PROJECT METHOD IN EDUCATIONAL PRACTICE

Maciej KOŁODZIEJSKI[1]* – Małgorzata PRZYBYSZ-ZAREMBA[2]

[1]Faculty of Humanities and Social Science, Karkonosze College in Jelenia Góra, Poland
[2] Department of Pedagogy of the Family,Cardinal Stefan Wyszyński University in Warsaw, Poland
*Corresponding author E-mail address: kolomaciej@poczta.onet.pl

Abstract
This text is of theoretical-practical character. It presents both the general characteristics and assumptions of a project method in the context of its application in the educational practice and also its plentiful values when used in education have been underlined. What was indicated was the selected examples of educational areas (including pre-school education, early-school education and also education in the following subjects: physics, (foreign) languages, geography, economy, business basics, prevention and health promotion,) in which this method is used. The summary presents the phases of a project and defines the teacher's and the pupils' roles. The outlined features of the text constitute the material to be used by pupils, teachers, students and methodologists in the educational practice.

Keywords: Project method. Education. Pupil. Child. Teacher. Educator.

1 Philosophical-theoretical context of the project method and the progressivism in the background

In case of the project method, which has become a generally acknowledged teaching method and also the symbol a progressive education, everything became clear when in 1918 the American pedagogue William Heard Kilpatrick (an experimentalist and a progressivist) publish an article bearing the same nomination *'The Project Method'* [1], **the theory constituted the result of practical experiences,** where encouraging pupils to group-work, to compete and abandonment of assessment became **the foundation of project thinking and acting** [2]. William Heard Kilpatrick (1871-1965) thought that school should be more society-oriented, focused on child and praising the rules of democracy and pluralism. The innovative educational thinking included joined learning, team-work and leam-learning, individualisation of learning being enriched with the elements of experiencing the school actions [3]. In one of his claims, John Dewey stated that W. H. Kilpatrick's works 'create a significant and, practically, one-and-only contribution to the development of a school society which is an organic element of a living, developing democracy' [quote after: 4]. However, the essence of the philosophy of this method is based in **progressivism** as the form of objection towards **formalism** (where too much attention is given to the rules and the external forms of action) [5] or it can be comprehended as a viewpoint in philosophy, science and art according to which the form is the factor deciding about the cognitive, ethical and aesthetic values, **verbiage** (that is verbal education deprived of the opinion and notional foundation (verbiage is verbal teaching, deprived of the opinion and nomination base) [6], imposing the verbal style applied in the educational methods and the transmission of knowledge) and **authoritarianism** being present in the traditional systems of education and upbringing [2] where the current system of values demands the unconditional subordination to the norms and orders of the authorities [7] or it can also be associated with the person-related factor as the personal character feature which makes an individual look for an authority to which they can subject [7]. The progressive concept of education announces the ideas referring to the freedom from the traditional teaching associated with the student-book authority, memorising the obligatory material and reciting the knowledge being taught in class and on the contrary they postulate the implementation of the rules of **learning through acting and experiencing, problem-solving** as well as **problem method** [2].

The concept of life-long learning, being rooted in the American assumptions of progressivism and education delivered by John Dewey, is still effective when related to contemporary school as **the learning organisation.** The characteristic features of the progressive education can be presented in the table below:
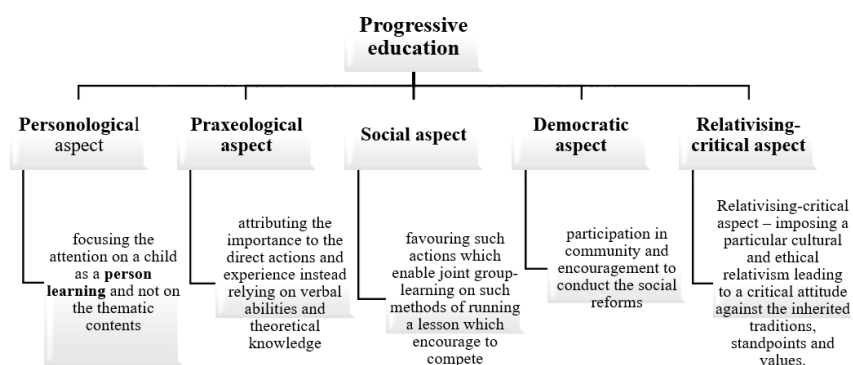

Fig. 1 Progressive education features. Source: (author's) own elaboration based on the literature [10]

Learning and teaching based on **the project method** and on J. Dewey's empirical, practical and directional philosophy both take place in the relations between the pupils and the teachers and the structure of this relation and the school itself oriented at social learning was formed through the industrial culture which happened in the period of the rapid economic growth and industrial economy in the USA mainly thanks to the technological revolution and the innovative means of information processing [8]. As the result of these economical-social changes, the focus in the philosophy of education was shifted onto the active application of knowledge so that it can be explored, researched, interpreted and created. At the same time, the foundations of knowledge did witness pupils' emancipation oriented at the active participation and engagement in the process of the creation of knowledge. The pupils noticed the advantages of education based on the projects in which they experience the multiple manners and forms of learning through their engagement [8]. Thus, the very project method, known as such in Poland, in the USA was called by W. H. Kilpatrick himself 'subjective philosophy of education' and not an objective teaching method, and owing to this fact, its author was seen as 'an outsider' in his own country [1]. The very essence of this method was an attempt of explanation of manner in which pupils do learn while using the projects at work [9]. Apart from the significant contribution by John Dewey, the inspiration for the American progressivists acting in favour of the transformations in education were the accomplishments of some West European education reformers among whom there were [2]:

- **Jean Jacques Rousseau** – upbringing in accordance with the laws of nature and eliminating the use of obligation, education adjusted to the process of education and upbringing, to child's interests and needs,
- **Johann Heinrich Pestalozzi** – objection to knowledge-transmission by the teacher, education is not only the transfer of theoretical knowledge, education must also consider all aspects of child development (emotional, intellectual and physical), education can take place in the environment safe to a child, a human being learns through senses,
- **Sigmund Freud** – a child who is made by their parents to be unconditionally obedient suppresses their natural drives; suppressing these drives leads to neurotic behaviours.

2 General assumptions and values of the project method

The assumptions of the project method can be presented as follows:
- imposing the experimentalist frames,
- combining target with activeness,
- testing the foreseen consequences of the intended actions in practice,
- undertaking the organised action taking the form of work stimulating target-oriented activity,
- democratic selection related to themes, exercises and planning,
- problem identification and solution as the theoretical target of the project method,
- individual work and group work,
- task-oriented process of learning, as the condition of a successful proceedings was solving the problem and testing of this solution in practice,
- the planned action must be verified in practice and assessed on the grounds of the effects caused by them [2].

Types of projects suggested by W. H. Kilpatrick [2] are presented in the drawing below.
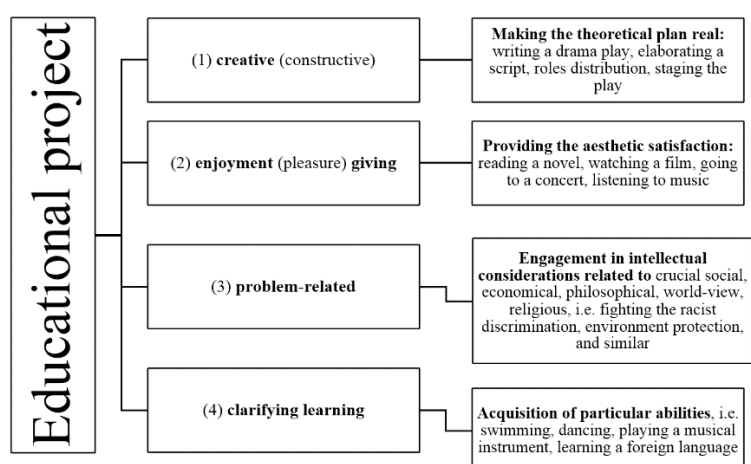

Fig. 2 Types of projects by W. H. Kilpatrick
Source: (author's) own elaboration based on the literature [2]

3 Advantages of the project method presented subjectively

From the pupil's perspective the project method is characterised with four rules which interact with one another and they are:
1) Action target determination.

2) Planning.
3) Realisation of practical actions with the aim of achieving the defined target.
4) Evaluation of the project results [9].

What must be underlined as **advantages of this method** is its educational, social and integrating potential, especially:
 - enabling the realisation of educational activities (with cognitive, educational and upbringing targets – and also therapeutic ones in case of projects bringing the emotional satisfaction),
 - developing the interrogative (way of) thinking, abilities of creative, concept, analytic character,
 - forming the aesthetic sensitivity, achieving the emotional satisfaction,
 - mastering one's intellect,
 - mastering one's particular abilities,
 - mastering the ability to group-work, co-operation and responsibility for one's own work,
 - significance of a team-work adjusted to hobbies of particular team members,
 - sharing the results of community work,
 - forming the democratic habits,
 - upbringing the people respecting the rules of democracy and free elections,
 - forming the moral attitudes,
 - developing the experimental mentality,
 - developing the readiness to verify some traditions, values and beliefs transmitted from generation to generation,
 - facing the challenges and formulaic solutions,
 - developing the divergent thinking,
 - going beyond one's possibilities, developing the transgressive thinking,
 - enabling running the discussion and developing the ability of considering arguments 'for' and 'against',
 - a human being lives in the society which is learning and the knowledge is not constant and stable but dynamic and inconstant,
 - everybody can apply the research methods,
 - there are no theological, metaphysical, political nor economic certainties which are considered as dogmas making a human being impossible to examine various aspects of existence,
 - developing the critical thinking and 'borrowing' some ideas from other co-learners,
 - making a decision with respect to the rights of majority and minority [2, 10, 11, 12, 13, 14],
 - and the possibility to express one's opinions, thoughts, ideas regardless of the opinions and beliefs of the adults [15].

4 Selected examples of the project method application in educational practice

The project method is widely applied in many educational areas, but, unfortunately, in practice it is still of little priority in everyday education. At the level of pre-school and early-school education the range of its application is hardly visible in child education. The academic literature sparsely presents the *strictly* methodological dissertations displaying the application and effectiveness of this method when used at working with children.

The American academics (Olivia N. Saracho and Bernard Spodek) highlight that the application of this method (it was the project method by Kilpatrick's that was used) was attempted in 1930s in it was gradually introduced into **American schools** and in 1960s this method dominated in child education at state schools. This method constituted a kind of a bridge between the class-group being isolated and the local area which surrounded the children. Based of Kilpatrick's work (1914), the projects became a vital part of child educational programme already at the level of **pre-school and early-school** education. The researchers indicate that in the project method children can acquire the knowledge actively participating, experiencing and being affected by it. As Olivia N. Saracho and Bernard Spodek put it: *'Children can raise the chickens, count the eggs which they collect everyday and every week, (they can) mix the feed for the chickens'; 'By planning, measuring and cutting the wooden planks which they need, kids can build a wooden construction'* [16]. The natural actions and child's engagement in the social life of their area, (pre-school) school and their locality is the best way to make children learn within their family. The educational situation created on family-basis trigger children to be more active at the level of school education. It was in 1911 that Margaret Macmillan establishing the first pre-school in England promoted children's physical and mental development by using their activeness and imagination. Through various types of games and kid-plays (including some construction materials, like bricks) she taught children mathematics, gardening and the older children were taught reading and writing [17]. Also at Maria Montessori school the project method was applied at working with mentally disabled children. Basing on the works by Freidrich Froebel and Edouard Sequin, she elaborated the educational strategies and materials adjusting them to the disabled children and subsequently to children who were growing up without any disabilities [18]. Montessori assumed that by using their senses, children acquire their knowledge related to the world. Therefore, she created a lot of materials which she used in the sensory education and her programme mainly based on 'exercising in real life.' Her elaborations aimed at

helping the children in acting (children were to be self-sufficient.) For instance, children individually worked on materials which were helpful at their acquisition of the basic abilities indispensable in mathematics. For this purpose the set of golden beads – helpful with mathematical operations – was used [18].

In contemporary education of children, the youth and also adults the project method is used in practice by teachers, practitioners, methodologists, however it is seldom that it is the main method used in educating pupils. Even though the Decree of the Minister of National Education of 20th April, 2010 *concerning the conditions and manners of evaluation, classification and graduation of pupils and students and conducting tests and exams at schools* imposes such an obligation on the secondary schools to provide the pupils with the conditions to execute some educational projects. In accordance with the point 21a of this Decree '(…) an educational project is a combined, planned action of pupils and it aims at solving a particular problem with the use of various methods. The educational project is supervised by a teacher and it comprises the following steps: 1) selection of project name; 2) defining the project aims and planning its realisation phases; 3) executing the planned actions; 4) public presentation of the project results' [19].

The academic literature provides some publications presenting the application of the project method in school learning in relation to various subjects, i.e. while learning the knowledge of **physics** in which the project method plays the role of so-called 'little laboratory of life,' that is learning through experiencing, learning through searching, learning the proper ways of acting (comprehending) and also learning the critical reflectiveness. The teacher only plays the supportive role in the global dimension, i.e. supervising the development of positive interactions among the pupils and helping the pupils become a group and as well as mediating between the group and the didactic-upbringing environment. The teacher is supportive at their elaborating their own projects, defines the expectations, accompanies at taking the decisions, informs, helps, supports in the related areas of perceiving, discovering, defining, verifying, applying and mastering the project [20].

The application of the project method in educating the children and the youth can also be found in teaching **the foreign languages.** In the article entitled *The project method or just a didactic ornament?* Magdalena Kolber depicts the rich advantages of the project method in the context of its application in foreign languages teaching. The authoress underlines that 'a good project makes school education more profound, is related to the subject curriculum and meets the pupils' needs' [21]. What is important in the effectiveness of the application of this method in foreign languages teaching is presenting the benefits resulting from their presentation to learners. Among others**, clearly defined targets** must be indicated and they should be defined along with the pupils; **proper instruction** which comprises the theme, the realisation targets and forms; **simultaneous acquisition of knowledge and abilities** – teaching (foreign) languages at school is constantly perceived as a series of abstract-verbal actions which are both performed by them and by teachers; **clear division of responsibilities** which helps to eliminate the misunderstandings; **public presentation of the work results** which dramatically increase pupils' educational competences; **stimulating various channels of information reception and transfer -** it deals with the aural, visual and kinaesthetic channels; **referring to situations familiar to students** – the more practical the project from the pupils' perspective, the bigger will be their motivation [21].

This method is widely used in **prevention and health promotion.** Magdalena Woynarowska-Sołdan in the article *Action Research method and its application in health promotion* depicts the usage of the method *Action Research* (AR – *Action Research* – research in acting) in elaborating the preventive programmes related to health promotion. The authoress highlights that the foundation of the AR method is the combination of three basic elements: **'research** – providing new knowledge and experience, possibilities of achieving practical targets, drawing the conclusions from actions; **acting** – the change in the situation of a particular group, organisation or a community; **participation** (co-participation, co-operation, making the subjects under research active) – a process which is participated by all researchers, practitioners: particular people from a particular group/ community' [22]. What is important in this method is the research and acting which takes place in the individual's natural environment (there are no control groups, it is not an experiment), it favours planning and monitoring the changes in practice in particular environment (group, locality). The action is a research tool [22]. The AR method is a process in which the research and practical activities is of the following character: **periodical/cycle**- it includes the following successive phases. They are: '4-phase cycle: planning – acting – observation/ gathering information – afterthought/ discourse; 5-phase cycle: diagnosis (problem identification) – planning of actions – acting – evaluation – specific learning (results identification); and also the **spiral** character – the AR process is not a simple one and seldom does it happen that everything that was planned has been completed. The evaluation results frequently underline the necessity of undertaking the further steps in this direction as well as implementation of changes and perfections in the already-prepared project [22].

At all of the educational levels the project method can be used in forming the **economical** competences which would be useful when establishing and running one's own business. The example of such can be the project entitled: 'You can become a business person' a grant by the National Bank of Poland in 2002 and oriented at students and teachers of secondary (level of) education. The purpose of this project was the promotion of activeness and entrepreneurship among the secondary (education) students, providing the students and teachers with the know-

Table 1 Phases of a project and the teacher's and the pupils´ actions

Phase	Teacher's actions	Pupils' actions
1. **Project initiation**	• preparing pupils to work using project method • getting acquainted with the method • raising the interest • elaborating the instruction of project realisation • discussing the possible manners of project realisation • presenting the evaluation criteria, and others	• getting acquainted with the existing examples of project • viewing the ready sample projects • expanding the knowledge on working with the project method
2. **Drawing up the contract**	• preparing the contract • getting the students acquainted with the work rules of project method – paying special attention to pupils' responsibility for the educational process • discussing the rules of group-work • setting the rules of work between the teachers and pupils	• getting acquainted with the contract • discussing the written rules • accepting the rules in the contract • signing the contract
3. **Selection of a theme**	• helping with selecting the theme • indicating the thematic range • defining the problem situation • making the pupils interested	• introductory studying of the information • defining the thematic range • formulating the research problems
4. **Dividing into groups**	• helping with dividing the participants into project groups **Important:** it is worth organising the group-work in such a way so that the final result would depend on each pupil's work	• organising the project groups • introductory distribution of tasks
5. **Defining the general and particular aims of a project**	• helping with defining the general and particular aims • paying attention at the project key elements • making the aims the operational form	• dividing the material into task units • operationalisation of the general aims of education – defining the aims so precisely that they would constitute the description of planned actions
6. **Preparing the work schedule, tasks distribution**	• setting the dates of consultations • helping with tasks distribution	• preparing the work schedule • defining the particular tasks and planning the date of their realisation • preparing the introductory project description: theme, aims, tasks • presenting the people responsible for the particular tasks
7. **Selection of literature and searching the knowledge sources**	• helping with the access to literature and other materials as well as information sources • helping with the proper use of various materials (instructing how to use encyclopaedia, dictionaries, classifications, and others)	• searching the information • viewing the data • selecting the literature and other sources of knowledge
8. **Project realisation**	• counselling • ensuring the possibility of expert consultations (optional) • consulting the project realisation • observing the work of particular groups and each pupils individually • indirect managing the project realisation in situations when pupils signal some difficulties with presentation of possible forms of project results	• working on particular research problems • analysis of material • confronting various viewpoints • group-discussion • elaborating the project results • preparing the project realisation report/ account • preparing the presentation plan of project results
9. **Presenting project results**	• listening to the inquiries being made • getting acquainted with the project realisation report/ account	• each participant of a group individually presents the results of particular elements of the project • group-discussion
10. **Project evaluation**	• carrying out the evaluation of work of every group-member with paying the special attention to their engagement, labour, problem-solving process • making the evaluation of the group-work as the whole in accordance with the criteria defined prior • indicating the possibility of further work • correcting mistakes • praising the group members' creativity	• taking the self-assessment • discussion on the input of each group-member in the work • evaluation of the group-work as the whole

Source: The table cited directly from [26]

how related to how to become a business person and the significance of the private sector of entrepreneurship in Polish and regional industry [23].

The project method is also widely used in educating university students. Małgorzata Cichoń and Iwona Piotrowska present the forming of the key competences of the students of **geography** with the use of the project method. Using the example of an essay and and a review and the combination of these two with the project method, the authoresses conducted the research among the students of Adam Mickiewicz University in Poznań (Poland)

which resulted with the conclusion that the combination of these three elements (the project method, a geography-related essay and a review) constitutes a successful strategy of forming the key competences. According to the authoresses, the competences being developed through the individual acquisition of the knowledge should be complemented with the knowledge assimilation and valorisation methods. Whereas the combination of the different teaching methods increases the possibility of the formation of various competences at the higher level. The research also proves that the students mastered the individual form of learning and communication at a very high level. At universities the project method is mainly used in **teaching the business basics**, which, unfortunately, is only used twice during the whole period of studies. The authoresses underline the plentiful advantages of the application of the project method in university students' education, i.e. it develops comprehensively beginning with creative, conceptual competences, through the organisational the acquisition of which facilitates the everyday life in the contemporary world. However, due to various reasons, it is seldom possible to use the project method in educating university students [24].

The project method is widely applied in education at every level of development. Its application, however, requires the proper knowledge and competences from the teacher who supervises its realisation. Nonetheless, "**the key factor to a successful project method is to convince the pupils/students to accept the responsibility for the actions defined in the project**" [25].

5 Conclusion

The application of the project method in child's (a human being's) education has a great significance for their development as well as the act of knowledge acquisition and use. The greatest advantages of this method were presented in the first part of the text. However, there are no elaborations in the literature which would confirm the effectiveness of this method being implemented to the day-to-day education of a child (we mean the use of this method in realisation of all of the educational subjects which are completed by a pupil/ student at the particular phases of their education). The sparse research presented in the literature considers only the fragmentary range and area which is under the researcher's interest. Thus, what is highlighted is the necessity of conducting wider and more profound research which could be of national and even international dimension.

As the summary, we wish to indicate the actions and phases which should be undertaken/ realised by the teacher introducing the project method into working with children (pupils), including the pupils' actions, which not only will support the quality of this elaboration but also this elaboration can serve as an adjuvant methodical material for teachers and methodologists working with children (pupils). Table 1 presents the phases of a project and particular actions undertaken by the teacher and the pupils.

References
[1] Knoll, M. (2012). "I Had Made a Mistake": William H. Kilpatrick and the Project Method. Teachers College Record, 114(2), pp.1-45.
[2] Gutek, G.L. (2003). *Filozoficzne i ideologiczne podstawy edukacji,* GWP, Gdańsk 2003, pp. 261-262. [Eng: *Philosophical and ideological foundations of education*]
[3] Tenenbaum, S. (1951). William Heard Kilpatrick: Trail Blazer in Education. New York: Harper.
[4] Beineke, J.A. (1998). And There Were Giants in the Land: The Life of William Heard Kilpatrick. New York: Lang.
[5] Formalizm. In *Słownik Języka Polskiego PWN* 2017. 9online]. [cit. 2017-11-20]. Available: http:/www. sjp.pwn.pl.
[6] Werbalizm. In *Słownik Języka Polskiego PWN* 2017. 9online]. [cit. 2017-11-20]. Available: http:// www. sjp.pwn.pl/
[7] Autorytaryzm. In *Słownik Języka Polskiego PWN* 2017. 9online]. [cit. 2017-11-20]. Available: http:/ www. sjp.pwn.pl
[8] Maida, C.A. (2011). Project-Based Learning: A Critical Pedagogy for the Twenty-First Century. Policy Futures In Education, 9(6), pp.759-768.
[9] Sutinen, A. (2013). Two Project Methods: Preliminary observations on the similarities and differences between William Heard Kilpatrick's project method and John Dewey's problem-solving method. Educational Philosophy & Theory, 45(10), 1040-1053. doi:10.1111/j.1469-5812.2011.00772.x
[10] Kozielecki, J. (2001). *Psychotransgresjonizm – nowy kierunek w psychologii*, Wydawnictwo ŻAK, Warsaw 2001. [Eng: *Psychotransgressionism – a new direction in psychology*]
[11] Królikowski, J., *Projekt edukacyjny,* CODN, Warsaw 2001. [Eng: *Educational Project*]
[12] Ciesielka, M. (2008), *Metoda projektów w rozwoju kreatywności uczniów, „*Technika, Informatyka, Edukacja*"* T. 9 pp. 120-125. [Eng: *Project method in pupils' creativity development]*
[13] Ravitch, D. (2010). A Century of Skills Movements. Education Digest, 76(3), pp. 44-46.
[14] Bickel, F. (1994). Student Assessment: The Project Method Revisited. Clearing House, 68(1), pp. 40-42
[15] Maj, A. (2014). Metoda projektów we wczesnej edukacji szansą demokratyzacji przestrzeni edukacyjnej dziecka. W: K. Gawlicz, P. Rudnicki, M. Starnowski, T. Tokarz (ed.) Demokracja i edukacja: dylematy,

diagnozy, doświadczenia. Wydawnictwo Naukowe Dolnośląskiej Szkoły Wyższej, Wrocław 2014, pp. 225-243. [Eng: *Project method in early-school education as the chance for democratisation of child's educational space*]

[16] Saracho, O.N., Spodek B. (2009). Educating the Young Mathematician: The Twentieth Century and Beyond, Early Childhood Educ J, 36, pp. 305–312.

[17] Spodek, B. (1973). Early Childhood Education. Englewood Cliffs, NJ: Prentice Hall.

[18] Kramer, R. (1988). Maria Montessori: A biography. Reading, MA: Addison-Wesley.

[19] Decree of the Minister of National Education dated 20th Aug, 2010, Journal of Laws No. 156, pos. 1046.

[20] Klisowska, M. Stymulowanie nabywania wiedzy fizycznej metodą grup i projektów (pdf). [Eng: *Stimulating the acquisition of physical knowledge in group and project method*]

[21] Kolber, M. Metoda projektu, czy tylko ornament dydaktyczny? http://jows.pl/sites/default/files/Kolber_PDF.pdf (dated 27th Oct, 2017). [Eng: *The project method or just a didactic ornament?*]

[22] Woynarowska-Sołdan, M. (2014). Action Research method and its application in health promotion. Hygeia Public Health 2014, 49(4), pp. 672-678.

[23] Krogulec-Sobowiec, M. Uczenie się uczniów poprzez metodę projektów. W: Uczenie się i egzamin w oczach nauczyciela (pdf), pp. 493-507. [Eng: *Students' learning through the project method*]

[24] Cichoń, M., Piotrowska, I. (2012). Kształtowanie kompetencji kluczowych wśród studentów geografii poprzez metodę projektu, esej geograficzny i recenzję, Prace Komisji Edukacji Geograficznej, 2012, t. 2, pp. 151–168. [Eng: *Forming the key competences among the students of geography through project method, geography-related essay and a review*]

[25] Mikina, A., Zając, B. (2012). Metoda projektów nie tylko w gimnazjum. Poradnik dla nauczycieli i dyrektorów szkół. ORE, Warsaw 2012, p. 85. [Eng: *The project method not only at junior-high school*]

[26] Kotarba-Kańczugowska, M., Praca metodą projektu, Ośrodek Rozwoju Edukacji, Warsaw, pp. 9-11. [Eng: *Working with the project method*]