is designed to publish e-books on the Internet. The publication can be created with PDF, DOC, RTF, PPT, PPS and XLS. It seems that the free version will satisfy the majority of academic users. The application can be used e.g. to distribute online teaching materials.

**PowToon**

[Image: PowToon.png]
http://www.powtoon.com
An application for creating animated multimedia presentations and animated films. The free version allows to create a five minute long presentation. The process is simplified by a large collection of ready-made templates. The application can be used as an alternative to standard multimedia presentations.

**Piktochart**

[Image: Piktochart.png]
http://piktochart.com/
An application for creating aesthetic infographics, the whole process takes place online. The purchase of the license for the pro version allows, among others, to access the template base and enables adding an unlimited number of one’s own photos and saving a result of work as high-resolution files. The application is perfect for creating
supplementary resources to multimedia presentations or, e.g. part of home assignment.

Easelly

http://www.easel.ly/
An application which helps to develop infographic, all activities are carried out in the Internet, the whole process is facilitated by access to free templates that can be edited and customized to one’s own input and requirements. The application can be successfully used for creating aesthetically-looking infographics enriching presentations and teaching process.

Postermywall

http://www.postermywall.com
An application for creating posters, the program allows to use prepared templates and edit them. The free version allows to save a file of average quality image containing a watermark of the logo program. The application can be successfully used to communicate with a group.
Applications for image edition

Gimp

http://www.gimp.org/

A free program for editing and creating 2D graphics, requires installation. From an academic teacher’s point of view, the program is a serious alternative to commercial tools. The program is indispensable when working with graphics files.
Applications for capturing image and sound

**Jing**
http://www.techsmith.com/jing.html
A free program used to capture images and videos (5 minutes) from the screen. The application facilitates inputting audiovisual resources (e.g. fragments of photos, maps, illustrations, etc.) into a slide. However, one should remember to respect the copyright.

**CamStudio**
http://camstudio.org/
CamStudio is a simple to use free tool that requires installation on a computer. Registered material can be saved as avi or swf. The program works well in recording what is happening on the computer screen. Such materials can successfully be a part of complementary element of activities, e.g. as a comment to a task.

**XMFreez Screen Video Capture**
http://www.smallvideosoft.com/screen-video-capture/
A free and user friendly program for recording audio and computer screen – screencasting.
The program requires computer installation and is well suited for recording any kind of instruction, which can then be used during the classes, e.g. by posting on YouTube.
Applications for processing image and sound

Movie Maker

http://windows.microsoft.com/pl-pl/windows/get-movie-maker-download

A free program developed by Microsoft. The program is used for film processing, allows simple editing operations (including trimming clips and combining them). The effects of work are saved as wmv file. The program is useful for working on an already prepared video or when it is necessary to shorten it.

Audacity

http://audacity.sourceforge.net/

A free program for sound editing and processing. The program provides solutions and capabilities comparable to paid tools. Audacity is perfect for working with e.g. videotutorials.
Applications for office work

Libreoffice

http://pl.libreoffice.org/

A free program offers a set of office applications, including word processing, spreadsheet and image editor. This is a paid alternative to MS Office and Open Office free (http://www.openoffice.org/pl/).

Text2Mindmap

https://www.text2mindmap.com/

A free program available on-line for creating mind maps. A created map can be saved as a jpg file by means of using one’s own e-mail account. The application is very good support during the conceptual work on a project and as a complement to papers prepared by students.
**XMind**

http://www.xmind.net/

A program used for creating complex mind maps. The free version allows use most of the basic functions needed to create a mind map, however, exporting maps to image files is disabled. The program can successfully support work on developing ideas for new activities and, e.g. be part of a final essay.

**Bubble.us**

https://bubbl.us/

A program used to creating a mind maps, is also available free version. These maps can be saved as image files and be share with other users. Like other applications for creating mind maps, this application is well suited to support the conceptual work of students, as well as a complement to written work.
Applications for increasing productivity

**Evernote**

[Image of grapes]

A popular free program used for making, store and organizing notes - including written, voice, and images form. The application allows to synchronize notes, e.g. between mobile devices and the desktop computer. It is worth mentioning about the additions to this program. With the extension to Chrome, Evernote Web Clipper (https://chrome.google.com/webstore/detail/evernote-web-clipper/piodplopdbeihjamjohnebfikjilc) it is possible to save web pages in a notebook, and thanks to Skitch (https://Evernote.com/intl/en/Skitch/) a user is able to take notes on pdf files stored in Evernote, however, the free version of the program allows to edit only 10 files. The program is ideal for the scientific work, allows quick listing of new ideas and inspirations.
Wunderlist
https://www.wunderlist.com/download/

A free program for creating to-do lists. The program can be installed on mobile devices and desktops, a task lists updates automatically. The program helps to establish and manage hierarchy of tasks.

Trello
https://trello.com/

A very useful application available on-line, social networking used to organize and supervise work of a team (it is possible to divide the process into individual tasks, assigning people to tasks and monitor the entire real-time). The application has a free version, which should be sufficient for academic purposes. The application perfectly suited to managing the work of the group.

Wiggio
https://wiggio.com/

An application is available on-line, used for organizing group work. The application allows to create a very friendly environment promoting teamwork. The application is well suited to support group work on a big project.

Padlet
https://pl.padlet.com/

A free application for creating "tables" on the Internet. On the board, one can place image files, links to resources (including web pages), images recorded with a webcam, as well as text and share them with other users. The application is well suited to support group work, as a place for storing the necessary information; It can also be used as a notepad or reading list.

Pocket
https://getpocket.com/

A free application (also available for mobile devices) for saving interesting information, so as to be able to use them at any time on any device. The application works well as support for taking notes, e.g. in research work when collecting materials.
Anymeeting

http://anymeeting.com/

A free program that allows to hold a teleconference which can be participated by up to 200 people. The program requires installation, there is also a possibility of buying paid version. The free version gives access to a vast array of services, including screen sharing and presentation. Anymeeting is a useful tool when conducting a webinar or consultation over the Internet.
Classes devoted to E-gov 2.0 – methodological recommendations

It is recommended to follow at least 90% of the suggestions offered here while preparing E-gov 2.0 study programmes and syllabi. What can be considered as optional to a certain degree is gamification whose successful implementation is highly dependent on the educator’s personal motivation. Yet, while choosing members of a teaching staff, it’s always good to have in the team at least one person who will introduce gamification aspects into his/her classes. Agent simulations (Agent-Based Learning) can also be thought of as a non-obligatory educational solution, destined for universities and institutions enjoying infrastructure and potential allowing for designing this type of systems.
We would like to highly recommend to you the following matrix of methodologies:

| The recommended level of the implementation of particular methodologies/tools at the level of:* |
|----------------------------------|----------------------------------|----------------------------------|
|                                   | M.A. Studies | Postgraduate Studies | Trainings (including summer school) |
| Educator’s presentations          | 5            | 5                   | 5                                 |
| Participants’ presentations       | 5            | 5                   | 2                                 |
| Flipped classroom                 | 4            | 4                   | 2                                 |
| Case studies                      | 5            | 5                   | 5                                 |
| Project-Base Learning             | 5            | 5                   | 1                                 |
| Web-Based Learning                | 5            | 5                   | 5                                 |
| Game-Based Learning               | 5            | 4                   | 2                                 |
| Gamification                      | 3            | 3                   | 3                                 |
| Agent-Based Learning              | 3            | 3                   | 2                                 |
| Electronic applications and supporting tools | 5 | 5 | 5 |
| Storytelling-based didactic game  | 5            | 3                   | 1                                 |
| Tools worked out as part of a project | 5 | 5 | 2 |

* on the scale from 1 to 5, where 1 means lack of necessity and 5 – absolute necessity.

Of value will be presenting as part of programmes key ideas related to Web 2.0 and – indirectly – inspiring the participants to introduce changes within their own environments, including: two-way communication; feedback; literary rather than formal, bureaucratic language; flexibility; speed; using/creating open resources; crowdsourcing, etc.

Participants of the education process should be involved in possibly most practical solutions, while classes ought to be based on personal perception and experience.

Inspiring implementations should be presented during classes that were chosen as a result of the first action of the E-gov 2.0 project. The participants are supposed not only to hear about them during classes or lectures, but undertake real interactions within these systems.

During works the participants should use real-life documents (e.g. budgets of local government units, directives, Town Council’s resolutions and internal organisational regulations) and, importantly, get access to them on their own, just as any other citizen (digging through public information bulletins, filing petitions, working in the access to public information mode, etc.).

Examples should also be presented illustrating unorthodox solutions adopted in chosen local governments in Poland relating not only to participation, but also...
to other aspects of local government units’ activity. The aim: providing inspiration for seeking new paths and introducing changes. Possible examples: Jarocin as a city with only non-public schools, IEM in Katowice as an example of territorial marketing, the presence of Wadim Tyszkiwicz, President of the City of Nowa Sól, in media (especially social ones).

As far as competences are concerned, we recommend the following shape of study programme and syllabi that will enhance students’ participation in the didactic process:

- problem-solving skills,
- decision-making skills,
- the ability to analyse a given situation and draw conclusions,
- the ability to successfully communicate and collaborate within a group.

It is good when part of the activities designed for students draw on the use of mobile technologies (QR codes, geolocation, smartphone pictures) and making them available in social media, etc.

The study programme should be designed in such a way as to provide learners with the opportunity to work both individually and as part of a team (this is partly reflected in the simulation scenarios presented below) during the development of projects.

All e-learning materials should be published on the Platforma Kształcenia Społecznościowego (Platform for Community Education).

**WeLearing** ([www.welearning.edu.pl](http://www.welearning.edu.pl)) (WeLearing Social Learning Platform). Additionally, it is recommended to take advantages of the materials already available on the platform by incorporating them into class programmes and syllabi. It is also advisable that chosen students’ projects acquire the form of developmental materials and are made available within the WeLearing platform as an Open Learning Resource.

It is recommended to implement, for the purpose of a didactic game, **Play by forum** formula,[33] as a relatively low-cost solution, flexible from the participants’ point of view. The formula is supposed to be used for 2 semesters, providing a background for the whole of designed study programme. The entire implementation would, then, combine game aspects with the elements of the project method, flipped classroom and blended learning.

Detailed recommendations:

- One main coordinator (moderator), but – certain points – supported by other members of the teaching staff of the E-gov 2.0 faculty/speciality.
- A game should be limited to one cycle only, but feature 3 implemented scenarios.

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33 Play by forum, [http://pl.wikipedia.org/wiki/Play_by_forum](http://pl.wikipedia.org/wiki/Play_by_forum) (access: 17.03.2015)
differing one from another in terms of content (social consultations, participations, conducting a campaign, the players’ different points of view), plot and the type of the players’ activity.

Within a given group the participants should appear both as part of a group (e.g. a team working for a given local government unit, informal group of citizens) and individual players (an employee in a given position, a citizen, an inhabitant of a given district in a given city/town): part of the actions undertaken by them as part of particular scenarios to be group actions, and some of them – individual ones.

A variety of roles assumed by a participant should stem from the content of particular scenarios, which we suggest to follow the scheme presented below:

The President and the City Council of the City of X (the players are employed in different departments of the X City Hall) have taken the decision to introduce the mechanisms of participatory budget in X. An order was sent to all departments to formulate organisational and tool guidelines for the implementation, along with budget estimates. Their work is to be based on shared documents (e.g. Google Docs or Padlet – see: previous sections) and negotiations between departments. In the meantime governmental teams are provided by the President and/or City Hall with new variables, such as: budget limitations, deadline limitations, technical requirements for particular IT solutions, remarks concerning legal conditions, etc. This team is mainly meant for team work during which the participants will sometimes collaborate with other teams, an on other occasions – compete or negotiate with them.

As part of the investments realised by the Y district
(neighbouring with the City of X) the construction of an incineration plant was planned; according to the preliminary location scheme, the plant will be constructed in the vicinity of the towns Alfa, Beta and Gamma. It so happens that the participants of the game (working daily in the neighbouring X City Hall) live in these towns. This time, they have to take part in social consultations, as representatives of citizens, and work out, together with officials, an alternative and compromise solution. In this scenario players act mainly on their own, sporadically as part of a team; they can both collaborate and compete with others (to agree on the exact location of the plant, what will be the benefits negotiated as part of an offset arrangement, etc.).

The Y district, inspired by the example of the neighbouring city of X, has also introduced a participatory budget. The pool amounts to 100,000. However, the value of each of the submitted projects is from 80,000 to 100,000. The projects were prepared by a group of citizens (teams of players – previously developed projects should be assigned to particular teams). Now, an information campaign begins, the mission of teams being to persuade the voters to choose their project. The role of voters (to ensure impartiality and draw only on communication with citizen groups): the teaching staff of a given faculty/speciality and representatives of the university's various departments, e.g. the Centre for Strategic Studies, the Center for Postgraduate Studies, the Center for Research and Analysis. Here, players
work exclusively as part of s teams, to a certain extent competing with the members of other groups.

As far as activities (including projects) completed by participants are concerned, these should be versatile, ranging from the preparation of presentations, the preparation and publication of videotutorials for citizens, the development of a social consulting strategy, the proposal of a participatory budget project (MS Excel). They are also supposed to use the IT tool adopted in the project (as well as use mobile technologies). See: the previous section on the project method. Scoring should be carried out both at the individual and team level and have a real influence of students’ final grades.
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