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Project-Based Teaching in Building Students' Intercurricular Competencies

Extended summary

Project-based teaching is an approach belonging to a new paradigm and involves a research-based student orientation towards teaching and learning. In this process, students use previously acquired knowledge, gain new knowledge and develop creativity, self-regulation, and team work skills. In theory, this approach should enable the realisation of the outcomes and standards of different school subjects, as well as the development of curricular and intercurricular competencies.

The aim of this paper is to explore, by analysing three examples of the project-based teaching used in practice, the potential of the project-based teaching for the development of intercurricular competencies and to offer, through a synthesis of theoretical and empirical data, an instrument for planning project-based lessons which would help the development of inter-curricular competencies.

The starting point in this paper is the reconsideration of the importance of the key (intercurricular) competencies for life-long learning that are implied in the educational goals and outcomes, as well as our attempt to provide an answer to a key question posed in theoretical assumptions – the possibility of overcoming traditional models of teaching organization and structuring learning in the manner that would develop curricular and intercurricular competencies. Further on in the paper we present the advantages of the project-based lessons, while focusing on the examples from the real teaching practice. Based on the analysis of these exam-

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ples and theoretical assumptions, we developed an instrument for planning and monitoring project-based classes that can prove useful to teachers in terms of developing intercurricular competencies.

The analysis of the contribution of the project-based teaching indicates that this form of teaching enables the development of pupils' intercurricular competencies and that more attention should be given to the project-based lesson planning in schools. The focus in projectbased lessons is on the process, not only on the product, and, apart from measurable knowledge, pupils also acquire knowledge and skills that are difficult to measure, but they are of vital importance for coping in everyday life and adaptation to change. Activities with implicit autonomy, competence, and belonging can develop intrinsic motivation for the activity itself. In its structure and meaning, project-based instruction includes the factors that impact intrinsic motivation.

Despite the multiple benefits of the project-based instruction, there is a lot of resistance and confusion among modern educators in terms of using this form of instruction, particularly when it comes to its potential as a model for developing pupils' intercurricular competencies. One of the reasons for such an attitude, confirmed in the observation of school practice, is that teachers, used to a specific form of lesson planning in which they play a central role, accept with difficulty more varied teaching methods and models, including an integrative and holistic approach to planning in which the contribution of pupils is significant.

In everyday school practice, emotional domain and student motivation, central to the educational and pedagogical role of the school, are neglected. The analyzed examples of the project-based instruction point to another problem: teachers often rely on "visible validity" for learning the activities that they propose to pupils, and rarely on their pupils' interests and curiosity, given that pupils often pose questions that are more in-depth than the goals set by the teachers.

Bearing in mind these insights, the practical implication of this research stems from the pattern for project-based lesson planning and analysis organized by teachers in which teachers, based on the guidelines provided in the pattern, opt for the types of learning stemming from a constructivist educational paradigm and resulting in a higher achievement, fulfilling pupils' motivational need for autonomy, competence and belonging, and, primarily, in intercurricular competencies that become more relevant in teaching practice, in line with legislative rules.

Keywords: constructivist paradigm in teaching, interdisciplinary competencies, learning, project-based teaching, self-determination theory

References

• Arjomand, G., Erstad, O., Gilje, Gordon, J., Kallunki, V., Kearney, C., Rey, O., Siewiorek, A., Vivitsou, M. & Reis Saari, V. (2013). *Key CoNet 2103 Literature Review: Key Competence Development in School Education in Europe.* Brussels: European Schoolnet.

- Baird, M. 2019. Project based learning to develop 21st century competencies. In: Power, R. (Ed.). *Technology and the Curriculum: Summer 2019.* Pressbooks. Retrieved June 10, 2021. from https://techandcurr2019.pressbooks.com/chapter/pbl-competencies/.
- Beara, M., Popović, D. i Jerković, I. (2019). Nastavnici kao stručnjaci za učenje između nastavne filozofije i refleksivne prakse. *Godišnjak Filozofskog fakulteta u Novom Sadu*, 44 (2), 79–94.
- Bell, S. (2010). *Project-Based Learning for the 21st Century: Skills for the Future*. The Clearing House, 83, 39–43. <u>http://www.doi.org/10.1080/00098650903505415</u>
- Bender, V. (2020). *Projektno učenje Diferencirana nastava za XXI vek*. Beograd Jagodina: Clio Fakultet pedagoških nauka.
- Brown, J., Collins, A. & Duguid, P. (2017). *Situated Cognition. Learning Theories.* Retrieved June 18, 2021. from https://www.learning-theories.com/situated-cognition-brown-collins-duguid.html.
- Chu, S. K. W., Reynolds, R. B., Tavares, N. J., Notari, M. & Lee, C. W. Y. (2017). 21st Century Skills Development Through Inquiry-Based Learning: From Theory to Practice. Springer.
- Delor, Ž. (1996). Obrazovanje skrivena riznica. UNESCO: *Izveštaj međunarodne komisije o obrazovanju za XXI vek.* Beograd: Ministarstvo prosvete.
- De la Paz, S. & Hernández-Ramos, P. (2013). Technology-Enhanced Project-Based Learning: Effects on Historical Thinking. *Journal of Special Education Technology*, 28 (4), 1–14. <u>https://doi.org/10.1177/016264341302800401</u>.
- Evropska komisija / EACEA / Eurydice (2012). *Developing Key Competences at School in Europe: Challenges and Opportunities for Policy. Eurydice Report.* Luksemburg: Ured za publikacije Europske unije.
- Fullan, M. & Scott, G. (2014). *New Pedagogies for Deep Learning Whitepaper: Education PLUS.* Seattle, USA: Collaborative Impact SPC. Retrieved May 25, 2021. from https://www.michaelfullan.ca/wp-content/uploads/2014/09/Education-Plus-A-Whitepaper-July-2014-1.pdf
- Gavrić, Z. (2019). Projektna nastava priručnik za učitelje. Beograd: Klett.
- Goodman, B. & Stivers, J. (2010). Project-based learning. *Educational Psychology*. Retrieved June 26, 2021. from http://www.fsmilitary.org/pdf/Project_Based_Learning.pdf
- Gultekin, M. (2005). The effect of project based learning on learning outcomes in the 5th grade social studies course in primary education. *Educational Sciences: Theory and Practice*, 5 (2), 548–56.
- Habok, A. & Nagy, J. (2016). In-service teachers' perceptions of project-based learning. *Spring-er Plus*, 5 (83).
- Howe, M. J. (2008). *Psihologija učenja priručnik za nastavnike* (2. izdanje). Jastrebarsko: Naklada Slap.
- Ivić, I., Pešikan, A. i Antić, S. (2009). *Aktivno učenje 2*. Beograd: Institut za psihologiju, Ministarstvo prosvete i sporta RS i Ministarstvo za prosvjetu i nauku RCG.

- Krajcik, J. S. & Blumenfeld, P. (2006). Project-based learning. In: Sawyer, R. K. (Ed.). *The Cambridge Handbook of the Learning Sciences* (317–333). New York: Cambridge.
- Krželj, K., Polovina, N. (2019). Značaj ključnih kompetencija iz perspektive nastavnika stranih jezika. *Andragoške studije*, 1, 111–134.
- Larson, R. W. & Pearce Dawes, N. (2014). Cultivating Adolescent's Motivation. In: Joseph, S. (Ed.). *Positive Psychology in Practice* (313–326). New York: Wiley.
- Pellegrino, J. W. & Hilton, M. L. (2012). Education for Life and Work: Developing Transferable Knowledge and Skills in the 21st Century, Committee on Defining Deeper Learning and 21st Century Skills. In: Pellegrino, J. W. & Hilton, M. L. (Eds.). *Board on Testing and Assessment and Board on Science Education, Division of Behavioral and Social Sciences and Education* (1–25). Washington, DC: The National Academies Press.
- Petrović, M., Hoti, D. (2020). *Priručnik za projektnu nastavu i nastavu na daljinu*. Posećeno 6. 6. 2021. na www: https://jpd.rs/images/preuzmite/Prirucnik_za_nastavu.pdf.
- Pešikan, A. (2016). Najčešće zablude o informaciono-komunikacionim tehnologijama u obrazovanju. *Nastava i vaspitanje*, LXV (1), 31–46. <u>http://www.doi.org/10.5937/nasvas1601031P</u>
- Popović, D., Ristanović, D. (2020). Potencijali projektne nastave za razvijanje međupredmetnih kompetencija. *Uzdanica*, XVII (2), 281–294.
- Prodanović, M., Gavranović, V. (2020). Razvijanje jezičkih veština učenika kroz projektno usmerenu nastavu stranog jezika struke studija slučaja. *Inovacije u nastavi*, 33 (4), 136-145. http://www.doi.org/10.5937/inovacije2004136P
- Pešikan, A. (2010). Savremeni pogledi na prirodu školskog učenja i nastave: sociokonstruktivističko gledište i njegove praktične implikacije. *Psihološka istraživanja*, 13 (2), 157-184.
- Pravilnik o opštim standardima postignuća za kraj opšteg srednjeg obrazovanja i srednjeg stručnog obrazovanja u delu opšteobrazovnih predmeta (2013). Službeni glasnik RS, br. 117.
- Radulović, L., Mitrović, M. (2014). Raznovrsnost nastavnih metoda u našim školama. *Nastava i vaspitanje*, 63 (3), 451-464.
- Ristanović, D. (2019). *Projektni model nastave prirode i društva*. Jagodina: Pedagoški fakultet Univerziteta u Kragujevcu.
- Riviou, K. (2014). *Cross-curricular project-based learning approach fostering competences*. Retrieved June 20, 2021. from https://www.ea.gr/ea/myfiles/File/presentations/_Cross-curricularProjectbasedLearningApproachFosteringCompetences.pdf.
- Ryan, R. M. & Deci, E. L.(2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, 68–78.
- Sahlberg, P. (2012). *How GERM is infecting schools around the world?*. Retrieved June 15, 2021. from https://pasisahlberg.com/text-test/ [Google Scholar]
- Scott, C. L. (2015). The futures of learning 3: What kind of pedagogies for the 21st century? (ERFWorking Papers Series, No. 15). Paris: UNESCO Education Research and Foresight. Retrieved May 15, 2021. from http:// unesdoc.unesco.org/images/0024/002431/243126e.pdf.

- *Standardi opštih međupredmetnih kompetencija za kraj srednjeg obrazovanja* (2013). Beograd: Zavod za vrednovanje kvaliteta obrazovanja i vaspitanja.
- Vigotski, L. (1977). *Mišljenje i govor*. Beograd: Nolit.
- Vidosavljević, M., Vidosavljević, S. (2018). The project based learning: Connecting the foreign language teaching and environmental education. *Zbornik radova Učiteljskog fakulteta Prizren-Leposavić*, 12, 129–140.
- Vizek-Vidović, V., Rijavec, M., Vlahović Štetić, V. i Miljković, D. (2014). *Psihologija obrazovanja*. Beograd: Klett.
- Zukorlić, M. (2016). Pedagoška komunikacija u funkciji razvoja socijalne kompetencije učenika. *Inovacije u nastavi*, 29 (1), 92–104. <u>http://www.doi.org/10.5937/inovacije1601092Z</u>
- Zakon o osnovama sistema obrazovanja i vaspitanja Republike Srbije (2017). Sl. glasnik RS, br. 88.
- Zakon o osnovnom obrazovanju i vaspitanju (2017). Sl. glasnik RS, br. 101.