LEARNING ENGLISH WHILE EXPLORING THE NATIONAL CULTURAL HERITAGE: TECHNOLOGY-ASSISTED PROJECT-BASED LANGUAGE LEARNING IN AN UPPER-SECONDARY SCHOOL

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Abstract
The quality and content of English language courses offered in secondary schools require special attention as they affect many students who learn English as one of their school subjects. Despite curricular provisions prescribing balanced development of language competence and a number of so-called “key competences”, class work in Polish upper-secondary schools heavily focuses on developing students’ selected language skills and language systems, i.e. the areas that are tested during school-exit exams, neglecting civic competences (i.e. group work) and digital skills. It is suggested that technology-assisted project-based language learning can help remedy this situation. Accordingly, the aim of this article is to outline a class project that illustrates the integration of project-based learning approach in language (English) and content (Polish language and culture) learning, the execution of which necessitates collaboration in groups, as well as the use of technology. It is hoped that the presented project will provide inspiration and guidance on how to engage upper-secondary school students in meaningful project work so that the development of target competences can be facilitated.

Keywords: project-based language learning; technology; upper-secondary school

1. Introduction
According to a recent Eurydice report Key Data on Teaching Languages at School in Europe – 2017 Edition, “English is unquestionably the main foreign language learnt in Europe. (...) in almost all European countries, English is the first foreign language or the language learnt by most students during primary and secondary education” (European...
Commission/EACEA/Eurydice, 2017, p. 71). Needless to say, the quality and content of English language courses offered at schools require special attention as they affect many students who learn English as one of their school subjects. In Poland, efforts to ensure adequate foreign/second language (L2) education in schools have found their way into the Core Curriculum for Modern Languages – an official document that envisions the learning outcomes allowing school-leavers to effectively communicate in L2 in speech and writing (MEN, 2009). In order to achieve it, curricular provisions prescribe balanced development of all language activities (i.e. speaking, writing, reading, listening, spoken and written interaction, oral and written mediation) and language systems (i.e. vocabulary, grammar, pronunciation, spelling). Apart from the aims pertaining to language learning outcomes, the Curriculum includes so-called “key competences” (e.g. digital and civic competences), the development of which is viewed as essential for effective functioning in the modern world (Recommendation of the European Parliament and of the Council of 18 December 2006 on Key Competences for Lifelong Learning, 2006).

In practice, however, it appears that class work heavily focuses on developing students’ selected language skills and language systems, i.e. the areas that are tested during school-exit exams (Polish matura). English lessons are typically determined by various exam-preparation coursebooks and some learning outcomes stipulated in the Core Curriculum for Modern Languages tend to be neglected by Polish teachers of English. In particular, little attention is paid to developing civic competences (i.e. group work) and digital skills. Consequently, language education at the upper-secondary level may be neither stimulating nor comprehensive, depriving secondary school students of the necessary skills for adult life.

Project-based learning (PBL) can be regarded as a vehicle for helping students develop these important life skills. Among others, it allows students to engage in authentic activities, owing to which students have opportunities to learn while executing tasks, make decisions and solve problems in groups (Krajcik & Shin, 2014). PBL certainly has potential in L2 education – it can enhance students’ motivation to L2 learning and develop language skills. Kolber (2012) argues that PBL can enrich school instruction if a project is designed with reference to the Core Curriculum (p. 34).

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1 Currently, due to the ongoing reform in the Polish educational system, changes to the curricula have been implemented. Yet, the 2009 version of the Core Curriculum for Modern Languages is referenced to as it is still binding at the upper-secondary stage.
Regrettably, PBL is not applied in school settings on a regular basis (Kolber, 2012). One likely reason may be related to teachers’ insufficient familiarity with the successful use of PBL at the upper-secondary level. Specifically, teachers may find it challenging to understand what a language project at this educational stage may involve, what outcomes to plan, how to implement and evaluate this learning experience, being limited by significant time and institutional constraints.

In view of that, the aim of this article is to support school teachers by outlining a project that can illustrate the use of PBL at the upper-secondary level. The described project integrates content (Polish language and culture) and language (English) learning, along with digital and civic (group work) skills development. It is believed that the Polish language subject (for Polish students) can constitute valuable content as it can enrich students’ knowledge and develop the awareness of their own language and culture. Modern technology plays a vital role in the presented project. On the one hand, it facilitates the implementation of PBL by scaffolding the learning process and supporting group work. On the other hand, developing students’ digital skills is seen as an important learning outcome, which is to be achieved through planned activities implemented in the project.

Accordingly, the present study starts with an overview of the theoretical background concerning PBL, steps to be taken by the teacher and the characteristics of the students in the project. What follows is a description of technology requirements and skills needed by students and teachers to perform project activities. Although the tasks were designed for Polish students (i.e. requiring the exploration of the Polish culture)\(^2\), teachers in other countries can easily modify them to suit their own contexts. We hope that the presented plan will provide inspiration and guidance on how to engage upper-secondary school students in meaningful project work so that the development of target competences can be facilitated.

2. Literature review

2.1. Major principles of Project-Based Learning

PBL is a student-centred and inquiry-oriented instructional approach, defined as “a teaching method in which students gain knowledge and skills by working for an extended period of time to investigate and respond to an authentic, engaging and complex question, problem, or

\(^2\) The activities detailed in the current article constitute a part of a larger educational project, the aim of which was to evaluate the usefulness of gamification in developing key competences among upper-secondary school students. The project was implemented as an extracurricular activity in a Polish upper-secondary school in 2016/2017 academic year. For more details see Pitura and Chmielarz (2017).
challenge” (Buck Institute for Education, http://www.bie.org/about/what_pbl). It is a pedagogical approach that has been associated with situated and constructivist learning in which “students gain a deeper understanding of material when they actively construct their understandings by working with and using ideas in real-world contexts” (Krajcik & Shin, 2014, p. 275). Additional features attributed to PBL include in-depth inquiry, problem-solving and the application of critical thinking skills (Condliffe et al., 2017: 7).

The design of PBL experiences is governed by a number of principles, encompassing the areas of the curriculum, instruction, and assessment, as summarised by Condliffe et al. (2017). As regards curriculum design, it is recommended that PBL (1) starts with a problem to be solved by students, (2) focuses on learning goals related to school subject areas, critical thinking, self-regulation, and collaboration, (3) emphasises the process, owing to which student learning is made possible, (4) gives students enough time to conduct their investigation (pp. 5-7). Instruction in PBL, in turn, should (1) allow for construction of knowledge by engaging students in the process of inquiry, problem solving and critical thinking, (2) foster student engagement, (3) scaffold student learning by involving teachers, peers, materials, and technology in the whole process, (4) develop students’ autonomy, (5) necessitate collaboration (pp. 7-10). Finally, assessment in PBL should (1) address products created by students that demonstrate student learning, (2) provide opportunities for self-assessment, student reflection and teacher feedback, (3) allow for the presentation of student products to a wider audience (pp. 10-11).

Additionally, it is claimed that the use technology can foster PBL implementation and increase its effectiveness (Condliffe et al., 2017, p. 2). Krajcik and Shin (2014) regard technology tools as helpful in facilitating learners’ knowledge construction, finding, analysing, and sharing information online, collaboration, and developing multimedia products. Importantly, technology makes it possible “to extend what they can do in the classroom and serve as powerful cognitive tools that help teachers foster inquiry and student learning” (Krajcik & Shin, 2014, p. 287).

PBL is seen as an ordered process and includes a number of – variously named and defined – stages. For example, Fredricka Stoller (2006) enumerates them as follows: information collecting, processing, reporting, and evaluation (p. 27). Fragoulis and Tsiplakides (2009), following S. Kriwas, identify: “Stage 1: Speculation” (choosing the topic, raising students’ interest), “Stage 2: Designing the project activities” (group formation, division of labour, choice of methodology, sources of information, etc.), “Stage 3: Conducting the project activities” (information collection, analysis and synthesis, the display
of the final product), “Stage 4: Evaluation” (of the activities, aims and goals, implementation of the process, and final products) (pp. 114-115).

2.2. Project-based language learning

PBL has been viewed as an effective and meaningful approach to both L2 learning and teaching (Beckett, 2006). It has gained the attention of many L2 researchers and practitioners as its application offers the conditions that are conducive for L2 acquisition, i.e. the opportunities for language learners to be exposed to comprehensible L2 input, to produce output, to interact in L2 and receive feedback on their production (Gass & Mackey, 2015). Project-based language learning (PBLL) is in line with various concepts in L2 learning and teaching, such as experiential learning, learner autonomy, cooperative learning, and critical thinking (Beckett, 2006: 5). What makes this approach particularly suitable for L2 learning is the authenticity inherent in this process, i.e. authenticity of text, purpose, audience and interaction (Stoller, 2006: 28). Beckett (2006) enumerates the following language-related areas in which PBLL has been of particular value: content-based second language education, English for Specific Purposes, project-based computer-assisted English as a foreign language education, community-based language socialisation, as well as teaching critical and higher order thinking and problem-solving skills (p. 4).

According to Stoller (2009), several conditions need to be fulfilled in order to create a successful PBLL experience, which largely coincide with the general PBL design principles discussed earlier in this article. In particular, PBLL should: (1) be oriented both towards the product and the process, (2) at least to a certain extent be defined by students, (3) be longer than one class period, (3) integrate all language skills, (4) integrate content and language learning, (5) involve group and individual work, (6) charge students with their own learning, (7) result in a product, (8) allow for student reflection on the process and the product (p. 24). Kolber (2012) enumerates the following features of effective L2 projects: (1) clear goals defined together with students at the initial stage of the project, (2) clear instructions including the theme, aims and methods of work, (3) clear division of labour in groups, (4) products presented to a wider audience, (5) tapping on a number of modalities – aural, visual and kinaesthetic – while receiving and conveying information, (6) reference to the situations familiar to students (pp. 34–35).

As mentioned earlier, technology has great potential for enriching the learning experience in project work and has also been applied in PBLL. Various terms are used in the
literature – such as “project-based CALL” or “PBCALL” (Debski & Gruba, 1999; Gu, 2011), “project-oriented computer-assisted language learning” or “PrO CALL” (Jeon-Ellis, Debski, & Wigglesworth, 2005), “Technology-Enhanced Project-Based Language Learning” or “TEPBLL” (Dooly & Sadler, 2016) – to denote the model of instruction which “stresses the ability of new technologies to enhance language learning based on team and individual activity that evolves around meaningful projects created by students and shared with worldwide audiences” (Debski & Gruba, 1999, p. 219). Technology can enhance PBLL as it facilitate communication, interaction and collaboration among learners and teachers, as well as enable the production of multimedia artefacts and the presentation of students’ products to an audience (Gu, 2011; Debski & Gruba, 1999). Finally, technology in PBLL can be used with the aim of helping students “develop critical and creative thinking as well as the ability to produce and solve problems in a way that will have an impact on their lives and the lives of those around them” (Gu, 2011, p. 226).

Empirical research on PBLL has been growing in recent years. Research includes implementation reports (Tsiplakides & Fragoulis, 2009; Zhao & Beckett, 2014; Zhang, 2015; Petersen and Nassaji, 2016; Poonpon, 2017; Grant, 2017), studies on learner perceptions in PBLL (Kobayashi, 2006; Miller, Hafne, & Fun, 2012; Gibbes & Carson, 2013; Kuo, 2015), instructor experiences (Doherty & Eyring, 2006), studies on the effectiveness of PBLL (Simpson, 2011; Shafaei & Rahim, 2015), as well as studies that report the use of technology in PBLL (Debski & Gruba, 1999; Gu, 2011; Dooly & Sadler, 2016). The revealed benefits of incorporating project work in L2 settings can be grouped into three categories, i.e. benefits related to (1) knowledge, (2) skills and (3) attitudes. As far as knowledge is concerned, it is the consolidation of content learning that is seen as a significant outcome in PBLL. Regarding skills, gains have been reported with reference to decision-making, analytical and critical thinking, problem-solving, ability to function in groups, time management, cooperative learning. Among the attitudes, the following emerge: increased autonomy, independence, responsibility, a sense of ownership and pride in the project, stimulated interest, motivation, engagement, participation, enjoyment, improved self-confidence, self-esteem, positive attitudes towards learning, satisfaction with personal achievement, creativity (cf. Beckett & Slater, 2005; Beckett, 2006; Stoller, 2006; Tsiplakides & Fragoulis, 2009). On the other hand, some drawbacks have also been pointed out: the preparation and implementation of PBLL is time-consuming, teachers lack classroom management skills, and learners can perceive project work as difficult (cf. Gibbes & Carson, 2013).
All in all, despite its appeal, the design and implementation of PBLL with an appropriate use of technology can pose a challenge for school teachers. Based on our own success using PBL in school settings, the section below presents an outline of a project that may be relevant to L2 teachers at the upper-secondary school level. We hope that by presenting our project we will contribute to teachers’ increased awareness of the value of this approach to L2 learning and teaching.

3. Description of the project “Truth about us saved on walls and in literature”

3.1. Project overview
The project “Truth about us saved on walls and in literature” was developed in cooperation of an academic teacher / CALL researcher (Author 1) and a teacher of the Polish language and culture employed in an upper-secondary school (Author 2). It is an out-of-class activity that integrates content (Polish language and culture) and English language learning, involving the use of technology and collaboration in small groups. The project necessitates the creation of a product within a period of one month. During this time students collectively gather information and resources, process and report the results. The theme, aim, method of work, as well as the product are defined by the educators, however, students are given freedom in deciding which task to embark on, how and when to execute the task. The project results in an online article featured on students’ blogs or Padlets which can be accessed by the public.

3.2. The procedure

*Step 1*

The teacher divides the class into teams comprising 3-5 students each. In teams, students choose the team’s leader who will manage the team’s work throughout the project. Next each team chooses the team’s blogger, whose responsibility will be to start a free blog (e.g. [www.wordpress.com](http://www.wordpress.com)) and to update it with regular posts, describing in English what each member does in the project. The teacher stresses that each team member needs to be involved in the project as their engagement will be evaluated and their blog posts will serve as evidence.

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*3* The stages of the project have been designed to better meet class reality and conditions.
Step 2

Students are provided with the introduction to the project and two tasks to choose from. The introduction and task description can be made available via Google Docs – the link can be forwarded to students by email. Alternatively, the teacher can start a project website using a free website builder (e.g. www.weebly.com) and provide instructions there. The text (introduction and two tasks) which the teacher can forward to his/her students is detailed below.

Introduction to the project

You are probably familiar with the Polish saying Jak Cię widzę, tak Cię piszę, which actually means that people are often judged by appearances and behaviour. But it is exactly this – how we behave and look – that is captured by artists, in street art or in literature. I hope that the tasks below will make you think about what truth about our lives in the modern world is saved on walls and in literature. You have two tasks to choose from. Each team chooses ONE task only.

Task 1. What do Warsaw murals say about us?

Graffiti and murals take up much of the city space in Warsaw (Poland). Artistic murals have been being created for about 10 years and the local government has increasingly supported such cultural initiatives. Murals come in various sizes: from small to big, they evoke various reactions – they amuse us, move us, or encourage us to reflect. They often commemorate important events or people. We can also find murals that depict current issues, such as multiculturalism, which can be exemplified by a mural showing people that come from various parts of the world. Without a doubt, murals change and bring variety to the Warsaw landscape, and bring old and dilapidated buildings back to life. Warsaw murals are worth seeing because our past is captured in them, our tradition is preserved, and often the truth about ourselves and our generation is hidden there.

I would like to invite you for a walk around Warsaw to take a look at the murals and to discover ones that have not been discovered yet. Next you will do a task the aim of which is to get you to:

- reflect on important events and people in our history,
- reflect on the problems that people today have to face and on how artists see and capture us in street art
- practise the skill of taking a critical look at reality and commenting on contemporary phenomena in a specific literary form.

Your task involves writing a column article in which you will include your own reflections on one specific Warsaw mural showing a present-day topic, contemporary reality, our achievements, problems or weaknesses. Add a photo/photos of the mural that is the source of inspiration for your text. For more details see assessment criteria below.
Present your work in the form of an online column article. Publish your column (the text + photos of the graffiti or mural) on your blog page or you can try out Padlet (https://padlet.com/). A YouTube tutorial on how to use Padlet can be found here: https://goo.gl/fkDLqr. If you decide to use Padlet, publish the link on your blog.

Language of the text (blog, column): English.

Your work will be assessed taking the following criteria into account:

- compliance with the task and the literary form
- an interesting title
- current topic
- clearly specified aim of the text
- clear beginning and clear end/conclusion
- interesting and original approach to the topic
- language finesse (poetic devices – min. three)
- using digression and contrasts (subjectivism in evaluating the examples; critical evaluative vocabulary)
- emotionally charged vocabulary (for example, humour, joke, irony)
- expressing opinion, prevalence of comments over information
- conclusion – for example, surprising, encouraging the reader to reflect
- attention to graphic text segmentation; organising the text (introduction, main body and end/conclusion)
- correctness: English language, spelling, punctuation, style
- length: min. 200, max. 500 words

**Task 2. What does literature say about us?**

“Weading books is the most beautiful recreation that humankind has created” (Wisława Szymborska)

Leszek Kolakowski is an outstanding Polish philosopher. Not only is he the author of serious philosophical texts, but he is also the author of remarkable literary works. Admittedly, he raises philosophical topics, but in an allegoric and straightforward manner. *Tales from the Kingdom of Lailonia* (Polish: “13 bajek z królestwa Lailonii dla dużych i małych”) is an example. These tales, just like *The Little Prince* by Antoine de Saint-Exupery, can be read by people of different ages and each reader will find something valuable there. These are stories that are presented with humour, that raise important and timeless problems, provoking questions about the condition of humankind and the world, giving rise to various reflections. Leszek Kolakowski arouses our interest to ask questions and look for answers. So this is Lailonia – a country that does not exist on any map, which humans are prompted to look for out of natural curiosity.

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4 This task was inspired by the lesson plan designed by Justyna Sieradzka-Bizoń, available at http://legalnakultura.pl/pl/strefa-edukacji/strefa-dla-nauczycieli/scenariusze-lekcji/edukacja-filmowa
I am inviting you to have an adventure while you find out the protagonists’ secrets (and also perhaps our own secrets) and discover the extraordinariness of Lailonia (and also perhaps of our own country) together with the characters in one of the tales, entitled “Outrageous mints” (Polish: “Oburzające dropsy”).

I am inviting you to do the following task, which will help you to:

• reflect on the concept of stereotypes, mainly ethnic stereotypes
• consider the role that stereotypes play in social life
• learn about how stereotypes are created
• reflect on how stereotypes can be overcome
• look for and invent constructive solutions.

Your task involves reading the tale by the Polish philosopher, Leszek Kołakowski, “Outrageous mints” (In: Tales from the Kingdom of Lailonia & The Key to Heaven, a few sample pages available at: https://goo.gl/5882Kw). You will next present the content of the tale in the form of an online book: select artwork to illustrate it and create the text in English. Then add the continuation of the tale. Show what stereotypes are and how they are created. While continuing the story, look for solutions, pointing to ways in which stereotypes can be overcome. Present the content of this work in the form of an online book. For more details see assessment criteria below. Present the link to your online book on your team’s blog.

Present your work in the form of an online book. Use this tool to create your online book: Storybird (https://storybird.com). A YouTube tutorial on how to use Storybird can be found here: https://goo.gl/tQ5ejb.

Language of the text (blog, online book): English

Your work will be assessed taking the following criteria into account:

• creativity and originality in showing the topic and formulating the punchline of the tale
• word-picture symmetry (matching illustrations with text)
• interesting details
• comprehensibility of the composition and content
• aesthetics of the ebook
• English language and stylistic correctness
• length: 8-12 pages

Deadline for task submission: [the teacher assigns the date, 3-4 weeks is optimum time for teams to complete their tasks]

Send the link to your blog to this address: [e.g. teacher’s school email].

Leaders, do make sure that each team member is involved in task execution. Bloggers, remember to describe what each team member did during the task.
Step 3
Students work in teams on their projects outside of class and send links to their blogs on the stated date. The teacher encourages students to do parts of their work online using Google Hangouts or Skype, e.g. while planning and discussing their work.

Step 4
The teacher assesses teams’ products and assigns points taking into account the criteria listed in the task (language, subject matter) as well as each team member’s engagement in the project as described on the blog (assessment of group work). Suggested scoring:

- Language – max. 9 points
- Subject matter – max. 20 points
- Group work – max. 6 points
- Total – max. 35 points

The teacher sends the score and individual feedback to each team on: 1) language, 2) subject matter, 3) cooperation in the team. The teacher announces the results – team scores can be displayed in the class and/or on the project website. Additionally, the teacher can add links to teams’ blogs on the project website.

Step 5
The teacher carries out the evaluation of the project by asking students what they have learned, what they liked, what was challenging for them and how they dealt with the problems, etc.

3.3. Technology requirements and skills
The teacher needs to have a computer/laptop and access to the Internet to provide project details and later to assess teams’ work. A projector will be useful while introducing the project and showing the results. The students need their own computers/laptops and access to the Internet to participate in the project.

General computer/digital literacy is needed to carry out the project. No previous knowledge of the applications or online resources is required – the teacher and the students use YouTube tutorials while working towards their projects.
4. Discussion and pedagogical implications
The aim of the current article is to present a structured PBLL activity that can be implemented in an English language classroom with upper-secondary school students. The outlined project illustrates the integration of PBL in language (English) and content (Polish language and culture) instruction, the execution of which necessitates collaboration in groups and the use of technology. This project turned out to be meaningful and inspiring for students in our own experience – teams enjoyed group work and fully engaged in the project execution outside of school. The written output in English – blogs and columns – was shared with a wider audience, which contributed to students’ sense of achievement, satisfaction and group pride.

The described project aims to show that the use of PBLL to integrate content and language learning can be an innovative vehicle for modern didactics. We observe that in a PBLL learning environment students have a chance to learn faster and easier while the acquired knowledge seems to be longer-lasting. If a project is designed and enacted in a carefully planned and principled manner, students are not bored and teachers can achieve the intended educational goals.

It is worth emphasizing that the integration of various school subjects is possible, even of the subjects that, apparently, do not have much in common, such as Polish, English, cultural studies, and Information Technology. By editing a column about contemporary reality in the English language, and then by posting it on a blog or Padlet, students – first and foremost – consolidate their knowledge about the genre form and the principles of writing a column. Additionally, they nurse the culture of the word on the Internet and linguistic and grammatical correctness – both in Polish and in English. Finally, it is an appropriate exercise to develop the ability to critically look at the reality and comment on contemporary phenomena in a specific literary form on the Internet in a cultivated manner.

By combining content and skills in a PBLL activity teachers can show students that the acquired knowledge serves a purpose and is useful in many areas. This approach stimulates and develops students’ thinking and enables students to notice that what they learn from books at school is not detached from everyday life. Additionally, independent work on the chosen problems gives the teacher a chance to raise student commitment and interest in the topic.

Another undeniably positive effect of PBLL involves the development of skills associated with adult life. Students can practise the art of being part of and communicating in a group, i.e. expressing opinions, listening to the opinions of others, resolving conflicts,
making group decisions, keeping deadlines and undertaking the assigned duties. This kind of instruction enables young people to adopt a strategic approach to their own learning and to take responsibility for their decisions.

Being aware of the fact that new technologies constantly accompany young people both at school and in their pastime and that technology and the Internet are part young generation’s life, this project accommodates the use of modern technology. It follows young people’s need of being part of the digital world, but it also allows for the development of new digital skills. Teachers should not resist something that has already become a fact – it is worth giving students freedom to acquire and consolidate knowledge with technology, at the same time teaching them how to use it effectively and wisely.

Conclusion
Changes in educational practice are necessary – they should follow the civilisation trends in order to genuinely assist modern students in their development. For this reason, teachers need to apply the pedagogical solutions that allow for the acquisition of essential knowledge and skills for a fulfilling life in adulthood. PBL certainly has potential to address this need, yet, it seems that there is not enough problem-based instruction in L2 education at the upper-secondary level – the problem which may be caused by teachers’ uncertainty related to the usefulness of technologically-enhanced PBLL. We hope that our project sheds some light on the specificity of technology assisted PBL in L2 education and that it will be of interest to English language teachers who will find these tasks appropriate for their upper-secondary school students.

References


Kolakowski, L. (1989). Tales from the Kingdom of Lailonia & The key to Heaven. Chicago: University of Chicago Press. Retrieved 21 January 2018 from https://books.google.pl/books?id=GqJgs5-2i3EC&pg=PA71&lpg=PA71&dq=leszek%20ko%C5%82akowski%20outrages&source=bl&ots=gvAw54hx eR&sig=w-XXimr-Ezf3z4wV5rEtFg23y1o&hl=pl&sa=X&ved=0ahUKEwi7wc3cwUYAhVLBsAKHRF_BNQQ6AEiN jAC#v=onepage&q=leszek%20ko%C5%82akowski%20outrages&f=false


nauczycieli/scenariusze-lekcji/edukacja-filmowa](http://legalnakultura.pl/pl/strefa-edukacji/strefa-Kla-
nauczycieli/scenariusze-lekcji/edukacja-filmowa).


What is Project Based Learning (PBL)? (n.d.). Retrieved 29 December 2017 from [http://www.bie.org/about/what_pbl](http://www.bie.org/about/what_pbl).

