REVIJA ZA ELEMENTARNO IZOBRAŽEVANJE
JOURNAL OF ELEMENTARY EDUCATION

ISSN 2350-4803 (SPLET/ONLINE)
ISSN 1855-4431 (TISK/PRINT)

Revija za elementarno izobraževanje

NASLOV UREDNIŠTVA

Revija za elementarno izobraževanje, Uredništvo revije Revija za elementarno izobraževanje
Koroška cesta 160, SI-2000 Maribor, Slovenija, e-pošta: rei.pef@um.si, http://rei.um.si

ZALOŽNIK

Univerzitetna založba Univerze v Mariboru
Slomškov trg 15, 2000 Maribor, Slovenija
e-pošta: zalozba@um.si, http://press.um.si/, http://journals.um.si/

Članki se referirajo v: SCOPUS (Elsevier Bibliografhic Databases), DOAJ, ERIH PLUS**,** EBSCO (EBSCOhostweb), Ulrich`s Periodicals Directory, IBZ (Internationale Bibliographie der Zeitschriftenliteratur), Proquest, dLib.si, DKUM, COBISS (Co-operative Online Bibliographic System and Services).

Članki v reviji so recenzirani. Revija za elementarno izobraževanje je revija, ki jo izdaja Univerzitetna založba Univerze v Mariboru v soizdajateljstvu Pedagoške fakultete Univerze v Mariboru, Pedagoške fakultete Univerze na Primorskem in Pedagoške fakultete Karlove Univerze v Pragi. V njej so objavljeni prispevki s področja vzgoje in izobraževanja zlasti na predšolski in osnovnošolski stopnji. Avtorji prispevkov z znanstvenega vidika pišejo o problemih, ki zadevajo vzgojo in izobraževanje. Namen revije je spodbujati objavo znanstvenoraziskovalnih člankov. Revija za elementarno izobraževanje izhaja štirikrat letno. V njej so objavljeni prispevki v slovenskem ali angleškem jeziku oz. nemškem jeziku.

Prispevke pošljite na naslov uredništva ali po e-pošti na naslov: rei.pef@um.si

Journal of Elementary Education

EDITORIAL OFFICE ADDRESS

Journal of Elementary Education, Editorial Board of Journal of Elementary Education
Koroška cesta 160, SI-2000 Maribor, Slovenija , e-pošta: rei.pef@um.si, http://rei.um.si

PUBLISHED BY

University of Maribor Press
Slomškov trg 15, 2000 Maribor, Slovenia
e-mail: zalozba@um.si, http://press.um.si/, http://journals.um.si/

Articles appearing in this journal are abstracted and indexed in: SCOPUS (Elsevier Bibliografhic Databases), DOAJ, ERIH PLUS**,** EBSCO (EBSCOhostweb), Ulrich`s Periodicals Directory, IBZ (Internationale Bibliographie der Zeitschriftenliteratur), Proquest, dLib.si, DKUM, COBISS (Co-operative Online Bibliographic System and Services).

Journal of Elementary Education is a peer-reviewed journal, open access journal that publishes scientific articles primarly but not limited to the area of elementary school education. JEE is published four times yearly and accepts articles in Slovene, English and German. JEE is published by the University Press University of Maribor with cooperate Faculty of Education University of Maribor, Faculty of Education University of Primorska and Charles University, Faculty of Education, Prague.

Articles may be sent electronically to: rei.pef@um.si

Revija za elementarno izobraževanje
Journal of Elementary Education

Volume 14 **Number 1** **Marec 2021**

Kazalo / Table of Contents

Prispevki / Articles

REVIJA ZA ELEMENTARNO IZOBRAŽEVANJE
JOURNAL OF ELEMENTARY EDUCATION
Vol. 14, No. 1, pp. 1–10, Marec 2021

FORGOTTEN NATURE? EXPERIENCES WITH AND KNOWLEDGE OF NATURE AMONG SCHOOLCHILDREN: A PILOT STUDY IN CENTRAL SWITZERLAND

JÜRGEN KÜHNIS[1] & DÉSIRÉE FAHRNI[1]

[1]Schwyz University of Teacher Education, Goldau, Schwyz

CORRESPONDING AUTHOR/KORESPONDENČNI AVTOR
juergen.kuehnis@phsz.ch

Potrjeno/Accepted
17. 9. 2020

Objavljeno/Published
22. 3. 2021

Abstract/Izvleček This pilot study investigates the extent of familiarity among primary school children (6th grades, n = 142, 55.6 % boys) with common local animal and plant species and whether this knowledge differs depending on selected context variables. As the analysis shows, nature is of great importance, and most children already have gathered some basic experience of nature. On average, they correctly identified 51.2 % of the animals and 36.2 % of the plants, but there were obvious gaps in their knowledge. The present results showed a clear connection between the knowledge of native animal and plant species depending on the child's nationality, whether they have a garden at home and how their parents stimulate their interest in nature.

Pozabljeno naravoslovje? Izkušnje in znanje iz naravoslovja pri šolarjih – Pilotna študija v osrednji Švici

Pilotna študija proučuje, koliko današnji osnovnošolci (6. razred, n = 142, 55.6 % dečki) poznajo običajne lokalne rastlinske in živalske vrste ter ali se to znanje razlikuje glede na izbrane kontekstualne spremenljivke. Opisna analiza je pokazala, da je naravoslovje zelo pomembno in da je večina otrok že pridobila nekaj osnovnega naravoslovnega znanja. V povprečju so pravilno prepoznali 51.2 % živali in 36.2 % prikazanih rastlin, a v njihovem znanju so bile očitne vrzeli. Predstavljeni rezultati so pokazali jasno povezavo med poznavanjem domačih živalskih in rastlinskih vrst, in sicer glede na narodnost otroka, glede na to, če imajo doma vrt in če starši spodbujajo njihovo zanimanje za naravo.

Keywords:
species knowledge, primary school children, Central Switzerland.

Ključne besede:
poznavanje vrst, osnovnošolci, osrednja Švica.

UDK/UDC
502.211:37.011.2-053.5(494)

DOI https://doi.org/10.18690/rei.14.1.1-10.2021

Introduction

Regular contact and experience with nature (i.e., the animate and inanimate outdoor environment and all its interactions, D-EDK, 2016) play a central role in providing a basic understanding of nature, developing a respectful relationship and perceiving oneself as part of nature (Kahn & Weiss, 2017; Leske & Bögeholz, 2008; Louv, 2005; Raith & Lude, 2014). Without a personal connection to nature and knowledge of plants, animals and their habitats, it is difficult to develop an understanding of biodiversity and its protection (Bebbington, 2005; Lindemann-Matthies, 2002 and 2005). This importance is also emphasized in goal 15 of the 2030 Agenda for Sustainable Development (protection of terrestrial ecosystems): "The learner understands basic ecology with reference to local and global ecosystems, identifying local species and understanding the measure of biodiversity" (Rieckmann, 2018, p. 72).

However, several studies indicate that children today spend more time indoors than outdoors, and for many adolescents nature no longer seems to be a normal part of their environment (Louv, 2005; Tremblay et al., 2015; Waller et al., 2017). Because of this lack of closeness to nature, essential primary experiences essential for children's development are threatened, while their knowledge of local animals and plants also seems to be very limited today (Balmford et al., 2002; Bebbington, 2005; Brämer et al., 2016; Lindemann-Matthies, 2002; Remmele & Lindemann-Matthies, 2018). For example, in a study from Switzerland (n = 6725 school children, aged 8-18 years), adolescents on average could name only five local plant and six animal species that they perceived on their way to school each day (Lindemann-Matthies, 2002); moreover, in a recent study from Germany, the 5-11 year-old children (n = 402) surveyed were able to identify only 17 % and 22 %, respectively, of the 24 plant and animal species presented (Remmele & Lindemann-Matthies, 2018).

The child's family seems to be the main source for building their experiences with, attitudes towards and knowledge about nature (Bögeholz, 1999; Meske, 2011; Remmele & Lindemann-Matthies, 2018). According to research results, proximity to or distance from nature and children's play in nearby nature are essentially determined by their parents, their supervision, ethnicity, educational and income level and model behaviour (Hunt et al., 2016; Skar et al., 2016; Späker, 2016).

This socio-economic context also includes residential areas and the associated accessibility of natural sites (Meske, 2011). Besides proximity to the nearest forest, there seems to be a positive relationship between the existence of a garden and children's experiences with as well as their knowledge of nature (Pohl, 2006).

For children to gain personal access to nature and develop an early awareness of the environment, educational institutions, alongside parents, play a central socialisation role, since all children can be reached at school. Regular experience of nature outside the classroom is also indispensable for the personal exploration of the surrounding nature intended in the current Swiss-German curriculum 'general science and social studies' (D-EDK, 2016) and the competence to recognise and categorise the biodiversity of plants and animals. Teacher education is of particular importance, since well-trained teachers are key players in this educational process (Kühnis, 2018; Lindemann-Matthies et al., 2017; Rieckmann, 2018; UNESCO, 2017).

Despite the high relevance of the topic of this research (including for teacher education), only a few studies have been conducted in Switzerland to date (Lindemann-Matthies, 2002; Lindemann-Matthies et al., 2011). Within the framework of a research project planned in Central Switzerland, the subject area will therefore be examined in greater depth (Figure 1) and in a supra-regional comparison. The aim of the project is to answer the following key questions, which were observed at the first stage in this pilot study: a) What personal connection do today's schoolchildren have with nature? b) How familiar are pupils with common animals and plants in Switzerland? and c) What correlations exist between children's relation to nature, their knowledge of species, and selected socio-demographic variables?

In addition, a supplementary survey from the teacher's point of view (containing 14 questions) will examine how close to nature today's school areas are designed, which natural spaces are available in the school environment, how these possible learning locations are actually used, or which reasons prevent teachers from using them.

Methods

Study design and sample

This pilot study was carried out in advance of a cross-regional study (Figure 1) planned for 2021 and is intended to provide an up-to-date inventory in three cantons of Central Switzerland (Schwyz, Uri and Nidwalden). Based on the intended competences in the current Swiss-German curriculum 'general science and social studies' (D-EDK, 2016), the level of ambition of the survey instrument, and the fact that the end of primary school marks an important transition phase in our school system, the research field is limited to the 6th primary level. This pilot study included n = 142 primary school children (55.6 % boys), aged 10-13 years (M = 11.9, SD = .72) from nine classes in the Canton of Schwyz.

Data collection and analysis

The prerequisite for carrying out this pilot study was approval from the cantonal authorities and the local school management. The parents were informed by the teachers. The data collection was conducted in June 2020 within a regular 45 min. lesson by using a student questionnaire and an additional questionnaire for teachers. Participation was voluntary and anonymous. The survey of the pupils and their class teachers was carried out according to a standardised procedure, under the leadership of a project member. After a short introduction, the children were guided through the questionnaire. The student questionnaire could be completed in approximately 20 minutes; the teacher questionnaire in 10 minutes. The elaboration of the children's questionnaire and the selection of variables were primarily based on German reference studies (Brämer et al., 2016; Pohl, 2006). The teachers' questionnaire was developed on the basis of a study by WWF Switzerland (2015). The final version of the two instruments was preceded by a pretest from April to June 2019 with a sample of n = 104 children (52.9 % boys), aged 10-13 years (M = 11.2, SD = .57) from six classes in the Cantons of Schwyz and Uri.

The children's questionnaire consisted of two parts. The first part contained questions on socio-demographic variables (i.e., gender, nationality and residential area), on the children's general attitude to nature and their parents as a source of inspiration.

In the second part,16 common animal and plant species (Table 1) were presented, using high-resolution colour photographs. Species selection included the following criteria: the animals and plants had to be common and widespread in Switzerland and to be found in or near settlements. In addition, these species are typical representatives of forest and meadow habitats, which are thematic aspects of the subject areas of the curriculum (D-EDK, 2016). The selection was based on national fauna and flora databases (www.cscf.ch; www.infoflora.ch) and reference studies (Lindemann-Matthies, 2002; Randler, 2006; Remmele & Lindemann-Matthies, 2018; SDW, 2009).

Table 1: List of 16 plant and animal species that children had to identify

Plant species		**Animal species**	
Common name	**Scientific name**	**Common name**	**Scientific name**
Dandelion	*Taraxacum officinale*	Badger	*Meles meles*
Buttercup	*Ranunculus acris*	Mole	*Talpa europaea*
Daisy	*Bellis perennis*	Weasel	*Mustela erminea*
Maple	*Acer pseudoplatanus*	Toad	*Bufo bufo*
Oak	*Quercus robur*	Slow worm	*Anguis fragilis*
Birch	*Betula pendula*	Robin	*Erithacus rubecula*
Beech	*Fagus sylvatica*	Magpie	*Pica pica*
Hazel	*Corylus avellana*	Woodpecker	*Dendrocopos major*

Only the common names in the children's own language (typical local folk names were permitted) were asked for and were considered as correct if the common name of an animal or a plant at the species or genus level was provided. The names could be written right next to the pictures, and each correct answer was given one point. With Cronbach's α values of .75 (plants) and .80 (animals), the internal consistency of these two scales is satisfactory to good. All data collected were transferred to the SPSS statistics programme (version 24). For the description of results (significance level $p < .05$), only complete data were considered. Because the data on species knowledge were not normally distributed (based on graphic check as well as Shapiro-Wilk-Test), the Mann-Whitney U-test was performed to check group differences.

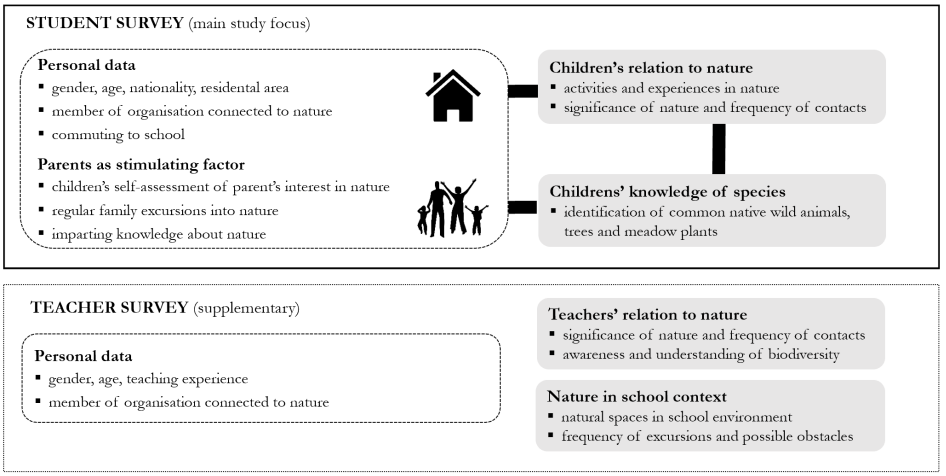

Figure 1: Overview of central dimensions and variables of the study.

Results

As the results of the pilot study show, 81 % of the children regard nature as something important, and 62.7 also like to spend time in nature. 17.6 % are members of an organisation connected to nature (e. g. Scouts). In addition, the majority of children seem to have had some basic nature experience in their childhood: for example, 88.1 % have already held a beetle in their hands, 68.1 % have spent the night outside in a tent, 90.2 % have climbed a tree and 63.4 % have seen a fox or badger in nature. However, the knowledge of common native species is unsatisfactory. On average, children could only correctly name seven (43.7 %) out of a total of 16 animal and plant species, with a better knowledge of animals ($M_{animals}$ = 4.1$\pm$2.4) than plants (M_{plants} = 2.9$\pm$2.1). In total, 54.9 % achieved less than 8 points and 7.7 % between 13 and16 points. Seven children (4.9 %) could not name a single animal and 17 children (12 %) a single plant. Among the animals, mole (*Talpa europaea*), badger (*Meles meles*) and woodpecker (*Dendrocopos major*) were most identified correctly (figure 2a); common dandelion (*Taraxacum officinale*), daisy (*Bellis perennis*) and oak (*Querus robur*) were the best-known plant species (Figure 2b).

Table 2: Analysis of children's knowledge (n = 142) of common native species (mean±sd)

	gender		**nationality**		**own garden**	
species knowledge	boys	girls	Swiss	foreigners	yes	no
animals (8 species)	4.0±2.5	4.1±2.2	5.0±2.0^{***a}	2.1±1.8	4.8±2.1^{***a}	2.2±1.8
plants (8 species)	2.8±2.1	3.1±2.1	3.7±1.3^{***a}	1.3±1.2	3.6±2.1^{***b}	1.4±1.3
total (16 species)	6.9±4.3	7.1±4.0	8.7±3.6^{***a}	3.5±2.8	8.4±3.8^{***a}	3.7±2.8

Mann-Whitney-U-test: * p < .05, ** p < .01, *** p < .001
Pearson's correlation coefficient: [a] $r \geq .50$, [b] $r = .47$

Figure 2a/b: Proportion of children (n = 142), who correctly identified the species presented.

No gender-specific differences were found, but Swiss children and children with a garden at home showed significantly better species identification than foreign children or children from families without a garden (Table 2). Moreover, parents seem to be an important stimulating factor: Regular joint nature excursions with parents were also positively associated with the children's animal ($p < .001$, $r = .40$) and plant knowledge ($p < .001$, $r = .38$). In addition, children of parents who (from the child's perspective) also teach them something about nature, have a better knowledge of animals ($p < .001$, $r = .41$) and plants ($p < .001$, $r = .33$) than children without such personal knowledge transfer. The children's familiarity with species was also better when they enjoyed watching nature programmes on TV or reading books, magazines etc. about nature in their free time. However, these effect sizes ranged between small to medium ($r = .20$ to $r = .30$).

Discussion

The data from the pilot study represents only the first interim findings, and more precise statements and interpretations of possible and practice-relevant group differences will be possible only after the final survey. At least they indicate a certain tendency. In line with reference studies (Balmford et al., 2002; Bebington, 2005; Lindemann-Matthies, 2002; Remmele & Lindemann-Matthies, 2018; Brämer et al., 2016; Gerl et al., 2018), our initial results also show that schoolchildren in Central Switzerland partly show large gaps in their knowledge about the native fauna and flora (Table 2, Figure 2a/b). These gaps seem to be more apparent in the identification of common plants than in animal knowledge: On average, children correctly identified 51.2 % of the animals and 36.2 % of the plants. In accordance with other studies, mammals were better identified than other vertebrates and meadow plants better than trees (Huxham et al., 2006; Randler, 2006; Remmele & Lindemann-Matthies, 2018). This finding could be due to the general tendency that children are more interested in animals than in plants (Gebhard, 2001, Kögel et al., 2000; Remmele & Lindemann-Matthies, 2018).

Children's familiarity with common animals and plants was positively related to their nationality, to having a garden at home as well as to being encouraged by their parents to take an interest in nature. In line with previous studies, the family environment seems to be a central source for building children's experiences with, attitudes towards and knowledge about nature (Bögeholz, 1999; Hunt et al., 2016; Meske, 2011; Pohl, 2006; Remmele & Lindemann-Matthies, 2018). Based on these findings, it is also important in the context of biodiversity education to create an appropriate awareness among parents of their function as role models and sources of knowledge. Basic species knowledge is indispensable for the understanding of biodiversity (Bebbington, 2005; Lindemann-Matthies, 2002 and 2005; Remmele & Lindemann-Matthies, 2018). In addition to the family, school is another important setting, since here all children can be sensitised at an early stage in life to the importance and sustainable use of natural diversity (Kühnis, 2018; Rieckmann, 2018). According to Lindemann-Matthies et al. 2017 (p. 32), "Familiarising pupils with local plants and animals through relevant experiences in school requires competent teachers."

However, research shows that prospective teachers often seem to finish their studies without ever having come into contact with the topic of biodiversity and are also very poorly prepared to teach taxonomy (Lindemann-Matthies et al., 2011 and 2017). There is therefore an obvious need for action in both school and teacher training. The implementation of this pilot study went according to plan, and the questionnaires used proved to be very practical in terms of saving time and comprehensibility. Because the survey data is based on information provided by the children, certain distortions (social desirability) cannot be excluded. Moreover, the data available do not permit a conclusive assessment, and it remains to be seen what results the main study planned will produce in 2021.

Conclusions

A wide variety of contacts with nature constitutes a central condition for gaining emotional access to and basic knowledge of nature (Kahn & Weiss, 2017; Leske & Bögeholz, 2008; Louv, 2005; Raith & Lude, 2014). With the changing conditions of growing up in our dynamic, individualised and technologised society, children's relationship to nature and their knowledge also seem to be changing. Preservation of global biodiversity is one of the most urgent tasks of our time, and the intensification of environmental education is considered a central measure. In this educational process, the parents and the school represent two crucial, complementary socialisation authorities. The research project planned should therefore not only provide basic information on schoolchildren in Central Switzerland, but also identify any potential need for action and derive recommendations. In addition to the global decline in biodiversity (WWF, 2018), it would be fatal if nature would also increasingly disappear from children's minds.

References

Bebbington, A. (2005). The ability of A-level students to name plants. *Journal of Biological Education, 39*(2), 63–67.

Bögeholz, S. (1999). *Qualitäten primärer Naturerfahrung und ihr Zusammenhang mit Umweltwissen und Umwelthandeln.* Opladen: Leske und Budrich.

Brämer, R., Koll, H. & Schild, H.-J. (2016). *7. Jugendreport Natur 2016.* Erste Ergebnisse. Natur Nebensache? Retrieved from https://www.natursoziologie.de (Accessed: 1st March 2019).

Deutschschweizer Erziehungsdirektoren-Konferenz (D-EDK) (2016). *Lehrplan21. Natur, Mensch, Gesellschaft.* Luzern: D-EDK Geschäftsstelle.

Gebhard, U. (2001). *Kind und Natur. Die Bedeutung der Natur für die psychische Entwicklung.* Wiesbaden: Westdeutscher Verlag.

Gerl, T., Almer, J., Zahner, V. & Neuhaus, B. J. (2018). Der BISA-Test: Ermittlung der Formenkenntnis von Schülern am Beispiel einheimischer Vogelarten. *Zeitschrift für Didaktik der Naturwissenschaften (ZfDN), 24,* 235–249.

Hunt, A., Stewart, D., Burt, J., & Dillon, J. (2016). *Monitor of Engagement with the Natural Environment: a pilot to develop an indicator of visits to the natural environment by children - Results from years 1 and 2 (March 2013 to February 2015).* Natural England Commissioned Reports, Number 208.

Huxham, M., Welsh, A., Berry, A., & Templeton, S. (2006). Factors influencing primary school children's knowledge of wildlife. *Journal of Biological Education, 41*(1), 9–12.

Kahn, P. H. Jr., & Weiss, T. (2017). The importance of children interacting with big nature. *Children, Youth and Environments, 27*(2), 7–24.

Kögel, A., Regel, M., Gehlhaar, K.-H. & Klepel, G. (2000). Biologieinteressen der Schüler. Erste Ergebnisse einer Interviewstudie. In H. Bayrhuber & U. Unterbruner (Eds.), *Lehren und Lernen im Biologieunterricht* (pp. 32-45). Innsbruck: Studienverlag.

Kühnis, J. (2018). Biodiversität – ein Schlüsselthema im Kontext einer Bildung für nachhaltige Entwicklung. Thematische Relevanz und curriculare Verortung in der Schweizer Schulbildung. In: P.-M. Rabensteiner, O. Holz & M. Michielsen (eds.), *Teacher Education, Sustainability and Development. Challenges, Issues, Solutions for Teaching in the 21st Century.* (pp. 233–242). Erziehungswissenschaft. Vienna: LIT Verlag

Leske, S. & Bögeholz, S. (2008). Biologische Vielfalt lokal und global erhalten – Zur Bedeutung von Naturerfahrung, Interesse an der Natur, Bewusstsein über deren Gefährdung und Verantwortung. *Zeitschrift für Didaktik der Naturwissenschaften (ZfDN), 14*, 167–184.

Lindemann-Matthies, P. (2002). Wahrnehmung biologischer Vielfalt im Siedlungsraum durch Schweizer Kinder. In R. Klee, & H. Bayrhuber (Eds.), *Lehr- und Lernforschung in der Biologiedidaktik* (p. 117–130). Innsbruck, Austria: Studienverlag.

Lindemann-Matthies, P. (2005). "Loveable" mammals and "lifeless" plants: How children's interest in common local organisms can be enhanced through observation of nature. *International Journal of Science Education, 27*, 655–677.

Lindemann-Matthies, P., Constantinou, C., Lehnert, H.-J., Nagel, U., Raper, G., & Kadji-Beltran, C. (2011). Confidence and perceived competence of preservice teachers to implement biodiversity education in primary schools - Four comparative studies from Europe. *International Journal of Science Education, 33*, 2247–2273.

Lindemann-Matthies, P., Remmele, M. & Yli-Panula, E. (2017). Professional competence of student teachers to implement species identification in schools – a case study from Germany. *CEPS Journal, 7*(1), 29–47.

Louv, R. (2005). *Last Child in the Woods: Saving our children from nature-deficit disorder*. Chapel Hill, NC: Algonquin.

Meske, M. (2011). *«Natur ist für mich die Welt». Lebensweltlich geprägte Naturbilder von Kindern*. Wiesbaden: Springer VS Verlag.

Pohl, D. T. (2006). *Naturerfahrungen und Naturzugänge von Kindern*. Dissertation, Pädagogische Hochschule Ludwigsburg.

Raith, A. & Lude, A. (Eds.) (2014). *Startkapital Natur. Wie Naturerfahrung die kindliche Entwicklung fördert*. Munich: Oekom.

Randler, C. (2006). War früher alles besser? Eine Untersuchung zu Wirbeltierartenkenntnissen bei Schülerinnen und Schülern. *Natur und Landschaft, 81*(11), 547–549.

Remmele, M. & Lindemann-Matthies, P. (2018). Like father, like son? On the relationship between parents' and children's familiarity with species and sources of knowledge about plants and animals, *EURASIA Journal of Mathematics, Science and Technology Education, 14*(10), 1–10.

Rieckmann, M. (2018). Key themes in Education for Sustainable Development. In A. Leicht, J. Heiss, & W.J. Byun, (Eds.), *Issues and Trends in Education for Sustainable Development*. (pp. 61-84). Education on the move. Paris. United Nations Educational, Scientific and Cultural Organization.

Schutzgemeinschaft Deutscher Wald (SDW), Landesverband Bayern et al. (Eds.) (2009). *Studie über das Waldwissen von bayerischen Schülern der 3. Jahrgangsstufe*. Munich: SDW.

Skar, M., Wold, L. C., Gundersen, V. & O'Brien, L. (2016). Why do children not play in nearby nature? Results from a Norwegian survey, *Journal of Adventure Education and Outdoor Learning*, DOI: 10.1080/14729679.2016.1140587.

Späker, T. (2016). *Zur Bedeutung des Erfahrungsraums Natur für eine psychomotorisch-motologische Entwicklungs- und Gesundheitsförderung*. Dissertation am Fachbereich Erziehungswissenschaften der Universität Marburg.

Tremblay, M.S., Gray, C., Babcock, S., Barnes, J., Bradstreet C.C., Carr, D., Chabot, G., Choquette, L., Chorney, D., Collyer, C., Herrington, S., Janson, K., Janssen, I., Larouche, R., Pickett, W., Marlene Power, M., Sandseter, E. B. H., Simon, B. & Brussoni, M. (2015). Position Statement on Active Outdoor Play. *International Journal of Environmental Research and Public Health, 12*, 6475–6505.

UNESCO (2017). *Education for Sustainable Development Goals*. Learning objectives. Paris: UNESCO. Retrieved from: http://unesdoc.unesco.org/images/0024/0024–74/247444e.pdf (Accessed: 1st March 2019).

Waller, T., Ärlemalm-Hagsér, E., Sandseter, E. B. H., Lee-Hammond, L., Lekies, K., & Wyver, S. (2017). Introduction. In T. Waller, E. Ärlemalm-Hagsér, E. B. H. Sandseter, L. Lee-Hammond, K. Lekies, & S. Wyver (Eds.), *SAGE Handbook of Outdoor Play and Learning* (pp. 1–21). London: SAGE.

WWF Schweiz (2015). *Schulen ab in die Natur*. Lehrerumfrage Mai 2015. Zürich: WWF Schweiz.

WWF (2018). *Living Planet Report 2018: Aiming higher*. Gland: WWF Switzerland.

Authors

Kühnis Jürgen, Prof. Dr. Dr.
The Schwyz University of Teacher Education, Zaystrasse 42, CH-6410 Goldau, Switzerland
e-mail: juergen.kuehnis@phsz.ch
Univerza za učitelje Švica, Zaystrasse 42, 6410 Goldau, Švica, e-pošta: juergen.kuehnis@phsz.ch

Fahrni Désirée, MSc
The Schwyz University of Teacher Education, Zaystrasse 42, CH-6410 Goldau, Switzerland
e-mail: desiree.fahrni@phsz.ch
Univerza za učitelje Švica, Zaystrasse 42, 6410 Goldau, Švica, e-pošta: desiree.fahrni@phsz.ch

REVIJA ZA ELEMENTARNO IZOBRAŽEVANJE
JOURNAL OF ELEMENTARY EDUCATION
Vol. 14, No. 1, pp. 13–30, Marec 2021

ENTREPRENEURSHIP AND THE EDUCATION OF FUTURE TEACHERS

JELENA STAMATOVIĆ[1] & LIDIJA ZLATIĆ[1]

[1] University of Kragujevac, Faculty of Education in Užice, Užice, Serbia

CORRESPONDING AUTHOR/KORESPONDENČNI AVTOR/
jelena.stamatovic22@gmail.com

Potrjeno/Accepted
26. 5. 2020

Objavljeno/Published
22. 3. 2021

Abstract/Izvleček Modern education needs include teachers who possess entrepreneurial competences. The subject of our study is entrepreneurship education in the field of teaching. We conducted semi-structured interviews with senior students of the Faculty of Education in Uzice (N=70). Entrepreneurship education can be realised using formal, non-formal and informal methods in higher education. The fundamentals of entrepreneurship are already represented in the existing curriculum, which cannot be deemed sufficient for systematised knowledge of entrepreneurship. Therefore, faculties of teacher education must be open to new models of activity and content organisation aimed at the development and encouragement of entrepreneurial competences among future teachers.

Podjetništvo in izobraževanje bodočih učiteljev

Sodobna vzgoja in izobraževanje morata vključevati učitelje, ki imajo podjetniške kompetence. Predmet naše raziskave se nanaša na vzgojo in izobraževanje za podjetništvo na področju poučevanja. S študenti zadnjih letnikov Pedagoške fakultete v Užicu smo izpeljali polstrukturirane intervjuje (N = 70). Podjetniško vzgojo in izobraževanje je v visokem izobraževanju mogoče izvajati z uporabo formalnih, neformalnih in aformalnih metod. Osnove podjetništva so že zastopane v obstoječem kurikulu, česar pa ni mogoče ocenjevati kot zadostno za sistematizirano znanje podjetništva. Fakultete, ki izobražujejo učitelje, morajo torej biti odprte za nove modele organizacije aktivnosti in vsebin, katerih cilj sta razvoj in spodbujanje podjetniških kompetenc bodočih učiteljev.

Keywords:
entrepreneurship, entrepreneurial competences, entrepreneurship education, faculties of teacher education.

Ključne besede:
podjetništvo, podjetniške kompetence, vzgoja in izobraževanje za podjetništvo, fakultete za izobraževanje učiteljev.

UDK/UDC
378.147

DOI https://doi.org/10.18690/rei.14.1.13-30.2021

Introduction

The development of entrepreneurship and entrepreneurship education is a priority in many EU member countries and forms part of numerous documents issued by the European Union: the Lisbon Strategy from 2000 (Kronja, Avlijaš, Matejić, Todić, Kovačević, & Branković, 2011), the European Charter for Small Enterprises from 2000, the Green Paper Entrepreneurship in Europe from 2000 (European Commission, 2003), the Agenda for Entrepreneurship Education adopted in 2006 (Eurydice, 2016), as well as the Entrepreneurship 2020 Action Plan, passed in 2013 as part of a comprehensive EU sustainable development strategy and aimed at unlocking entrepreneurial potential and removing existing barriers to the development and strengthening of entrepreneurial culture in Europe (Kronja et al., 2015).

Entrepreneurship education

There are many definitions of the term entrepreneurship that attempt to bring together all its major characteristics to the greatest extent possible. Some broad-based approach definitions define entrepreneurship as a process in which an individual pursues a business opportunity without reflecting on the resources at their disposal, and as the art of translating one's ideas into a new business venture (Bringer & Ireland, 2010). Entrepreneurship is also viewed as an individual's ability to translate their idea into action and application of entrepreneurial skills in everyday life. Omerbegović-Bijelović (2010) define entrepreneurship as the social function of creating new value through a creative combination of business resources related to the creation of new value, stating that it has a significant impact on economic development and employment. If we accept the assumptions that entrepreneurship is a process through which knowledge is transformed into practical results (Shane & Venkataraman, 2000), that entrepreneurship represents the basis of intellectual capital development (Zahra & Dess, 2001), and that entrepreneurs are not born, but made (Drucker, 2014), we will see the need for entrepreneurship education emerge. Entrepreneurship education seeks to develop entrepreneurial competences aimed at the individual's abilities to transform their ideas into concrete activities. Observing them with regard to the defined European Competence Framework, they can be specified within several areas (Bacigalupo, Kampylis, Punie & Van den Brande, 2016).

More specifically, competences are focused on the ability to identify opportunities for advancement, creativity, ability to predict and clearly define one's vision, as well as the ability to recognize the context in which an individual acts and proactively responds to the opportunities provided. In addition, entrepreneurial competences also imply initiative, development of self-awareness and self-efficacy, as well as motivation and determination to achieve success. Innovativeness is the central point of entrepreneurship and a major entrepreneurial characteristic, and some research shows that entrepreneurs are more innovative than others, as a rule (Lumpkin & Erdogan, 1999). Other research speaks of personality traits that may impact entrepreneurial behavior, such as achievement motivation, tolerance of ambiguity, self-confidence and innovativeness, among which the need for achievement has had the longest history (Rauch & Frese, 2007; Zhao, Seibert & Lumpkin, 2010).

Financial and economic literacy are also counted among the entrepreneurial competences. Entrepreneurial activity implies the ability to be cooperative and flexible in teamwork, the ability to identify one's personal strengths and weaknesses, the ability to act proactively and react positively to change, as well as the ability to assess and take risks when justified. Tolerance of ambiguity can be observed as a tendency to perceive ambiguous situations in a neutral way. A person with a high tolerance of ambiguity sees vague (ambiguous) situations as a challenge and strives to overcome unpredictable and uncertain situations so as to perform a task well (Koh, 1996). Individuals with an inclination towards entrepreneurial activity are expected to show higher tolerance of ambiguity than others. Kourilsky (Kourilsky, 1980) argues that self-confidence and self-respect are important variables in predicting one's success as an entrepreneur.

Moreover, planning and management skills are thought to form the basis of entrepreneurial competences. These competences are recognized as part of the competence framework and classified in three areas: "Ideas and opportunities", "Resources", and "Into action," defined within the Entrepreneurship Competence Framework (Bacigalupo, Kampylis, Punie & Van den Brande, 2016). This competence framework is the foundation of entrepreneurship education at all levels, from primary education to university education. Based on all that, it is clear that those tasked with developing these competences in students must themselves possess such competences. Therefore, entrepreneurship education of teachers is crucially important.

The introduction and design of entrepreneurship education in Serbia is regulated by several documents adopted in recent years. The Law on the Foundations of the Education System in the Republic of Serbia (2019) regulates matters associated with the realization of entrepreneurship education. The Strategy for the Development of Vocational Education and Training in the Republic of Serbia (2006) opens new directions for the development of entrepreneurship education and entrepreneurial competences in students of secondary vocational schools. The National Youth Strategy (2015) supports and promotes entrepreneurship as an area necessary for the development and employment of young people. The Strategy for Education Development in Serbia 2020 (2012) emphasizes the role of education in inciting economic growth and social progress, developing comprehension skills and critical thinking, as well as encouraging initiative, creativity and entrepreneurial spirit, together with teamwork and positive social values, which sufficiently illustrates the importance of entrepreneurship education; on the other hand, the Memorandum of Understanding (2009) focuses on the process of and steps in the development and implementation of lifelong entrepreneurial learning policies. General Competence Standards after Primary Education (2010), and the Interdisciplinary Competence Standards after Secondary Education (2013) are defined in accordance with the European Reference Framework of Key Competences for Lifelong Learning, which recognizes competences for entrepreneurship education.

Entrepreneurship in teacher education

Entrepreneurship education is integrated within higher education in the form of individual courses at some faculties. However, entrepreneurship education is not sufficiently represented at faculties of teacher education in Serbia. Some faculties of teacher education tentatively offer different forms of entrepreneurship education as the content of individual courses, or as elective courses, whereas most faculties do not offer entrepreneurship education in any form (Rakićević, Omerbegović-Bjelović, Ljamić-Ivanović, 2015; Zlatić & Stamatović, 2018). Formally speaking, some faculties of teacher education provide Master's degree programs where entrepreneurial content is incorporated within individual courses (master's programs: Leadership in Education, Educational Policy, etc.).

Based on the report Mapping of Teachers' Preparation for Entrepreneurship Education (2011), we can see that some European countries (Finland, United Kingdom, Sweden, Austria and Scotland) do implement various methods of teacher education for entrepreneurship at faculties of teacher education. The report also states that the curricula of these faculties clearly define the basic values of entrepreneurship learning in the mission of the institution, which aim at developing the knowledge and skills of teachers and their attitudes towards entrepreneurship learning, encouraging them to participate in non-formal models of entrepreneurship education, and developing a culture of lifelong entrepreneurship learning.

Bearing in mind the directions of primary and secondary entrepreneurship education development in Serbia, and the binding implementation that rests on several normative and other documents mentioned in previous paragraphs, the need for teachers with well-developed entrepreneurial competences is clear. Such competences should primarily be developed through teacher training and professional development programs.

Some research shows that it is crucial to establish and develop conditions and assumptions for entrepreneurial characteristics of universities and faculties. The connection between innovativeness and the entrepreneurial spirit of the institution is particularly emphasized, as well as the need for support both within and outside of the institution to help researchers in obtaining, financing and managing projects, as well as support for entrepreneurial education within the institution and the entire ethos surrounding education (Gjerding, Wilderom, Cameron, Taylor & Klaus-Joachim, 2006). These characteristics can become a framework for the development and vision of teacher education faculties. The implementation of content aimed at developing entrepreneurial competences can be realized through models that encourage the development of entrepreneurial competences. In addition, extracurricular activities that can be organized by other institutions, organizations or establishments may also contribute to the entrepreneurship education of future teachers (Zlatić & Stamatović, 2018).

Method

The object of our study is to establish how students, future teachers, understand and experience entrepreneurship education as part of their initial education, and how they perceive entrepreneurship in the teaching profession.

The relevance of this perspective lies in the socioeconomic circumstances in Serbia, i.e. the high youth unemployment rate (Government of the Republic of Serbia, 2014) and the fact that the teaching profession is generally in a very unfavourable position, which reflects negatively on the choice of this profession (Kovač-Cerović, 2006).

Given the importance of and need for entrepreneurship education of future teachers, the aim of our research was to examine the viewpoint of students on the current state of and need for entrepreneurship education, more specifically, their overview of entrepreneurship education, how they perceive the relation between their future profession and entrepreneurial competences, as well as opportunities for employment and self-employment. We organized a survey among senior students of the Faculty of Education in Uzice who were close to graduation and thus to potential inclusion in the workforce.

We opted for a qualitative research methodology because we believe it to be adequate for obtaining a large amount of information, i.e. descriptive data, representing the product of the student perspective and their personal experiences (Cohen, Manion & Morrison, 2007). Another reason for choosing this approach is that the very sparse existing research on entrepreneurship from the perspective of students has mostly used quantitative approaches. We expected interview techniques, specifically the semi-structured interview to provide more comprehensive data, insights and experiences of the respondents. The main research instrument was the semi-structured interview, which encourages flexibility and reflexivity of the respondents regarding themselves and the social context. The interviews encouraged students to discuss the following topics: their view of entrepreneurship, entrepreneurship education, how they perceive the relation between their future profession and entrepreneurial competences, as well as the opportunities for employment and self-employment.

The sample comprised final-year students at the Faculty of Education in Uzice from the undergraduate studies programmes Teacher and Preschool Teacher. The survey was carried out in four focus groups with a total of 70 respondents (45 students in the Teacher study programme and 25 students in the Preschool Teacher study programme).

When it comes to the gender structure of the sample, women were the dominant population in the Teacher study programme, where 41 students were female (91.11%) and 4 were male (8.89%), whereas in the Preschool Teacher study programme, 24 students were female (96.00%) and only one was male (4.00%).

Survey data processing. The data obtained in the survey were processed and analysed using a qualitative approach. We started with raw data. Our interviews with the students were recorded, the interviews were transcribed, and then we performed thematic analysis of the raw data, identifying recurring topics and subtopics with a higher frequency of occurrence, starting with the concrete and moving toward higher levels of abstraction, which resulted in more comprehensive topics. The unit of analysis was the interview, whereas the units of coding were the sentences or groups of sentences students used to describe or explain particular segments of entrepreneurship education within the teaching profession. The next step was to further analyse the identified thematic sentences of students and connect defined categories with subcategories that explain these phenomena in more detail. Finally, we linked those findings with existing research on similar phenomena and with the theoretical framework.

Research Results and Discussion

View of entrepreneurship. In defining the term entrepreneurship, students' views gravitate toward entrepreneurship as the organisation of work, personal characteristics of the entrepreneur, and starting a business. Students associate organisation of work with planning and management aimed at a particular goal. They state that successful organisation of work requires teamwork and human resource management. Some of the responses include the following:

In my opinion, entrepreneurship implies individual organisation of a business, where the entrepreneur possesses certain knowledge and skills, investing them in his business venture.

Entrepreneurship is when a person has ideas and manages to realise those ideas with the help of others.

Joint effort of people who possess different knowledge and competences necessary for a business is the essence of entrepreneurship.

Findings from certain studies show that students whose major belongs to the field of the social sciences and humanities, mathematics and medicine are not particularly interested in any information about entrepreneurship, unlike students of natural and technical sciences (Somer et al., 2008).

In our survey, the group of students who presented their views on entrepreneurship understand entrepreneurship in a wider context, i.e. they not only associate entrepreneurship with starting a business but also observe it in a context involving integration of knowledge, skills and attitudes to achieve realisation of the necessary activities within a particular business. They also associate the concept of entrepreneurship with the personal characteristics of the entrepreneur, which may be classified among entrepreneurial competences, and which refer to one's need for achievement (or achievement motivation) recognised as dedication to one's job, persistence, patience, work motivation, personal initiative, risk-taking and creativity. We list several examples of such responses below:

An entrepreneur is persistent and determined, and he/she also must be patient and responsible.

An entrepreneur must "have the nerve" to take risks for certain jobs and be able to bear the pressure and uncertainty.

Entrepreneurship requires people with ideas, creative people able to share their ideas with other employees.

An entrepreneur is a person with initiative who will either start a business of their own by themselves, or perhaps in partnership with others.

Initiative and creativity are very valuable traits in entrepreneurs, which is further confirmed by some studies (Gorman, Hanlou & King, 1997; Ševkušić, Stojaković & Simijonović, 2018; Viduka, 2017; Wang & Wong, 2004).

Entrepreneurship education and development of entrepreneurial skills. In the answers above, we can see that students recognise the link between entrepreneurship and the necessary entrepreneurial skills and knowledge.

Based on the student responses, we can identify two aspects of entrepreneurship education: acquisition of theoretical and practical knowledge, and development of the skills relevant for entrepreneurship. The important question is how to acquire theoretical and practical knowledge related to entrepreneurship. Students based their responses on their personal experiences in the context of formal education, as well as activities outside of it, i.e. informal and non-formal types of education and training.

Students recognise entrepreneurship education at the university level as part of certain curricular content, in teachers' initiatives, as well as in their personal efforts. In the context of their own education, students perceive the curriculum as an essential source of content for entrepreneurship education. They highlight certain courses with content they believe to provide knowledge relevant for entrepreneurship education, and they also emphasise professional traineeship as a crucial segment through which one can develop their entrepreneurial initiative and learn. Here are some examples of their responses:

In my opinion, some of our courses do provide knowledge required for entrepreneurship, Pedagogical Research Methods, for example, where we learn to create research projects, as well as Language Development, where we acquire communication skills which are valuable for entrepreneurs.

I think traineeship is very important for the development of entrepreneurial spirit because we directly participate in everything the job entails, we are in a position to design activities with children on our own and organise work.

If I were to open a private kindergarten, I would first have to conduct research on the needs of the community, using certain techniques and instruments we learned in Teaching Methods and Statistics, whereas Rhetoric would be useful for conducting interviews with interested parties.

Results of a study by Somer et al. (2008) show that most respondents from Belgrade University believe that knowledge acquired at university is insufficient for entrepreneurial initiative.

The authors cite student dissatisfaction with the teaching materials and lack of market-orientation of the material, whereas the other reason is student awareness that, in addition to university education, one needs self-initiative in the form of non-formal education. Markov and Izgorjan (2010) obtained similar results from students at the University of Novi Sad, who reported not receiving sufficient knowledge during their studies, and did not fully develop competences that could help them start their own business. Students who participated in our study cited similar reasons, claiming there were no courses dedicated to entrepreneurship, and that only certain segments of this area would sporadically appear as part of individual courses, which is not sufficient to acquire any systematised knowledge of entrepreneurship.

Given their competences and approaches to working with students, university teachers are an important resource in the process of entrepreneurship learning. Students stated that teachers and their approach to teaching, students and the learning culture could be among the initiators and sources of entrepreneurial knowledge and forms of behavior. Here are several examples of their responses:

Some professors present the material in correlation with practical examples and situations closely related to working with children.

Some professors talk about entrepreneurial initiative and different people who started a business in the field of education or another field, but they are few.

Kourilsky's theory (Kourilsky,1990) relies on the fact that besides theoretical knowledge, students need to gain practical experience in entrepreneurial thinking and engagement, which can be achieved by means of non-formal education.

When it comes to students' perspective, they were more convinced that theoretical knowledge of entrepreneurship could be acquired on their own, from books, the Internet, and available magazines, whereas practical knowledge could be acquired by participating in certain activities, learning through work, through professional practice at university, various seminars, workshops, panels, and other types of non-formal education. Here are several examples:

I am involved in the family business, helping my parents and thus expanding my knowledge of this area.

I would like to attend some seminars and workshops to learn how to open a private kindergarten.

I'd like if we had an opportunity to learn more about it in workshops or lectures at university.

Entrepreneurship education can be organised through non-formal education, where attendants get an opportunity to expand their knowledge of this area. In their study, Somer et al. state that a large percentage of respondents believe that non-formal education plays a significant part in entrepreneurship education (Somer et al., 2017). However, results also show that the supply of systems of non-formal education is poor. The study by Rakićević et al. (2015) shows that students who expressed a genuine interest in entrepreneurship by attending seminars and other types of non-formal education are better prepared for entrepreneurship. One conclusion of this study is that non-formal education about entrepreneurship can increase one's propensity toward entrepreneurship (Rakićević, Omerbegović-Bjelović and Ljamić-Ivanović, 2015).

Entrepreneurship education and future profession. Entrepreneurship education for the teaching profession is a necessity imposed by the needs of elementary education practice. Introducing entrepreneurship to elementary schools in Serbia would require teachers who possess entrepreneurial competences. This is a view shared by students, who believe that the teaching profession demands the development of certain entrepreneurial competences. Their comments range from the necessity of entrepreneurial competences in the organisation of work within an institution, to the necessity of possessing competences to help them find a job in their chosen field. Students have a realistic perception of the necessity of entrepreneurial initiative in the organisation of work because it improves employee participation and contributes to institutional development. Here are several examples of their responses:

It is crucial we should develop our entrepreneurial knowledge and skills because they will help us design more creative activities with children.

Since schools and kindergartens often have limited budgets, teachers and preschool teachers should learn how to provide additional resources (through projects, donations, etc.).

It is important to actively seek work immediately upon graduation, even in rural areas, and that requires certain skills and abilities.

Farashah (Farashah, 2013) and Solesvik et al. (Solesvik, Westhead, Matlay & Parsyak, 2013) argue for a positive correlation between entrepreneurship education and the entrepreneurial intentions underlying entrepreneurial competences. These competences also imply active job seeking by students, but it should be noted there are factors that influence this as well.

Possibility of self-employment. Based on these results, we can say students underlined the importance of personal initiative for finding employment.

Students cited areas belonging to their profession and other professions with regard to self-employment. Although self-employment has been reported in the previous topics and in association with the thematic content mentioned above, here we will distinguish it as a separate topic in terms of the importance of self-employment initiative within both one's chosen profession or another profession. The student perspective on this topic is focused on their personal openness to various possibilities for finding employment in their chosen field, outside of it, or the opportunity to start their own business. We will cite several examples:

There usually are no kindergartens in rural areas, so this is both a good opportunity to help parents in such communities, and a good opportunity for us to start a private business.

If I fail to land a job in an educational institution, my plan B is a private playroom.

If I am unable to get employment in my chosen field, I would analyse the market in my hometown, its needs, if anything is missing, etc, and then start thinking about starting a business in that area.

Here we have a kind of openness to different possibilities regarding jobs and employment that requires certain knowledge and skills.

Entrepreneurship education in higher education and through lifelong learning. Sudarić (2012) emphasises that organisations today cannot provide permanent employment, which is why they must provide continuing education for their employees, while also expanding and enhancing their knowledge and skills through a lifelong learning system. Students' thoughts about the direction in which entrepreneurship education should develop at university gravitate toward the curriculum and the organisation of work at university level, as well as institutional openness toward entrepreneurs, education professionals and unemployed teachers:

It would be good to organise various training programmes about entrepreneurship, not only for students, but for other interested parties as well (teachers, citizens, etc.) where they could exchange knowledge and experience.

Faculties should provide professional development for their employees and students seeking employment.

I think we should get new elective courses in the field of entrepreneurship, such as marketing, accounting, etc.

Faculties should organise meetings between students and successful professionals, both in the field of education and in other areas, or screen documentaries about the origins and development of successful companies.

One conclusion of the study by Ševkušić et al. (Ševkušić, Stojanović & Simijanović, 2018) indicates the potential to hire successful local professionals as associates or mentors in entrepreneurship education in order to help students develop psychological strategies for maintaining motivation related to their career choice.

Models of university-level entrepreneurship education in various European countries (Finland, United Kingdom, Sweden, Austria and Scotland) focus on different activities. The report Mapping of Teachers' Preparation for Entrepreneurship Education (2011) cites models of entrepreneurship education at the university level designed for future teachers. Entrepreneurship education is commonly organised and realised through educational modules within existing study programmes (Entrepreneurship Training, Entrepreneurship Education, Entrepreneurial Thinking), or as the possibility given to future teachers of enrolling in elective entrepreneurship modules at other institutions of higher education.

Many teacher training faculties in the relevant countries participate in non-institutional programmes and projects referring to entrepreneurship education both during studies and as part of professional development for teachers in the context of lifelong learning. Any education system should ensure that children develop their creativity and curiosity as early as possible, because these traits are the basis of entrepreneurial competence and intention, whereas university students should learn both the practical and theoretical elements necessary for entrepreneurship (Dinis, Paço, Ferreira, Raposo & Rodrigues, 2013).

Conclusion

Entrepreneurship learning is aimed at encouraging and developing entrepreneurial competences. A systematic approach to entrepreneurship education must be the main direction and strategy of education development at all levels, from primary to university education. Therefore, it is crucial to prepare future teachers for the realization of entrepreneurship education in a planned and purposeful way, developing their entrepreneurial competences. Different European countries have different models for the realization of entrepreneurship education of future teachers. Serbia does not yet have a clearly defined model of entrepreneurship education for future teachers. One of the main conclusions of this research is the need to introduce entrepreneurship learning into the system of higher education, including faculties of teacher education.

We have determined that future teachers and primary teachers have a need for knowledge in the field of entrepreneurship, and consider entrepreneurial experience important as a basis for the development of entrepreneurial competences, and associate these not only with the formal aspect of education, but with other informal and non-formal learning situations, as well. They also believe that the supply of such informal models of entrepreneurship learning is scarce. Therefore, it is necessary to systematically approach the enrichment and expansion of the curriculum at institutions of higher education, adding entrepreneurial content both as part of individual courses, and through an integrated interdisciplinary approach, which is a model already used in several European countries.

It would also be important to provide the opportunity for informal models of professional development in the field of entrepreneurship by organizing various activities at faculties of teacher education. Modern society implies that continuous learning is a requirement for finding employment at any moment, and that one needs to continuously develop one's entrepreneurial competences even when one already has a job. Openness to professional development in the field of entrepreneurship should be one of the outcomes of higher education and required by the institutions where teachers are employed. The quality of entrepreneurship learning in the workforce and the ability to take responsibility for one's own success are the keys to success of every institution. The authors of this paper must point out the potential methodological limitations of this research.

During the survey, the respondents (students) were open and ready to cooperate, but we cannot claim with absolute certainty that they avoided giving any socially desirable answers. However, we tried to reach deeper personal views and attitudes and encourage them to self-reflection by asking follow-up questions.

References

Barringer, B. R., & Ireland, R. D. (2010). Entrepreneurship: Successfully Launching New Ventures. New Jersey: Pearson Education.

Bacigalupo, M., Kampylis, P., Punie, Y., & Van den Brande, G. (2016). EntreComp: The Entrepreneurship Competence Framework. EU: Joint Research Centre, doi:10.2791/593884

Brockhaus, R. (1980). Risk-taking Propensity of Entrepreneurs. *Academy of Management Journal*, 23, 509–520.

Cohen, L., Manion, L., & Morrison, K. (2007). Research Methods in Education. London, New York: Routledge.

Čekić–Marković, J. (2015). Preduzetničko obrazovanje: Komparativni pregled obrazovnih politika, modela i prakse. Beograd: Tim za socijalno uključivanje i smanjivanje siromaštva i Vlada Republike Srbije.

Despotović, M. (2016). Obrazovanje odraslih na zapadnom Balkanu. Beograd: Društvo za obrazovanje odraslih, DVV International.

Dinis, A., Paço A., Ferreira J., Raposo M., & Rodrigues G. (2013). Psychological Characteristics and Entrepreneurial Intentions among Secondary Students. *Education + Training*, *55*(8/9), 763–780.

Drucker, P. (2014). Innovation and Entrepreneurship. London: Routledge.

Evropska komisija/EACEA/Eurydice (2016). Preduzetničko obrazovanje u evropskim školama . Izveštaj Eurydice mreže. Luxembourg: Biro za publikacije Evropske Unije.

Farashah, A. D. (2013). The Process of Impact of Entrepreneurship Education and Training on Entrepreneurship Perception and Intention: Study of Educational System of Iran. *Education + Training*, *55*(8/9), 868–885.

Gjerding, A., Wilderom, C., Cameron, S., Taylor, A., & Klaus-Joachim, S. (2006). Twenty Practices of an Entrepreneurial University. *Higher Education Management and Policy*, *18*(3), 84–106.

Gorman, G., Hanlou, D., King, W. (1997). Some Research Perspectives on Entrepreneurship Education and Education for Small Business Management: A Ten-Year Literature Review. *International Small Business Journal: Researching Entrepreneurship*, *15*(3), 56–77.

Koh, H. C. (1996). Testing Hypotheses of Entrepreneurial Characteristics: A study of Hong Kong MBA Students. *Journal of Managerial Psychology*, *11*(3), 12–25.

Kourilsky, M. (1980). Predictors of Entrepreneurship in a Simulated Economy. *The Journal of Creative Behaviour*, *14*(3), 175–199.

Kovač-Cerović, T. (2006). National Report, Serbia. In P. Zgaga (Ed.), The Prospectus of Teacher Education in South-East Europe (pp. 487–526). Ljubljana: Centre for Educational Policy Studies, University of Ljubljana, Faculty of Education.

Kronja, J., Avlijaš, S., Matejić, V., Todić, D., Kovačević, A., & Branković, J. (2011). Vodič kroz, Evropa 2020. Retrieved from http://www.mpn.gov.r-s/wp-content/uploads/2015/08/EU-2020.pdf (Accessed: 12th September, 2018).

Kronja, J., Avlijaš, S., Matejić, V., Todić, R., Kovačević, A., Radišić , J., Milovanović, J., Rakin, D., & Aleksić, M. (2015). Evropa 2020. Beograd: Fond za otvoreno društvo, Retrieved from http://www.mpn.gov.rs/wp-content/upl–oads/2015/08/EU-2020.pdf (Accessed: 25th September, 2018).

Lumpkin, G., & Erdogan, B. (1999). If Not Entrepreneurship, Can Psychological Characteristics Predict Entrepreneurial Orientation? A Pilot Study. Retrieved from https://www.researchgate.net/profile/Berrin_Erdogan/publicati–on/2531217-38_If_Not_Entrepreneurship_Can_Psychological_Characteristics_Predict_Entrepreneurial_Orientation_-A_Pilot_Study/links/ Accessed: 11th June 11, 2016).

Mapping of Teachers' Preparation for Entrepreneurship Education – final report (2011). Brussels: GHK.

Markov, S., & Izgorjan, A. (2010). Perception of the Entrepreneurship of the Male and Female Students at University of Novi Sad. *Sociološki pregled*, *64*(2), 325–336.

Omerbegović-Bijelović, J. (2010). Osnove operacionog menadžmenta. Beograd: Fakultet organizacionih nauka.

Paco, A., Ferreira, J., Raposo, M., Rodrigues, R., & Dinis, A. (2011). Entrepreneurial Intention among Secondary Students: Finding from Portugal. *International Journal of Entrepreneurship and Small Business*, *13*(1), 92–106.

Rakićević, Z., Omerbegović-Bjelović, J., & Ljamić-Ivanović, B. (2015). Virtuelno preduzetništvo: obrazovanje kao podrška preduzetničkoj spremnosti studenata. In M. Stanišić (ed.) Syntezis zbornik radova (pp. 635–641). Beograd: Univerzitet Singidunum,.

Rauch, A., & Frese, M. (2007). Let's put the person back into entrepreneurship research: A meta-analysis on the relationship between business owners' personality traits, business creation, and success. *European Journal of Work and Organizational Psychology*, *16*(4), 353–385.

Shane, S., &Vanakataraman, S. (2001). The Promise of Entrepreneurship as a Field of Research: A Response to Zahra and Dessi, Singh and Erikson. *Academy of Management Review*, *26*(1), 217–226.

Solesvik, M., Westhead P., Matlay H., & Parsyak V. (2013). Entrepreneurial Assets and Mindsets: Benefit from University Entrepreneurship Education Investment. *Education + Training, 55*(8/9), 748–762.

Somer, A., Arsić, K., Govedarica, N., Nikolić, K., Pavković, M., Subotić, L., & Todorović, M. (2008). Stavovi studenata Univerziteta u Beogradu o preduzetništvu mladih u Republici Srbiji. Beograd: Centar za međunarodnu javnu politiku.

Sudarić, Ž. (2012). Obrazovanje cjeloživotno učenje za podučavanje=poduzetništvo. *Učenje za poduzetništvo*, *2*(1), 71–75.

Ševkušić, S., Stojanović, L., & Simijonović, L. (2018). Koji faktori oblikuju nmeru srednjoškolaca u Srbiji da se bave preduzetništvom? Zbornik instituta za pedagoška istraživanja, *50*(1), 158–181. DOI: https://doi.org/10.2298/ZIPI1801158S.

Tafra, V. (2012). Učenje i osposobljavanje preduzetništvo i obrazovni sustav-strategijski pristup. Učenje za poduzetništvo, *2*(1), 21–31.

Travis, J., & Freeman, E. (2017). Predicting Entrepreneurial Intentions: Incremental Validity of Proactive Personality and Entrepreneurial Self-efficacy as a Moderator. *Journal of Entrepreneurship Education*, *20*(1), 45–57.

Viduka, B. (2017). Značaj obrazovanja iz preduzetništva za razoj preduzetničkih težnji studenata strukovnih škola (neobjavljena doktorska disertacija. Beograd: Fakultet za primenjeni menaxment, ekonomiju i finansije.

Vlada Republike Srbije (2014). Drugi nacionalni izveštaj o socijalnoj uključenosti i smanjenu siromaštva u Republici Srbiji 2011–2014. Beograd: Vlada Republike Srbije.

Wang, C. K., & Wong, P. K. (2004). Entrepreneurial Interest of University Students in Singapore. *Technovation*, *24*(2), 163–172.

Zahra, S., & Dess, G. (2001). Entrepreneurship as a Field of Research: Encouraging Dialogue and Debate. *The Academy of Management Review*, *26*(1), 8–20.

Zhao, H., Seibert, S., & Lumpkin, G. T. (2010).The Relationship of Personality to Entrepreneurial Intentions and Performance: A Meta-Analytic Review. *Journal of Management*, *36*(2), 381–40.

Zlatić, L., & Stamatović, J. (2018). Entrepreneurship Education at Faculties of Education. U T. Štenberger et al. (eds.). Oblikovanje inovativnih učnih okolij (pp. 462–478). Koper: Univerza na Primorskem.

Documents:

European Charter for Small Enterprises (2000). Retrieved from https://ec.europa.eu/growth/content/european-charter-small-enterprises-0_en Accessed: 12th October, 2018.

Evropska komisija (2003). Zelena knjiga: Preduzetništvo u Evropi /Green Paper: Enterpreneurship in Europe. Brussels. Retrieved from http://www.seecel.hr. Accessed: 17th October, 2018.

Evropska komisija/EACEA/Eurydice (2016). Preduzetničko obrazovanje u evropskim školama. Izveštaj Eurydice mreže. Luksemburg: Biro za publikacije Evropske Unije.

Nacionalna strategija za mlade (2015) „Službeni glasnik RS" 22/2015

Obrazovni standardi za kraj obaveznog obrazovanja (2010). Beograd: Ministarstvo prosete Republike Srbije i Zvod za vrednovanje kvaliteta obrazovanja i vaspitanja.

Strategija za podršku razvoja malih i srednjih preduzeća, preduzetništva i konkurentnosti za period od 2015 do 2020 godine (2015). Retrieved from https://privreda.gov.rs/wp-content/uploads/2018/03/Strategija-I-Plan.pdf Accessed: 27th October, 2018.

Strategija razvoja stručnog obrazovanja u Republici Srbiji (2006). Retrieved from http://www.mpn.gov.rs/wpcontent/uploads/2015/08/Strategija_razvoja_strucnog_obrazovanja.pdf (Accessed: 16th August, 2018).

Standardi opštih međupredmetnih kompetencija za kraj srednjeg obrazovanja (2013) Retrieved from https://ceo.edu.rs/wpcontent/uploads/obrazo–vni_standardi/O-psti_standardi_postignuca/MEDJUPREDMETNE%20KOMPETENCIJE.pdf. Accessed: 9th May, 2018.

Authors

Jelena Stamatović, PhD
Assistant professor, University of Kragujevac, Faculty of Education in Užice, St. Sava Square 36, 31000 Užice, Serbia, e-mail: jelena.stamatovic22@gmail.com
Docentka, Univerza v Kragujevcu, Pedagoška fakulteta Užice, Trg Svetog Save 36, 31000 Užice, Srbija, e-pošta: jelena.stamatovic22@gmail.com

Lidija Zlatić, PhD
Assistant professor**,** University of Kragujevac, Faculty of Education in Užice, St. Sava Square 36, 3100 Užice, Serbia, e-mail: lzlatic@ptt.rs
Docentka, Univerza v Kragujevcu, Pedagoška fakulteta Užice, Trg Svetog Save 36, 31000 Užice, Srbija, e-pošta: lzlatic@ptt.rs

REVIJA ZA ELEMENTARNO IZOBRAŽEVANJE
JOURNAL OF ELEMENTARY EDUCATION
Vol. 14, No. 1, pp. 31–46, Marec 2021

WHY BECOME A PE TEACHER? – MOTIVATION, SELF-CONCEPT AND IMPLICATIONS FOR TEACHER EDUCATION

HERBERT ZOGLOWEK

[1] University of Tromsø, The Arctic University of Norway, School of Sport Science, Alta, Norway

Potrjeno/Accepted
18. 6. 2020

Objavljeno/Published
22. 3. 2021

KORESPONDENČNI AVTOR/CORRESPONDING AUTHOR/
herbert.zoglowek@uit.no

Abstract/Izvleček Career choice can be seen as a complex decision-making process. Individual interests and goals, subjective assessment of abilities, as well as external requirements and circumstances play important roles. The PE teacher profession is often seen as a fun profession, without special requirements or burdens – an opportunity to turn a hobby into a profession. PE teacher candidates are confronted with the question of why they want to become PE teachers. The results of the survey highlight the importance of "biographical competence", which must be seen as an important argument for increased attention to the development of the professional self in the PE teacher training program.

Zakaj postati učitelj športa? - Motivacija, samopodoba in posledice za izobraževanje učiteljev

Na izbiro kariere lahko gledamo kot na zapleten postopek odločanja. Pomembno vlogo imajo posameznikovi interesi in cilji, subjektivna ocena sposobnosti ter zunanje zahteve in okoliščine. Poklic učitelja športa pogosto velja za zabaven poklic, brez posebnih zahtev ali bremen – priložnost, da hobi spremenite v poklic. Kandidati za učitelje športa se soočajo z vprašanjem, zakaj želijo postati učitelji športa. Rezultati raziskave poudarjajo pomen tako imenovane "biografske kompetence", ki jo je treba obravnavati kot pomemben argument za večjo pozornost razvoju študijskih programov za izobraževanje učiteljev športa.

Keywords:
choice of study, professional self, biographical competence, qualitative approach, didactic implications

Ključne besede:
izbira študija, poklicni jaz, biografska kompetenca, kvalitativni pristop, didaktične posledice

UDK/UDC
37:796.01

DOI https://doi.org/10.18690/rei.14.1.31-46.2021

Introduction

The question whether the job of a physical education teacher is a dream job (Miethling, 2000; Thomann, 2006; Ulich, 2000; Ulbricht, 2013), has been answered by Miethling as being "between dream and nightmare" (2000). Kastrup & Kleindienst-Cachey (2008) came to a similar conclusion. The polarization expressed here is also repeatedly expressed in society's image of the PE teacher profession and in the way PE teachers themselves see their field of activity: a fun job without special demands or burdens, which allows one to turn a hobby into a profession or a job with a high risk of burnout. Low expectations with regard to demands because of one's own experiences as a pupil promise a PE study based on one's own sports activities. Possible challenges of the later profession are rarely seen (Bräutigam, 2003). If, on the one hand, the prevailing image of the PE teacher in society is rather negative and not associated with high esteem in public opinion, and if, on the other hand, PE teachers themselves often describe the demands of sports lessons as much more stressful than those of normal classroom lessons (Frommel, 2006; Gröbe, 2006), then what can motivate young people today to become PE teachers?

This article aims to answer this question and provide subsequent reflections on the significance of career choice motives for (PE) teacher training. The first part of the paper deals with the motivation to choose a profession, followed by a seminar-based study on the career choice of PE teachers. The final part identifies and discusses possible implications of this career choice for the development of the professional self-concept within PE teacher education. This outlines the perspective and purpose of this paper: study and career choice and its importance for (PE) teacher education. The interest is not so much research-based as didactic, in that knowledge about the choice of study and profession is specifically included in teacher training. Individual and autobiographical (explanatory) knowledge is actively used in elaborating and supporting self-reflection for the development of a professional self-concept.

Motive for choice of study and profession

Both nationally and internationally, research on career choice motives is a well and comprehensively investigated field within teacher education research.

The empirical field appears to be well advanced from the perspective of motivation psychology, personality psychology or vocational aptitude theory (Steltmann 1980; Schutz et al., 2001; Kiel et al., 2004; Herzog et al., 2007; Keller-Schneider, 2009; Pohlmann & Möller, 2010).

Different approaches with regard to subject and research perspectives lead to differentiated observations and generalizable findings, especially with regard to different teaching positions or different subjects. In contrast, the significance and possible effectiveness of the choice of study and profession for teacher training is hardly discussed, if at all, and if so, only in passing.

The choice of study and profession is a complex decision-making process, the reasons for which are based on experience and on often long-term goals, which include expectations, desires and short-term objectives. This includes job-relevant and experience-oriented previous experience, the subjective assessment of one's own abilities, and individual interests or even goals that are not related to one's job or study. Kuhl (2001) distinguishes between causal and final aspects in this context. Theories on career choice behaviour (Holland, 1985; Schutz, Crowder & White, 2001; Watt & Richardson, 2007, 2008; Retelsdorf & Möller, 2012) describe the career decision as the result of an evaluation process based on the greatest possible agreement between personal characteristics and the expected requirements of a future profession. To a greater or lesser extent, motives for choice of profession depend on individual resources: i.e., biographical and socialization aspects have a greater impact than is often consciously assumed (Heckhausen & Schulz, 1995; Herzog, et al., 2007; Terhart, 1994).

Motive dimensions

In relevant research, the motivation for studying and choosing a profession is usually mentioned without defining and differentiating it in a more precise manner. However, the choice of a study does not necessarily have to include a profession as its objective. The two perspectives - study and profession - can correspond, but do not have to. The choice of a particular study can initially stem from quite different reasons, and it is only during the course of study that its choice becomes a career perspective, or another career perspective can replace the desired career in the course of the studies. However, a closer look at the items presented in the surveys shows that the career perspective is always implicit, even when respondents are asked about the choice of study.

This is particularly true for teacher training, even though the 'classic' teacher training program has now been replaced by a bachelor's program, which theoretically opens up other career paths (Besa, 2018; Rothland, 2014).

These developmental perspectives, combined with the usual motivational categories of 'intrinsic' and 'extrinsic', lead to a four dimensional model shown in Figure 1, which, though often conceptually blurred, can be found in most publications on the choice of study and profession (Hanfstigl & Mayr, 2007; Mayr, 2009; Kiel et al., 2015; Keller-Schneider, Weiss & Kiel, 2018).

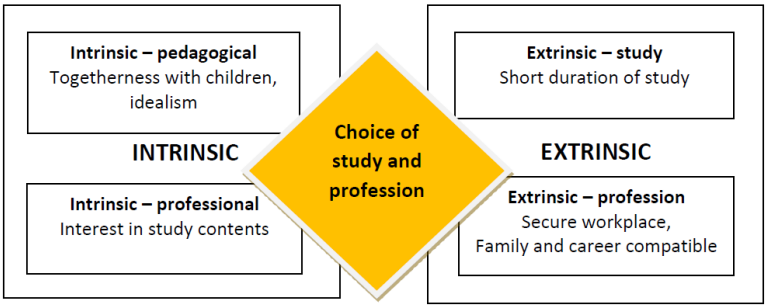

Figure 1: Systematics of study and profession choice motives (see also Kiel et al., 2015, 302)

An intrinsic motive for studying to become a teacher is, for example, interest in the content of the study, while an extrinsic one can be the relatively short duration of the study. An intrinsic motive for choosing a profession is often the joy of being with children and young people, while an extrinsic motive is, for example, job security.

The ultimate motive structure is a matter of individual choice. However, all studies indicate that intrinsic motives, especially educational ones, dominate over extrinsic ones (e.g. Mayr, 2009; Pohlmann & Möller, 2010; Keller-Schneider, Weiss & Kiel, 2018). The motive 'joy of working with children' always played a prominent role in earlier studies (Baur, 1981; Hirsch, 1990; Ulich, 2004; Herzog et al., 2007). For prospective students of physical education, subjectively perceived existing competence seems to be an important decision-making factor: i.e., it is expected that sports studies will enrich or supplement an already acquired professional competence with (subject) didactic competence.

Cultural habitus and professional self-concept

The motives for choosing study and profession are not only based on current or situational moments but are often based on one's own socialization. Several studies (e.g. Terhart et al., 1994; Zoglowek, 1996a; Scherler, 1996; Blotzheim, 2005; Reinartz & Schierz, 2007) have shown that teachers hardly ever orient themselves in reflected pedagogical decisions towards knowledge acquired during their studies, whereas biographical aspects and their own experiences are more often used as a context of justification. From a prospective perspective, Mayr (2009) found in extensive longitudinal studies at all pedagogical universities in Austria, that career choice motives are also important factors for teachers' professional probation. In this context, it seems appropriate to take a closer look at biographical self-reflection when deciding on study and career choice and to take this into account in the professionalization concept. In a study on the connection between culture of origin and choice of study subject, Schölling (2005) concluded that the compatibility of personal culture (habitus) and subject culture is of enormous importance for the choice of study. He explains the term, borrowed from Bourdieu (1979), as "a system of dispositions shaped by socialization, which influences the thinking, acting and perception of actors in the social field" (Schölling 2005, p. 16; own translation); he therefore concludes that a person chooses the study that best corresponds to his or her habitus. At the same time, the study socialization that results from the choice of study has a feedback effect on the habitus (Figure 2).

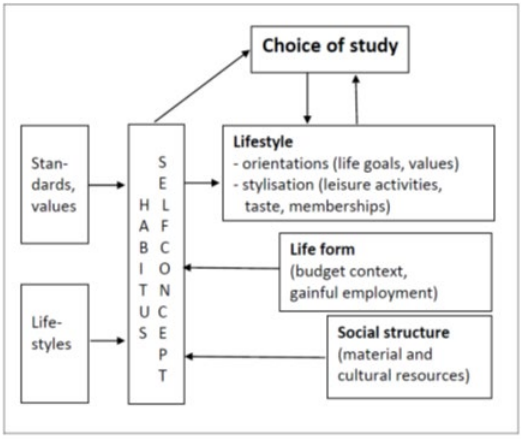

Figure 2: Correlation between personal culture and choice of study subject (based on Schölling, 2005; see also Pemmer, 2009)

In the discussion on pedagogical professionalism and the skills required for the teaching profession, the need to include the importance of one's biography is pointed out (Combe & Kolbe, 2004; Blotzheim, 2005; Reinartz & Schierz, 2007). This is particularly important in the case of self-competence, which has gained significance in recent competency models (Bräutigam, 2003; Blotzheim, 2005; Zoglowek, 2008; Unterweger, 2008, 2014; Pemmer, 2009). Self-competence is understood to be the ability to use proven knowledge to make one's own reality the subject of cognitive activities. If biographical competence is an important motive for the choice of study and profession, the next step should be to consider how these aspects of self-competence can be both used and developed in teacher training. If prospective teachers understand their biography as an important resource, this opens up considerable opportunities for them to cope with their later professional tasks. This can be achieved if teachers are able to further develop and modify this resource and design it to meet professional requirements. This task can be fulfilled by focusing on the 'professional self' in education.

Career aspiration: Physical Education teacher

At present, studies are often school-specific or teaching position-oriented differentiations, but almost no research has been done regarding the motivational structure of certain subjects or subject combinations. It can be assumed, however, that individual interests and requirements are also associated with the selected subjects. There are few recent studies on the career choice of PE teachers (Pemmer, 2009; Weiss & Kiel, 2010). Weiss & Kiel confirm in a certain way the term 'habitus', which was discussed in the previous section, when they state that, "Lifestyle and main interest become the profession" (2010, p. 311; own translation). Another way to undertand this, as Baillod & Moor (1997) have critically noted, is that a significant number of the students have a relatively naive attitude towards their future profession: they expect to continue their own sports activities; that means a relatively simple, practical and rather theory-free study. The students' own enjoyment of sport activities is the central motive with which they approach their study (Baillod & Moor, 1997; Pemmer 2009).

Method: Survey as introduction to teacher training

"Why do you want to become a PE teacher?" This question is asked of students who attend a seminar on the professional self-concept of the PE teacher. For several years now, a seminar has been offered in which the main focus is on pedagogical professionalism and the development of the professional self. The importance of one's own biography for the assessment and choice of future profession plays an important role and is reflected and discussed accordingly. As a reflection-stimulating initial question, students are asked to write down why they want to become a PE teacher. Over a period of nine years (2011-2019), 172 students (62 male and 110 female; aged between 20 and 34) have expressed their views on this question. It is a very short, quick survey. The main intention is not primarily to produce empirical data but to initiate a process of thinking and reflection. The open question should be answered relatively spontaneously, with up to five keywords or short sentences. The question of study and career motivation serves the seminar participants as a starting point for reflection on their existing professional self-image. The seminar is largely based on the answers given, and certain aspects and dimensions will be returned to again and again during the course of the seminar.

Survey and communicative validation

By using the concept of communicative validation to check the validity of the collected data, this procedure serves not only this validity check but also the main intention, namely the initiation of deeper reflection. The concept of communicative validation is applied in the paradigm of qualitative research to verify the validity of an understanding or interpretation by establishing consent, agreement or comprehensibility through feedback of the result to the respondent (cf. Flick, 1987, 2017; Zoglowek, 1996b; Meyer, 2018). This validation form can refer to the survey phase, the evaluation phase or both phases. Communicative validation for the evaluation of interpretations is primarily regarded as critical when the primary goal is to gain knowledge - in this case communicative validation should triangulatively be regarded merely as one of several test steps. In the case, however, when acquired knowledge is seen from the outset as a step towards shaping and changing practice, it can be stated after Klüver that, "Communicative validation procedures have their meaning and irrevocable necessity precisely where the theoretical interpretations of statements, especially self-portrayals, have the function of preparing and structuring a practice shared with the respondents" (1979, p. 82).

Table 1: Why do I want to become a PE teacher? (own research; seminar survey; N = 172)

Year	**All**	**2019**	**2018**	**2017**	**2016**	**2015**	**2014**	**2012**	**2011**
N =	172	25	20	17	28	18	14	21	29
Educational work with children	**241**	**29**	**28**	**24**	**33**	**24**	**24**	**36**	**43**
enjoy working with children	59	10	4	-	5	1	3	15	21
getting children excited about physical activities	112	13	14	13	14	14	16	14	14
to find better contact to children via movement	40	1	3	8	6	9	3	4	6
compensation for other everyday school life	28	4	7	2	8	-	2	3	2
improvement of the classroom climate	2	1	-	1	-	-	-	-	-
Subject-specific interest	**102**	**12**	**9**	**14**	**21**	**12**	**-**	**13**	**21**
movement is important for children	49	3	5	6	13	12	-	3	7
physical and social learning	28	4	-	4	4	-	-	6	10
health Learning	21	4	4	2	3	-	-	4	4
the most popular subject for children	4	1	-	2	1	-	-	-	-
Own sports biography and socialization	**138**	**30**	**12**	**11**	**24**	**18**	**17**	**32**	**39**
turning hobby into a profession	12	4	-	1	1	2	2	2	-
enjoy sports oneself	121	15	11	7	17	14	13	23	21
can be active oneslef	10	3	-	2	2	-	-	3	-
already trainer	15	7	-	-	3	-	2	-	3
Other	**19**	**2**	**1**	**2**	**8**	**-**	**4**	**2**	**-**
good sports teacher as a role model	6	-	1	-	3	-	2	-	-
be a better PE teacher	4	-	-	-	1	-	1	2	-
no class tests	2	-	-	1	1	-	-	-	-
little preparation	1	-	-	-	-	-	1	-	-
contribution to better society	2	2	-	-	-	-	-	-	-
dream job	4	-	-	1	3	-	-	-	-

It is precisely in this sense that the answers concerning the choice of study and career are treated. The motives written down by the students were first listed and linguistically standardized, i.e., differently formulated justifications of equal importance were combined and quantitatively recorded. This merging of opinions was then presented to the students and questioned as to its correctness or consistency; in other words, it was validated communicatively (Meyer, 2018). In view of other, similar studies (Weiss & Kiel, 2010; Keller-Schneider, 2009; Keller-Schneider et al., 2018), the statements were assigned to the categories shown in Table1.

Discussion

The first thing to note is that only a very few extrinsic motives are mentioned. The intrinsic motives are divided into three categories (see Table 1). The answers under the fourth heading (other) are considered to be of little relevance to the question and are only mentioned here to satisfy the complete reproduction of the answers.

In the category 'educational work with children', the developing human being is in the foreground. One is interested in the individual and social development of the children, wants to support them in their development and establish a relationship with them. In other studies, altruistic or idealistic motives are also mentioned in this section (cf. Rinke, 2008; Kiel et al., 2015).

The sub-category 'Getting children excited about physical activities' can be described as lying in a grey area or as an overlapping zone between the educational motives and the subject-specific motives. In line with other studies, this sub-category is assigned to educational motives, since the main tenor is based more on enthusiasm for learning and less on specific physical activities. The category 'subject-specific interest' deals with the subject of 'sport' itself. The values ascribed to sport are at the forefront of the motive justification. The third category 'own sports biography and socialization' is relatively rarely found in similar studies. This may be because one's biography has only in recent years become more important in the choice of studies and profession, and it also seems to have a special significance for the profession of PE teacher. The above-average interest in the study content seems to be primarily due to the fact that there is a longstanding biography of sports activities, and one would like to maintain and continue this 'purpose in life' in many ways. This aspect is of the utmost importance for the actual purpose of this survey, as it is about making students aware of their own biography and sporting socialization for and during their study, and to address this issue in PE teacher training.

The sub-categories related to 'enthusiasm' received by far the most mentions. 70% of the surveyed students state that they themselves enjoy sports as an important motive for their choice of study and profession, and for 65%, 'getting children excited about physical activities' is the primary motive for their choice. These motives can be regarded as the most important prerequisites for PE teachers. "Enjoyment of working with children is an indispensable, but not sufficient prerequisite for coping with the professional demands" (Keller-Schneider, 2009, p. 19; own translation).

Implications for (PE) teacher training: To professionalize oneself

In addition to the training of professional and didactic skills, PE teacher training is concerned with the training and (further) development of self-competence in relation to the profession of PE teacher.

For the development of professionalism, self-reflection is indispensable. Self-reflection, the acting self as well as the aspect of the self in relation to and dependence on the socio-cultural environment and to other persons become important aspects in the process of teacher professionalization. For teachers, it is of great importance to become aware of the formative aspects of their own socialization and school experiences. Their values and evaluations, the acquired concepts and subjective theories must be questioned in order to become aware of one's own guidelines for action but also to be open to new steps in development.

These reflective impulses can begin specifically with consideration and discussion of one's choice of study and career. *Why am I actually here? What expectations do I have of my study and my career?*

Especially at the beginning of the study, the focus of education should be on self-awareness and self-reflection, on becoming aware of what is already there (see also Unterweger, 2014). The intensive examination of one's own potential, expectations, strengths and resources forms an essential basis for self-competence. Prospective PE teachers should learn to understand their biography as a resource, since it yields significant potential for coping with their future professional tasks. Professionally, i.e. as part of their professional self, they will succeed if they are able to use this resource, not uncritically, but in a reflective manner in their professional training and in their later professional activities. This also includes the insight that this resource can be developed and modified.

Figure 3 shows a model of this development process. The model is a combination and further development of the concepts of Bauer (2005) and Schölling (2005). In this understanding, the importance of the choice of study for the development of the professional self is emphasized. This applies both to the interdependent relationship between current self-image and choice of study and to the influence of choice of study on the (further) development of the professional self.

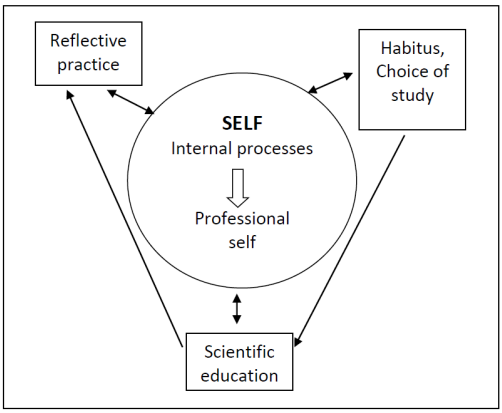

Figure 3: The professional self (Edited according to Bauer, 2005 and Schölling, 2005)

A further point can be discussed by focusing on the category 'own sports biography and socialization'. It is particularly interesting that the motive "enjoy sports myself" is the one most frequently mentioned as a study and professional motive (121 times). These – and one could add the statement "can be active oneself" – clearly underline how strongly previous sporting socialization has influenced the desire to pursue this study. Some also explicitly express this perspective: "turning a hobby into a profession". Sports activities as the core of family socialization and as a formative lifestyle should, ideally, be continued in the future profession. This 'habitus' seems so strongly developed that it is no longer questioned. Other professional or scientific motives are not recognised or at least, not considered particularly relevant. On the one hand, this choice against the background of the previous sporting life biography must be seen as positive, because it seems to be supported by high levels of intrinsic motivation. On the other hand, a negative aspect can also be identified in it, a certain danger, since the previous positive experience with sports mean that the study of sports and the later professional field are seen from a one-sided perspective and as relatively easy. Possibly unrealistic expectations of the study program – ability to continue one's own sports activities and to enhance one's practical skills – as well as of the future profession – passing on one's own positive experiences in sports and conveying the fun of exercise – can quickly lead to disillusionment and to demotivating experiences during the course of study, if the self-biographically based optimistic expectations are not critically questioned and opposed to a potentially different reality (see also Baur, 1981; Bräutigam, 2003; Blotzheim, 2005; Pemmer, 2009).

To teach PE is not the same as to engage in sports activities oneself. Because not all children come to school and physical education with a positive experience of early childhood sports socialization, not all children have positive experiences of body and movement and not all sports activities are shared, joyful activities. Sports activities can entail conflict management and also be conflictual. This is not to mention general problems in dealing with pupils and the social environment at school. A reflective approach to one's own self-image and a possible reality-related modification must therefore be an indispensable and important part of self-professionalization. The approach presented here therefore attempts to actively use the possibilities and opportunities that lie in every new beginning. In concrete terms, this means uncovering, questioning and positively transforming the self-images, control convictions and unrealistic expectations that may have existed at the beginning of the sports teacher's studies, some of which were not well reflected. These and similar aspects are taken up in a lesson designed in this way. By placing the relatively spontaneous expressions of study and career aspirations on a higher level of reflection, the fundamentally positive motives for choice can be critically examined, and positive study and professional experiences can be prepared, thus enabling students to develop a realistic professional self.

"It concerns thereby biographic self reflection of the choice of study decision and a professionalisation concept, with which educational professionalism is seen as an individual development task. [...] Behind this is the idea of using the inevitable disappointments in studies, which can influence self-image and locus of control, as a productive element in the forming and developing of the professional self" (Kiel et al., 2004, p. 230; own translation).

Outlook

According to Messner (2001), teacher training is a self-learning process, a biographical process and a (professionally) lifelong process. The self is regarded as the central integrating instance, and the choice of study ultimately initiates the consciously reflected forming of the professional self. Teacher training must take this into account by considering the choice of study, with all its associated prerequisites and implications, as an important entry point and starting point for the individual training of the future teacher.

"Teachers work with their whole personality. In this respect, forms of work and staging are needed which allow the person who is so important for the teaching profession to be presented and present already during the study. As important as cognitively sound methodological formation is for teacher education, the institutional habitus of the university tends towards intellectualism and taught self-expression. For the development of the competence of future teachers, however, it is essential to expand this traditional setting to meet the challenges of the entire student person..." (Messner 2001, p. 12; own translation). How such an understanding of the profession can be justified and how the related professional self can be addressed in (PE) teacher training is demonstrated in this article.

References

Baillod, J. & Moor, R. (1997). *In Bewegung. Sportlehrerinnen und Sportlehrer sprechen über ihren Beruf.* Magglingen: Eidgenössische Sportschule.

Bauer, K.-O. (2005). *Pädagogische Basiskompetenzen – Theorie und Training.* Weinheim und München: Juventa.

Baur, J. (1981). *Zur beruflichen Sozialisation von Sportlehrern.* Schorndorf: Hofmann Verlag.

Besa, K.-S. (2018). Studien zur lehramtsbezogenen Berufswahlmotivation in schulpraktischen Ausbildungsphasen. Hildesheim: Universitätsverlag.

Blotzheim, D. (2005). Überlegungen zur Ermittlung und zum Erwerb biographischer Kompetenz in der Sportlehrerausbildung, Retrieved from http://www.bildun-gsforschung.org/Archi–v/2005-02/sportlehrer/ (Accessed from: April 28th 2020).

Bräutigam, M. (2003). *Sportdidaktik. Ein Lehrbuch in 12 Lektionen.* Aachen: Meyer & Meyer.

Combe, A. & Kolbe, F.-U. (2004). Lehrerprofessionalität: Wissen, Können und Handeln. In W. Helsper & J. Böhme (Eds.), *Handbuch der Schulforschung* (pp. 833–851). Wiesbaden: VS Verlag für Sozialwissenschaften.

Flick, U. (1987). Methodenangemessene Gütekriterien in der qualitativ-interpretativen Forschung. In: J. Bergold & U. Flick, *Ein-Sichten: Zugänge zur Sicht des Subjekts mittels qualitativer Forschung* (pp. 247-262) Tübingen: dgvt-Verlag.

Flick, U. (2017). Gütekriterien qualitativer Forschung in der Psychologie. In G. Mey & K. Mruk, *Handbuch qualitative Forschung in der Psychologie.* Wiesbaden: Springer

Frommel, H. (2006). Belastungen und Beanspruchungen von Sportlehrern/innen in der Schule. Teil 2. *Sportunterricht 55*(8), 242–245.

Gröbe, R. (2006). Belastungen und Beanspruchungen von Sportlehrern/innen in der Schule. Teil 3. S*portunterricht 55*(10), 304–306.

Hanfstingl, B. & Mayr, J. (2007). Prognose und Bewährung im Lehrerstudium und im Lehrerberuf. *Journal für Lehrerinnen und Lehrer, 7*(2), 48–56.

Heckhausen, J. & Schulz, R. (1995). A Life-Span Theory of Control. *Psychological Review, 102*(2), 284–304.

Herzog, W., Herzog, S. Brunner, A. & Müller, H.P. (2007). *Einmal Lehrer, immer Lehrer?* Bern: Haupt.

Hirsch, G. (1990). *Biographie und Identität des Lehrers*. Weinheim: Juventa.

Holland, J. L. (1985), *Making vocational choices*. Englewood Cliffs: Prentice Hall.

Kastrup, V. & Kleindienst-Cachay, C. (2008). Sportlehrer/Sportlehrerin – von wegen Traumjob! Zur Belastungswahrnehmung von Sportlehrkräften verschiedener Schulformen. Retrieved from: https://www.unibielefeld.de/sport/events/pdf/Kl-eindienstCachay_Kastrup_2008text.pdf (Accessed from: April 28th 2020).

Keller-Schneider, M. (2009). Berufswahlmotive und ihre Bedeutung für die Bewältigung der Herausforderungen im Berufseinstieg. Retrieved from: https://phzh.ch/MA-P_DataStore/53623/publications/2009_KellerSchneider_Berufswahlmotive_EABest.pdf (Accessed: March 3rd 2020).

Keller-Schneider, M., Weiss, S. & Kiel, E. (2018). Warum Lehrer/in werden? Idealismus, Sicherheit oder "da wusste ich nichts Besseres"? *Schweizerische Zeitschrift für Bildungswissenschaften*, *40*(1), 217–242.

Kiel, E., Geider, F. J., Jünger, W. (2004). Motivation, Selbstkonzept und Lehrberuf. *Die Deutsche Schule, 96*(2), 223-233.

Kiel, E., Heimlich, U., Markowetz, R. & Weiss, S. (2015). Gemeinsam und doch unterschiedlich – Ein Vergleich der Berufswahlmotive von Studierenden der verschiedenen sonderpädagogischen Fachrichtungen und der Regelschularten. *Empirische Sonderpädagogik*, 4, 300-319.

Klüver, J. (1979). Kommunikative Validierung. In: T. Heinze (Ed.): *Lebensweltanalyse von Fernstudenten*. (pp. 68–84). Hagen: Fernuniversität.

Kuhl, J. (2001). *Motivation und Persönlichkeit. Interaktionen psychischer Systeme*. Göttingen: Hogrefe.

Mayr, J. (2009). Studien- und Berufswahlmotive von Lehrpersonen. Wie sie entstehen, wie sie sich verändernund was sie bewirken. (Conference paper). Retrieved from: https://www.researchgate.net/publication/277020758_Studienund_Berufswahlmotive_von_Lehrpersonen_Wie_sie_entstehen_wie_sie_sich_verandern_und_was_sie_bewirken (Accessed: March 3rd 2020).

Messner, R. (2001). Szenarien zur Bearbeitung des Theorie-Praxis-Problems in der Lehrerbildung. *Journal für Lehrerinnen- und Lehrerbildung 1*(2), 10–19.

Meyer F. (2018). Yes, we can (?) Kommunikative Validierung in der qualitativen Forschung. In: F. Meyer, J. Miggelbrink & K. Beurskens (Eds.), *Ins Feld und zurück - Praktische Probleme qualitativer Forschung in der Sozialgeographie* (pp. 163–168). Berlin, Heidelberg: Springer Spektrum.

Miethling, W.-D. (2000). Zwischen Traum und Alptraum. Zur beruflichen Entwicklung von Sportlehrern: Ergebnisse einer Längsschnitt-Studie. *Sportpädagogik*, *49*(1), 41–47.

Pemmer, G. (2009). Berufswahl Sportlehrer/in. (Diplomarbeit Universität Wien) Retrieved from: http://othes.univie.ac.at/5144/1/2009-05-27_0207619.pdf (Accessed from: April 28th 2020).

Pohlmann, B. & Möller, J. (2010). Fragebogen zur Erfassung der Motivation für die Wahl des Lehramtsstudiums (FEMOLA). *Zeitschrift für Pädagogische Psychologie, 24*(1), 73–84.

Reinartz, V. & Schierz, M. (2007). Biographiearbeit als Beitrag zur Professionalisierung von Sportlehrer/innen? Begründungen, Konzepte, Grenzen. In. W.D. Miethling & P. Giess-Stüber (Eds.), *Beruf: Sportlehrer/in*, (pp. 39–55). Hohengehren; Schneider

Retelsdorf, J. & Möller, J. (2012). Grundschule oder Gymnasium? Zur Motivation ein Lehramt zu studieren. *Zeitschrift für Pädagogische Psychologie, 26*(1), 5–17.

Rinke, C. (2008). Understanding teachers' careers: Linking professional life to professional path. *Educational Research Reviews, 3*(1), 1–13.

Rothland, M. (2014). Warum entscheiden sich Studierende für den Lehrerberuf? Berufswahlmotive und berufsbezogene Überzeugungen von Lehramtsstudierenden. In E. Terhart, H. Bennewitz & M. Rothland (Eds.), *Handbuch der Forschung zum Lehrerberuf* (pp. 349–385). Münster: Waxmann.

Scherler, K. (1996). Sportlehrer/-innen heute: Selbstbezüge des Unterrichtens. *Körpererziehung 46*(5), 165–172.

Schölling, M. (2005). *Soziale Herkunft, Lebensstil und Studienfachwahl. Eine Typologie* (Arbeit – Technik – Organisation - Soziales, 31). Frankfurt am Main: Europäischer Verlag der Wissenschaften.

Schutz, P. A., Crowder, K. C. & White, V. E. (2001). The Development of a Goal to Become a Teacher. *Journal of Educational Psychology*, *93*(2), 299–308.

Steltmann, K. (1980). Motive für die Wahl des Lehrerberufes. Ergebnisse einer empirischen Untersuchung. *Zeitschrift für Pädagogik*, 26, 581–586.

Terhart, E. et al. (1994). *Berufsbiographienvon von Lehrern und Lehrerinnen.* Frankfurt a.M.: Peter Lang.

Thomann, C. (2006). Sportlehrer – ein Traumberuf? *Sportpädagogik*, *55*(7), 206-207.

Ulbricht, A. (2013). *Lehrer, Traumberuf oder Horrorjob?* Göttingen: Vandenhoeck und Ruprecht.

Ulich, K. (2000). Traumberuf Lehrer/in? Berufsmotive und die (Un)Sicherheit der Berufsentscheidung. *Die Deutsche Schule*, *92*(1), 41–53.

Ulich, K. (2004). „*Ich will Lehrer/in werden"*. Weinheim: Beltz.

Unterweger, E. (2008). Das Herz professioneller Kompetenzen ist das Selbst – Selbsterfahrung, Selbstreflexion, Persönlichkeitsentwicklung in der Lehrer/innenbildung. In Pädagogische Hochschule Wien (Ed.). *Lehrer/innenbildung in Europa* (pp. 16–22). Wien, Berlin: LIT-Verlag.

Unterweger, E. (2014). *Personbezogene überfachliche Kompetenzen von Pädagoginnen und Pädagogen.* Graz: Leykam Buchverlagsgesellschaft

Watt, H. M. G. & Richardson, P. W. (2007). Motivational Factors influencing teaching as a career choice: Development and validation of the 'FIT-Choice' Scale. *Journal of Experimental Education, 75*(3), 167–202

Watt, H.M.G. & Richardson, P.W. (2008). Motivations, perceptions and aspirations concerning teaching as a career for different types of beginning teachers. *Learning and Instruction, 18*(5), 408-428.

Weiss, S. & Kiel, E. (2010). Berufswunsch Sportlehrer/in. *sportunterricht 59*(10), 308–311.

Zoglowek, H. (2008). Lehrer und Sportunterricht. In H. Lange & S. Sinning (Eds.), *Handbuch Sportdidaktik* (p. 117–132). Balingen: Spitta Verlag,

Zoglowek, H. (1996a). *Zum beruflichen Selbstkonzept des Sportlehrers.* Frankfurt a.M.: Peter Lang.

Zoglowek, H. (1996b). Kommunikative Validierung oder die Frage nach der Geltungsbegründung qualitativ gewonnener Daten. *Sportwissenschaft, 26*(4), 383–405

Author

Dr. Herbert Zoglowek,
Professor, University of Tromsø, The Arctic University of Norway, Follumsvei 31, N-9509 Alta, Norway, e-mail: herbert.zoglowek@uit.no
Profesor, Univerza Tromsø, Arktična univerza na Norveškem, Šola športne znanosti, Follumsvei 31, N-9509 Alta, Norveška, e-pošta: herbert.zoglowek@uit.no

REVIJA ZA ELEMENTARNO IZOBRAŽEVANJE
JOURNAL OF ELEMENTARY EDUCATION
Vol. 14, No. 1, pp. 47–72, Marec 2021

PREHOD IZ VRTCA V ŠOLO NA PRIMERU IZVEDBE VZGOJNO-IZOBRAŽEVALNIH DEJAVNOSTI ZUNAJ PROSTORA USTANOVE

MAJDA CENCIČ[1] & BARBARA HORVAT[1]

[1] Univerza na Primorskem, Pedagoška fakulteta, Koper, Slovenija

KORESPONDENČNI AVTOR/CORRESPONDING AUTHOR
majda.cencic@pef.upr.si

Potrjeno/Accepted
19. 6. 2020

Objavljeno/Published
22. 3. 2021

Izvleček/Abstract

Izvedba vzgojno-izobraževalnih dejavnosti zunaj prostora ustanove ima številne prednosti. Zato nas je zanimal prehod iz vrtca v prvi razred osnovne šole na primeru izvedbe kurikularnih dejavnosti vrtca oz. predmetov prvega razreda osnovne šole zunaj prostora ustanove. Rezultati so pokazali, da zunanji prostor vrtca statistično bolj pogosto uporabljajo vzgojitelji kot pa učitelji. Statistično pomembne razlike nismo dobili le pri izvajanju predmeta spoznavanje okolja v primerjavi z izvajanjem kurikularnih dejavnosti družbe in narave zunaj prostora ustanove.

Ključne besede:
vrtec, šola, prehod, kurikularne dejavnosti, učni predmeti, 1. razred, zunanji prostor.

Transition from Preschool to School in Relation to the Implementation of Educational Activities Outdoors

Implementation of educational activities outside the buildings of the institution has several advantages. For this reason, we were interested in the transition from preschool to the first grade of primary school in relation to the implementation of curricular activities in preschool or in the first grade of primary school outdoors. The results have shown that the external premises of the institution are statistically more frequently used by preschool teachers than by schoolteachers. Only in the implementation of the subject environment in the first grade compared to the implementation of curricular activities concerning society and nature in preschool outside the premises of the institution were no statistically significant differences detected.

Keywords:
preschool, school, transition, curricular activities, school subjects, first grade, external space.

UDK/UDC:
373.2:373.3.091.31

DOI https://doi.org/10.18690/rei.14.1.47-72.2021

Uvod

Izhodišče za besedilo predstavlja nekaj dejstev in podatkov o prehodu iz vrtca v šolo. Izpostavljamo, recimo, odlog otrok za vstop v prvi razred, ki se je od leta 2010/2011, ko je znašal nekaj čez 5 %, povečal v letu 2015/2016 na več kot 8 % (Požar Matijašič, Štraus, Rutar in Cotič Pajntar, 2017). Avtorice (prav tam) navajajo kot tri objektivne razloge za odlog: 1) več otrok z odločbami v predšolskem obdobju, 2) več otrok priseljencev, ki so vključeni v vrtce, in 3) spremembo Zakona o osnovni šoli iz leta 2007, ki je črtala določila, povezana s komisijo za ugotavljanje pripravljenosti otroka za vstop v šolo, odločitev pa prepustila staršem. Narašča tudi število otrok, ki se šolajo na domu – za šolsko leto 2004/2005 je navedeno, da so to bili štirje učenci, v šolskem letu 2015/2016 kar 211 učencev, v šolskem letu 2018/2019 pa že 332 učencev, od tega večina v prvem vzgojno-izobraževalnem obdobju (203 učenci) (Medved, 2019). Glede šolanja na domu je Pergar (2018) zapisala, da to ni nova učna oblika vzgojno-izobraževalnega dela in da je tudi drugod, zlasti v Ameriki, v porastu. Pri nas pa se je povečalo tudi število otrok z izdano odločbo, in sicer leto do dve pred vstopom otroka v šolo (Požar Matijašič, Štraus, Rutar in Cotič Pajntar, 2017); narašča tudi število otrok s posebnimi potrebami v vrtcu (prav tam), če navedemo le nekaj podatkov in dejstev za razmislek, ki se vežejo tudi na prehod iz vrtca v osnovno šolo.

Velikokrat tudi slišimo, da gre za »pošolanje 1. razreda« ali da se je osnovna šola premaknila »leto nazaj« in da ni »mehkega prehoda [...] iz vrtca v osnovno šolo«, o čemer so pisali (npr. Vonta, 1993), čeprav je bila tudi izdana *Odredba o postopnem uvajanju programa 9-letne osnovne šole* (1998), kasneje pa, recimo, *Priporočila za uspešen prehod otrok iz vrtca v šolo* (Cotič Pajntar in Zorc, 2018). Toda s podobnimi izzivi se srečujejo tudi drugod, kar dokazuje publikacija OECD (2017).

Za dopolnitev navedenih podatkov in pogleda prehoda iz vrtca v prvi razred osnovne šole, smo se usmerili na izvajanje kurikularnih dejavnosti zunaj prostora vrtca v primerjavi z izvajanjem učnih predmetov 1. razreda osnovne šole (OŠ) zunaj prostora šole. Zajeli smo samo eno aktivnost, pouk oz. izvajanje dejavnosti zunaj vzgojno-izobraževalne ustanove (VIU), da bi primerjali, če obstajajo razlike glede uporabe zunanjega prostora vrtca ali šole. Empirična neeksperimentalna raziskava je zajela vzorec vzgojiteljev in učiteljev prvega razreda osnovne šole.

Predstavljamo le rezultate, ki se nanašajo na vključitev zunanjega prostora vzgojno-izobraževalne ustanove za namen vzgojno-izobraževalnega dela.

Prehod iz vrtca v šolo

Vonta (1993) je zapisala, da je klasično razumevanje kontinuitete v 60. in 70. letih prejšnjega stoletja predvidevalo prilagajanje programa vrtca na zahteve šole in da so bili takrat oblikovani številni (kompenzacijski) programi, ki naj bi prispevali h kontinuiteti ter otroka pripravljali na šolo. (Tu bi lahko uporabili pojem »pošolanje« vrtca, ki so ga Požar Matijašič, Štraus, Rutar in Cotič Pajntarjeva (2017) uporabile za vzgojiteljice.) Vonta (1993) pa je dodala, da v sodobnosti kontinuiteto razumemo razvojno-procesno, kar pomeni razmislek in iskanje načinov, kako naj se ustanovi (ko govorimo o prehodu med vrtcem in šolo) prilagodita otrokovim razvojnim zmožnostim in posebnostim v posameznem obdobju. Pojem prehod ali tranzicija pa razume kot prehod iz enega učnega okolja v drugega, v našem primeru kot prehod iz vrtca v šolo. Dodaja (prav tam), da prehod med različnimi okolji običajno prinaša pozitivna pričakovanja, hkrati pa tudi stres in strah. Kakšno bo razmerje med njima, je odvisno od razlik med enim in drugim okoljem tako v socialnem kot tudi v fizičnem pomenu. Prehod je namreč tem lažji, čim manjše so razlike med »starim«, znanim in »novim«, neznanim okoljem (prav tam).

Omenili smo, da je bila ob začetku uvajanja 9-letne osnovne šole izdana Odredba o postopnem uvajanju programa 9-letne osnovne šole (1998), v kateri je bilo med drugim zapisano, da morajo imeti učitelji in vzgojitelji potrdila o vpisu v dodatno izobraževanje za učitelje v prvem vzgojno-izobraževalnem obdobju in o opravljenih najmanj dveh modulih izobraževanja. Tudi kasneje so se nadaljevala prizadevanja za čim »uspešnejši prehod otrok iz vrtca v šolo«, ki so spremljala različna priporočila strokovnjakov (npr. Cotič Pajntar in Zorc, 2018). Da pa prehod iz vrtca v šolo ni samo naš izziv, pa dokazuje, kot smo že omenili, tudi publikacija OECD (2017).

Tako kurikularne dejavnosti v vrtcu, to so gibanje, jezik, umetnost, družba, narava in matematika (*Kurikulum za vrtce*, 1999), kot tudi učni predmeti v prvem razredu osnovne šole (slovenščina, matematika, likovna umetnost, glasbena umetnost, spoznavanje okolja in šport) (Predmetnik osnovne šole, 2014) lahko potekajo znotraj ali zunaj prostora vzgojno-izobraževalne ustanove, to pa je navedeno tudi v uradnih dokumentih (npr. Kurikulum za vrtce, 1999; Predmetnik osnovne šole, 2014) in nekaterih raziskavah (npr. Gosenar in Cencič, 2019).

Zanimalo nas je, če je ta prehod iz vrtca v šolo čim bolj podoben glede pogostosti vključevanja zunanjega prostora v kurikularne dejavnosti vrtca v primerjavi z vključevanjem zunanjega prostora v pouk učnih predmetov v prvem razredu osnovne šole. Najprej pa predstavljamo nekaj osnovnih izhodišč, zakaj smo se usmerili na izvedbo učenja v vrtcu ali pouka v osnovni šoli zunaj prostora vzgojno-izobraževalne ustanove (VIU).

Učenje oziroma pouk zunaj prostora vrtca in šole

Učenje, ali če uporabljamo širši pojem pouk, zunaj prostora šole in vrtca ni nekaj novega. Kot primer lahko vzamemo šolske vrtove, ki so jih zagovarjali v 17. stoletju že Komensky, v 18. stoletju Rousseau in Pestalozzi ter v 19. stoletju Fröbl (Peršič in Vrtovec Beno, 2018). Osnovno vodilo je bilo sožitje človeka z naravo, pomembno vzgojno sredstvo pa je postalo »[...] delo na vrtu, ki naj bi z načelom nazornosti in s konkretnim opazovanjem stvari pripomoglo k ustvarjalnosti otrok, spoštovanju narave ter gojenju estetskega in družbenega čuta« (prav tam, str. 1). Šolski vrtovi so postali z uvedbo splošne šolske obveznosti leta 1869 celo obvezni (prav tam). Avtorici (prav tam) predstavljata, da so šolske vrtove začeli opuščati sredi osemdesetih let prejšnjega stoletja zaradi gradnje prizidkov šol, igrišč in parkirišč ob šolah. So se pa v povojni didaktični literaturi ponovno spomnili nanje. Andoljšek (1973, str. 145) je zapisal: »Naše šole se komaj zadnji čas zgledujejo po starejših učiteljih, ki so imeli vzorno urejene vrtove in objekte za pouk.« Poleg vrtov (prav tam) pa je za kraj pouka zunaj šole navedel še sadovnjak, šolski vinograd, čebelnjak, hlev, akvarij, terarij, meteorološko postajo, prometni poligon idr. Podobne »objekte zunaj šolskega poslopja« je v tistem času navedel tudi Poljak (1975, str. 517), poleg njih pa izpostavil tudi pouk »v ustanovah, oddaljenih od šolskega poslopja« in dodal: »V ta namen se organizirajo didaktične ali učne ekskurzije.« Tudi sedanji didaktiki navajajo, da pouk poteka znotraj vzgojno-izobraževalne ustanove in zunaj nje (npr. Blažič, Ivanuš Grmek, Kramar in Strmčnik, 2003).

V *Kurikulumu za vrtce* (1999) je posebno poglavje namenjeno *prostoru* in ima naslov Prostor kot element kurikula. V tem poglavju je zapisano, da je pomemben element kurikula organizacija zdravega, varnega in prijetnega prostora, tako notranjega kot zunanjega, poudarjeno je tudi načelo odprtosti, kamor spadata tudi zunanja ureditev in dostopnost zunanjih površin.

Predmetnik osnovne šole (2014) pa za vsak razred izpostavi 15 dni *dnevov dejavnosti* (kulturni dnevi, naravoslovni dnevi, tehniški dnevi in športni dnevi) ter šolo v naravi. V razlagi koncepta dni dejavnosti (Dnevi dejavnosti, b. l.) je navedeno, naj se vsem učencem vsaj enkrat v osnovnem šolanju omogoči obisk večjih kulturnih središč in drugih institucij, med katerimi omenjajo, recimo, botanični in zoološki vrt, arboretum in observatorij. Za šolo v naravi pa lahko preberemo, da temelji na izvedbi pouka zunaj šolskih prostorov in po možnosti celo izven urbaniziranih okolij (Šola v naravi za devetletno osnovno šolo 2001, str. 5).

Da je pouk ali učenje zunaj ustanove koristen/-no, vidimo tudi iz rezultatov različnih raziskav. Raziskave kineziologov kažejo in opozarjajo, da današnji otroci veliko prostega časa preživijo v zaprtih prostorih in sede ter da tudi v šoli skoraj ves čas sedijo, čeprav potrebujejo gibanje (npr. Hardman, Horne in Rowlands, 2009; Šimunič, Volmut in Pišot, 2010; Štemberger, 2012, Volmut, 2014). Podobno navajajo tudi nekateri pedagogi (npr. Požar Matijašič, Štraus, Rutar in Cotič Pajntar, v Jesenska srečanja ravnateljev, 2017) ter predlagajo upoštevanje različnih učnih stilov in manj sedenja. Naravoslovci (npr. Dolenc Orbanić in Battelli, 2009; Furlan, 2018; Šebjanič in Skribe Dimec, 2019) pa navajajo in predstavljajo primere, da lahko s poukom zunaj šole učence spodbujamo tudi k drugačnemu odnosu do različnih stvari in dejavnosti (npr. do narave, gibanja, umetnosti), spodbujamo čustva in doživljanje ter omogočamo izkustveno učenje v naravi in vplivamo na boljše rezultate znanja učencev (Furlan, 2018). Za pouk zunaj prostora šole bi lahko navedli tudi argumente družboslovcev, humanistov, umetnikov in še koga, saj se, recimo, nekateri učitelji likovnega pouka pritožujejo nad premajhnimi učilnicami (Kobal, 2016), naravni prostor pa nima omejitev.

Pouk, ki poteka zunaj šole, aktivira več različnih čutov. Poleg sluha tudi vid, saj se tako spodbuja opazovanje (Rickinson idr., 2004), tudi tip preko rokovanja s pravimi, naravnimi materiali, tudi vonj in okus (Kužnik, 2009). Pouk zunaj prostora ustanove s tem, ko omogoča veččutno učenje, je tudi bolj po meri različnih stilov zaznavanja učencev, poleg vidnega in slušnega, tudi kinestetičnega stila (Marentič Požarnik, 2000). Poudarjajo pa tudi avtentično učenje (Rickinson idr., 2004) s pristnimi materiali, ne le s slikami v učbenikih, delovnih zvezkih ali kje drugje.

Poudarimo pa lahko tudi prednost na kognitivnem področju, kar je v eksperimentalni raziskavi dokazala avtorica Furlan (2018) na primeru sedmošolcev, ki so se nekatere naravoslovne vsebine učili v naravnem prostoru, v primerjavi s sošolci, ki so se iste naravoslovne vsebine učili v učilnici. Ne smemo zaobiti niti prednosti na konativnem področju, npr. vzpostavitev pozitivnega odnosa do narave, kar smo tudi že omenili (Dolenc Orbanić in Battelli, 2009). Lahko povzamemo tudi krepitev samozavesti, empatijo, timsko delo in samospoštovanje (Pečavar, 2010).

Pouk zunaj prostora ustanove pa nudi dobre možnosti za medpredmetno povezovanje (npr. Bunting, 2006; Šebjanič in Skribe Dimec, 2019) in ga navajajo tudi dnevi dejavnosti v *Predmetniku za OŠ* (Dnevi dejavnosti, b. l.).

Lahko bi kot prednost navedli tudi spodbujanje ustvarjalnosti in inovativnosti ali da otroci in učenci v naravnem okolju »izumljajo« (Kužnik, 2009), ker ne moremo »natančno napovedati, kaj bodo otroci storili ali kako se bodo odzvali« (Hohmann in Weikart, 2005, v Kužnik, 2009, str. 54).

Na osnovi različnih raziskav so povzeli štiri nivoje ali področja prednosti učenja ali pouka zunaj prostora zavoda (About Outdoor Learning, 2018) in jih poimenovali:

- Globalni nivo: zajema spoštovanje in skrb za naravo, cenjenje biotske raznovrstnosti in skrb za trajnostni razvoj ter tudi prookoljsko delovanje.
- Družbeni nivo: obsega razvijanje občutka prostora in spodbuja večjo vključenost v družbo, pa tudi učenje in delovanje v lokalnem okolju.
- Znotrajosebni nivo: zajema varno in podporno razvijanje socialnih spretnosti, vrednotenje različnosti, spodbujanje medgeneracijskega sodelovanja, podpiranje tolerantnosti, spoštovanja, razvijanje prijaznosti ipd.
- Medosebni nivo: izpostavlja zavzemanje in povezavo z naravo in okoljem, razvijanje dobrega počutja, vseživljenjsko sodelovanje, razvijanje značaja, odpornosti, spodbujanje tveganj ipd.

Medosebni nivo so navedli tudi drugi raziskovalci (npr. Gilchrist, Passy, Waite in Cook, 2016), ki so poudarek namenili komunikacijskim spretnostim, vodenju in delu v skupini. Omenjeni raziskovalci (prav tam) so prednosti tudi umestili v štiri skupine, le da jih drugače poimenujejo in se bolj osredinjajo na šolsko situacijo.

Poleg prednosti na medosebnem nivoju, ki smo jo že navedli, izpostavljajo kognitivni nivo in pridobivanje znanja, kar so že dokazali tudi naši raziskovalci (npr. Furlan, 2018).

Omenili smo tudi prednosti na konativnem ali afektivnem področju: npr. razvoj odnosov, vrednot ter na fizičnem: zdravje, počutje ipd., to bi lahko poimenovali znotrajosebni nivo, ki ga izpostavljajo omenjeni raziskovalci (Gilchrist, Passy, Waite in Cook, 2016).

Različna grupiranja in poimenovanja skupin prednosti dela v naravi kažejo, da so raziskave pokazale na pozitivni vpliv učenja in pouka v naravnem okolju na različnih področjih. Navedli smo, da naravno okolje spodbuja tudi »izumljanje« (Kužnik, 2009) ali inovativnost in ustvarjalnost (Šebjanič in Skribe Dimec, 2019) vseh, ki so v stiku z naravo, saj pomirjajoče in odprto naravno okolje lahko poraja številne, tudi nenavadne ideje in zamisli.

Izhodišča, ki smo jih navedli v uvodu, ponujajo izziv tudi za proces prehoda iz vrtca v prvi razred osnovne šole glede uporabe zunanjega prostora. Omenili smo uporabo zunanjega prostora šole in vrtca v preteklosti ter nekatere prednosti učenja ali pouka zunaj prostora ustanove. Zato nas je zanimalo, kako pogosto potekajo kurikularne dejavnosti zunaj prostora vrtca in kako pogosto poteka pouk učnih predmetov 1. razreda zunaj prostora šole. V ta namen predstavljamo rezultate raziskave med vzgojitelji in učitelji prvega razreda.

Raziskava med učitelji 1. razreda osnovne šole in vzgojitelji

Problem, namen, cilji, splošna raziskovalna hipoteza, raziskovalno vprašanje ter vrsta raziskave

Zapisali smo, da imamo priporočila za prehod iz vrtca v šolo (npr. Cotič Pajntar in Zorc, 2018), ki se usmerjajo na delo vzgojiteljev. Zanima pa nas tudi pouk v 1. razredu.

Glede prehoda iz vrtca v šolo bi se lahko usmerili tudi na delovne zvezke, učne oblike in učne metode, zlasti na vključevanje didaktične igre ali na katere druge kritične točke, ki so jih povzele tudi Požar Matijašič, Štraus, Rutar in Cotič Pajntar (v Jesenska srečanja ravnateljev, 2017). A prehod iz vrtca v šolo smo pogledali le z vidika izvedbe vzgojno-izobraževalne dejavnosti zunaj prostora ustanove (vrtca ali šole).

Kot smo napisali, nas je zanimala primerjava pogostosti izvajanja pouka v 1. razredu OŠ zunaj prostora šole po mnenju učiteljev 1. razreda v primerjavi z izvedbo kurikularnih dejavnost zunaj prostora vrtca po mnenju vzgojiteljev vrtca. Pričakovali smo, da se pogostost izvajanja pouka v 1. razredu OŠ zunaj prostora šole po mnenju učiteljev 1. razreda statistično pomembno razlikuje od izvedbe kurikularnih dejavnost zunaj prostora vrtca po mnenju vzgojiteljev. Postavili pa smo si tudi raziskovalno vprašanje, kaj učitelji 1. razreda OŠ menijo o pouku zunaj prostora šole, npr. kaj se jim zdi koristno, kje vidijo omejitve in probleme ter kaj predlagajo. Odgovore na splošno hipotezo in raziskovalno vprašanje smo dobili z uporabo empirične primerjalne neeksperimentalne in pretežno kvantitativne raziskave. Proces in rezultate raziskave pa predstavljamo v nadaljevanju besedila.

Vzorec

Za namen predstavitve problema prehoda iz vrtca v šolo na primeru vključitve zunanjega prostora vrtca oz. šole smo v vzorec zajeli 34 anketirancev, ki so v šolskem letu 2018/2019 poučevali v 1. razredu OŠ, in 69 anketirancev iz vrtcev, ki vodijo dejavnosti pri otrocih, starih od dveh let naprej do vstopa v šolo. Vključili smo učitelje 1. razreda OŠ in vzgojitelje, od tega sta bila dva moška. Celotni vzorec za to temo obsega 103 strokovne delavce, iz različnih slovenskih regij (preglednica 1), največ pa iz Gorenjske in Goriške.

Preglednica 1: Število in delež anketiranih po regijah

Regija	**Število**	**Odstotek**
Gorenjska	19	18,4
Goriška	19	18,4
Savinjska	14	13,6
Obalno-kraška	13	12,6
Osrednjeslovenska	11	10,7
Posavska	7	6,8
Zasavska	6	5,8
Jugovzhodna Slovenija	6	5,8
Primorsko-notranjska	6	5,8
Pomurska	2	1,9
Skupaj	103	100,0

Glede na leta dela v vzgojno-izobraževalni ustanovi je bila povprečna starost učiteljev nekoliko višja (M = 16,30), standardni odklon (SD) 14,705, v primerjavi z vzgojitelji (M= 14,91, SD = 10,590), a razlika ni bila statistično pomembna, to je pokazal tudi t-preizkus za neodvisne vzorce s predpostavko enakosti varianc (t = 0,333, g = 42, P = 0,741). Glede na določila o zahtevani stopnji izobrazbe so, pričakovano, razlike med anketiranimi (preglednica 2), ki jih kot statistično pomembne potrjuje tudi preizkus hi-kvadrat z razmerjem verjetij (preizkus hi-kvadrat z razmerjem verjetij = 52,957, g = 5, P = 0,000).

Preglednica 2: Število in delež stopnje izobrazbe anketiranih glede na vzgojno-izobraževalno ustanovo (VIU)

	Stopnja izobrazbe:						
VIU	visokošolski strokovni program pred 2004	univerzitetni program pred 2004	visokošolski strokovni program 1. stopnje	univerzitetni program 1. stopnje	magistrski program 2. stopnje	srednja 5-letna vzgojiteljska šola	Skupaj
Šola	3	17	2	8	4	0	34
	8,8 %	50,0 %	5,9 %	23,5 %	11,8 %	0,0 %	100,0 %
Vrtec	19	2	27	3	3	3	57
	33,3 %	3,5 %	47,4 %	5,3 %	5,3 %	5,3 %	100,0 %
Skupaj	22	19	29	11	7	3	91
	24,2 %	20,9 %	31,9 %	12,1 %	7,7 %	3,3 %	100,0 %

Opazimo lahko nekatere razlike tudi glede na okolje VIU (preglednica 3), ki pa niso statistično pomembne, čeprav so na meji statistične značilnosti (hi-kvadrat = 5,566, g = 2, P = 0,062). Kot vidimo v preglednici 3, je skoraj polovica anketiranih bila iz mestnih vrtcev, medtem ko iz mestnih OŠ le dobra četrtina.

Vzorec, tudi če je pokril različne regije, ni reprezentativen, ker so vprašalnik dali anketiranim študenti univerzitetnega študijskega programa Razredni pouk, 1. letnik, ko so bili na praksi, in študentje 1. letnika študijskega programa Predšolska vzgoja, tudi ko so bili na praksi, v študijskem letu 2018/2019.

Preglednica 3: Število in delež anketiranih glede na okolje vzgojno-izobraževalne ustanove (VIU)

VIU	**Okolje VIU:**			Skupaj
	mestno	primestno	Vaško	
Šola	9	11	14	34
	26,5 %	32,4 %	41,2 %	100,0 %
Vrtec	33	11	25	69
	47,8 %	15,9 %	36,2 %	100,0 %
Skupaj	42	22	39	103
	40,8 %	21,4 %	37,9 %	100,0 %

Vsi študentje so prišli z iste pedagoške fakultete v Sloveniji. Vprašalnik so tako izpolnili v glavnem le mentorji.

Vprašalnik

Vprašalnik smo oblikovali primerljiv za učitelje razrednega pouka in vzgojitelje predšolskih otrok o izvajanju pouka oz. dejavnosti na zunanjih površinah osnovne šole oz. vrtca in v njihovi bližnji ali daljni okolici, ali na kratko zunaj prostora šole ali vrtca. Za namen prispevka predstavljamo le rezultate nekaterih anketnih vprašanj zaprtega in odprtega tipa ter na osnovi opisne ocenjevalne lestvice z odgovori: zelo pogosto, pogosto, včasih, redko in nikoli, ki so se nanašala na pogostost izvajanja pouka v 1. razredu osnovne šole oz. dejavnosti kurikularnih področij zunaj vzgojno-izobraževalne ustanove, šole ali vrtca.

Vsebinsko veljavnost dela vprašalnika, ki temelji na pogostosti izvajanja učnih predmetov zunaj VIZ smo zagotovili z uporabo podobnega vprašalnika (Gosenar in Cencič, 2019), ki nam je služil kot osnova in kriterij za oblikovanje novega vprašalnika. Zanesljivost tega dela vprašalnika, katerega podatke smo uporabili za osvetlitev predstavljene teme, pa smo dobili na osnovi računanja notranje konsistentnosti vprašalnika z uporabo Cronbachovega koeficienta alfa, ki je 0,822, in kaže na dobro zanesljivost tega dela vprašalnika.

Obdelava podatkov

Podatke predstavljamo obdelane na osnovi opisne statistike (frekvence in odstotne frekvence, aritmetične sredine in standardni odkloni) ter inferenčne statistike (preizkus hi-kvadrat hipoteze neodvisnosti, oz. preizkus hi-kvadrat z razmerjem verjetij, ki smo ga uporabili namesto Kullbackovega 2Î-preizkusa (Sagadin, 2003) za ugotavljanje statistično pomembnih razlik med dvema spremenljivkama. Pri primerjanju značilnosti vzorca pa smo uporabili tudi t-preizkus za neodvisne vzorce.

Učni predmeti 1. razreda OŠ in kurikularna področja se ne prekrivajo popolnoma, npr. v 1. razredu OŠ imamo učna predmeta likovna umetnost in glasbena umetnost, v vrtcu pa le področje umetnosti (ta zajema vsebine različnih umetniških zvrsti, likovne, glasbene, plesne, dramske in avdiovizualne); ali v 1. razredu OŠ imamo predmet spoznavanje okolja (zajema družboslovne in naravoslovne vsebine), v vrtcu pa posamezni kurikularni področji družboslovje in naravoslovje. V teh dveh primerih smo vzeli povprečje posameznih odgovorov za oba predmeta in ju združili. V primerih, ko smo dobili sredinski rezultat, smo ga zaokrožili navzdol.
Odgovore na odprto vprašanje, kjer smo prosili, da učitelji napišejo mnenje ali komentar na temo pouka zunaj prostora šole, smo obdelali na osnovi oblikovanih kategorij, ki smo jih poiskali v pisnih odgovorih ter nato sešteli podobne odgovore. V članku smo rezultate predstavili z oblikovanjem frekvenčnih preglednic ter jih dopolnili z nekaterimi dobesednimi navedbami učiteljev prvega razreda OŠ.

Rezultati in razprava

Preglednica 4 predstavlja rezultate izvajanja dejavnosti posameznih učnih predmetov oz. kurikularnih področij zunaj prostora VIU. Rezultati (preglednica 4) predstavljajo povzetek odgovorov anketiranih učiteljev 1. razreda OŠ in vzgojiteljev vrtca. Vidimo, da se šport oz. gibanje po mnenju anketiranih zelo pogosto izvaja zunaj prostora VIU, saj je ta odgovor označila več kot polovica anketiranih učiteljev 1. razreda (58,8 %) in kar 86,8 % vzgojiteljev. Slovenščino večina anketiranih 1. razreda OŠ zunaj prostorja šole izvaja redko (40,6 %), medtem ko tuji jezik 66,2 % anketirancev izvaja zunaj vrtca zelo pogosto in pogosto. Opazne razlike v odgovorih so tudi pri pogostosti izvajanja likovnega in glasbenega pouka, ki ga zunaj prostora šole večina (50,0 %) anketiranih OŠ izvaja včasih in 40,0 % anketiranih redko, medtem ko umetnost zunaj prostora vrtca večina anketirancev vrtca (60,3 %) izvaja zelo pogosto in pogosto. Statistično pomembne razlike nismo dobili le pri izvajanju spoznavanja okolja ter družbe in narave, čeprav spoznavanje okolja zelo pogosto izvaja zunaj prostora šole 33,3 % anketiranih in pogosto izvaja zunaj šole 45,5 % anketiranih, družbo in naravo pa zelo pogosto izvaja zunaj vrtca 55,9 % anketirancev in pogosto 29,4 % anketirancev vrtca. Rezultat za izvajanje predmeta spoznavanje okolja zunaj šole lahko dopolnimo z rezultatom majhnega priložnostnega vzorca učiteljev 1. razreda goričkih osnovnih šol, kjer so dobili podatek, da učitelji spoznavanje okolja izvajajo vsaj enkrat na teden zunaj okolja šole, a ne ob slabem vremenu (Tušek, 2018).

Slabo vreme pa ni ovira za pouk zunaj prostora šole v nekaterih, za naša pojmovanja bolj mrzlih državah, kot so npr. Islandija, Švedska in Kanada (Šebjanič in Skribe Dimec, 2019).

Preglednica 4: Odgovori anketiranih o izvajanju pouka oz. kurikularnih dejavnosti zunaj prostora vzgojno-izobraževalne ustanove (VIU) ter rezultati preizkusa hi-kvadrat z razmerjem verjetij

Učni predmet 1. razreda oz. kurikularno področje	VIU	**Odgovori**					Skupaj
		Zelo pogosto	Pogosto	Včasih	Redko	Nikoli	
Šport oz. gibanje	OŠ	20	8	6	0	0	34
		58,8 %	23,5 %	17,6 %	0,0 %	0,0 %	100,0 %
	vrtec	59	7	1	1	0	68
		86,8 %	10,3 %	1,5 %	1,5 %	0,0 %	100,0 %
	Skupaj	79	15	7	1	0	102
		77,5 %	14,7 %	6,9 %	1,0 %	0,0 %	100,0 %
Preizkus hi-kvadrat			hi	g	P		
			13,986	3	0,003		
Slovenščina oz. jezik	OŠ	0	2	12	13	5	32
		0,0 %	6,3 %	37,5 %	40,6 %	15,6 %	100,0 %
	vrtec	23	22	16	7	0	68
		33,8 %	32,4 %	23,5 %	10,3 %	0,0 %	100,0 %
	Skupaj	23	24	28	20	5	100
		23,0%	24,0 %	28,0 %	20,0 %	5,0 %	100,0 %
Preizkus hi-kvadrat			hi	g	P		
			47,465	4	0,000		
Likovni in glasbeni pouk oz. umetnost	OŠ	0	1	15	12	2	30
		0,0 %	3,3 %	50,0 %	40,0 %	6,7 %	100,0 %
	vrtec	15	26	17	9	1	68
		22,1 %	38,2 %	25,0 %	13,2 %	1,5 %	100,0 %
	Skupaj	15	27	32	21	3	98
		15,3 %	27,6 %	32,7 %	21,4 %	3,1 %	100,0 %
Preizkus hi-kvadrat			hi	g	P		
			35,437	4	0,000		
Spoznavanje okolja oz. družba in narava	OŠ	11	15	7	0	0	33
		33,3 %	45,5 %	21,2%	0,0%	0,0%	100,0%
	vrtec	38	20	10	0	0	68
		55,9 %	29,4 %	14,7 %	0,0 %	0,0 %	100,0 %
	Skupaj	49	35	17	0	0	101
		48,5 %	34,7 %	16,8 %	0,0 %	0,0 %	100,0 %
Preizkus hi-kvadrat			hi	g	P		
			4,537	2	0,103		
Matematika (ime predmeta in kurikularnega področja)	OŠ	0	0	12	14	5	31
		0,0 %	0,0 %	38,7 %	45,2 %	16,1 %	100,0 %
	vrtec	20	19	23	6	0	68
		29,4 %	27,9 %	33,8 %	8,8 %	0,0 %	100,0 %
	Skupaj	20	19	35	20	5	99
		20,2 %	19,2 %	35,4 %	20,2 %	5,1 %	100,0 %
Preizkus hi-kvadrat			hi	g	P		
			53,635	4	0,000		

Velike in statistično pomembne razlike pa so ponovno pri izvajanju vsebin iz matematike, ki jo največ (45,2 %) anketiranih učiteljev 1. razreda izvaja izven šole redko, več kot polovica anketiranih vzgojiteljev pa izven vrtca zelo pogosto (29,4 %) in pogosto (27,9 %).

Rezultati kažejo (preglednica 4), da glede na odgovore učiteljev 1. razreda in vzgojiteljev, vse kurikularne dejavnosti vrtca, razen družbe in narave oz. predmeta spoznavanja okolja v 1. razredu, potekajo statistično pogosteje zunaj prostora vrtca v primerjavi z izvedbo predmetov 1. razreda zunaj prostora OŠ. Glede na to, da nismo dobili statistično pomembnih razlik le v primeru predmeta spoznavanje okolja, morda še vedno prevladuje mnenje, ki ga je podal že Poljak (1975, str. 517), da je pouk »na šolskih objektih zunaj šolskega poslopja /…/ največkrat povezan s poukom naravoslovnih ved«. Vendar sta v času velike konceptualne reforme vzgojno-izobraževalnega sistema, v devetdesetih letih prejšnjega stoletja, nastala usklajena kurikulum za vrtce in program osnovne šole, in sicer s skupnimi izhodišči in načeli, zaradi česar avtorice nacionalnega poročila (Vidmar, Rutar Leban in Rutar, 2017) poudarjajo, da je bil prehod med vrtcem in šolo zasnovan na sistemski ravni med drugim s pedagoško in profesionalno kontinuiteto. Z ozirom na rezultate tu predstavljene raziskave lahko podvomimo o uresničevanju teh kontinuitet v praksi. Glede na to, da so se že v devetdesetih letih 20. stoletja za uporabo sodobnih pristopov, metod in oblik dela v vrtcu in osnovni šoli, med katere se v stroki prišteva tudi učenje izven klasičnih učilnic (npr. Polak, Devjak, Skubic in Pečjak, 2008), usposabljali tako takrat bodoči razredni učitelji kot vzgojitelji na pedagoških fakultetah, se toliko bolj zastavlja vprašanje o razlogih za razliko v pogostosti izvedbe kurikularnih vsebin na zunanjih prostorih šole in vrtca. Kontinuitete med vrtcem in šolo, ki je bila teoretsko zasnovana ob devetletki, nista ugotovili tudi Bahovec in Bregar Golobič (2004), poudarjajo pa Gaber (2016) in Novak (2016), da pa je bilo veliko pozornosti namenjene prav pripravi prostorov na šoli, ki naj bi bili prilagojeni mlajšim otrokom. Za razliko od naše raziskave pa Polak, Devjak, Skubic in Pečjak (2008) izpostavljajo razmeroma spodbudne rezultate raziskave mnenja pedagoških delavcev 1. triletja osnovne šole, po kateri večina (77,2 %) teh »uvaja sodobne pristope dela z mlajšimi otroki po njihovi lastni oceni večkrat tedensko, torej zelo pogosto« (prav tam, str. 109). Ko so avtorice vprašale o pogostosti izvajanja pouka zunaj klasične učilnice, pa je večina anketiranih odgovorila, da ga izvajajo enkrat mesečno (prav tam).

Pri primerjavi rezultatov naše raziskave o izvajanju pouka zunaj šole s podatki o izvajanju pouka zunaj šole po raziskavi omenjenih avtoric (prav tam), po kateri je ta pouk del sodobnih pristopov poučevanja, opazimo, da kaže te rezultate interpretirati v luči implicitnih oz. subjektivnih teorij učiteljev (Apple, 1992; Kroflič, 1997, 2002). S tega vidika lahko domnevamo, da so učitelji ozaveščeni o pomenu in vlogi zunanjega učnega prostora, glede na to, da so odgovorili, da večine predmetov ne izvajajo pogosto zunaj učilnice. Domnevamo lahko, da bi ga želeli ali pa se zavedajo možnosti o pogostejšem izvajanju zunaj prostora šole, saj ga sicer ne bi ovrednotiti z redko oz. včasih.

Iz predstavljenih rezultatov povzemamo, da se vzgojitelji zunanjega prostora vrtca veliko bolj poslužujejo kot pa učitelji 1. razreda OŠ, to pa posredno potrjuje, da učenci 1. razreda več sedijo v učilnicah kot pa otroci v vrtcu. Podobno izpostavljajo tudi avtorji nacionalnega poročila (Vidmar, 2017) glede mnenj »ravnateljev osnovnih šol, ki so v intervjujih povedali, da je v prvih razredih veliko sedenja, poslušanja, manj igre in sodelovalnega učenja ter participacije otrok«. Glede na rezultate lahko v glavnem potrdimo splošno raziskovalno hipotezo, da se pogostost izvajanja pouka v 1. razredu OŠ zunaj prostora šole po mnenju učiteljev 1. razreda statistično pomembno razlikuje od izvedbe kurikularnih dejavnosti zunaj prostora vrtca po mnenju vzgojiteljev. Statistično pomembnih razlik nismo dobili le v primeru izvedbe učnega predmeta spoznavanje okolja in kurikularnih dejavnosti družba in narava, čeprav so tudi tu opazne razlike, saj je več kot 50 % vzgojiteljev navedlo, da družbo in naravo izvaja zunaj prostora vrtca zelo pogosto, medtem ko je za učni predmet spoznavanje okolja le nekaj več kot 30 % anketiranih učiteljev označilo, da ga zunaj prostora šole izvaja zelo pogosto.

Izvedba kurikularnih dejavnosti, od slovenščine do matematike, zunaj prostora vrtca kaže, da bi zunanji prostor šole lahko več uporabljale tudi za pouk vseh učnih predmetov v 1. razredu OŠ, saj so cilji v učnih načrtih tako oblikovani, da se lahko dosežejo tudi zunaj prostora šole (Gosenar in Cencič, 2018). Posamezni primeri prakse pouka zunaj šole v Sloveniji pa tudi kažejo, da se lahko zunanji prostor uporabi za pouk vseh učnih predmetov (Šebjanič in Skribe Dimec, 2019).

Predstavljamo še nekaj komentarjev učiteljev 1. razreda OŠ, ki odgovarjajo na raziskovalno vprašanje, kaj učitelji 1. razreda OŠ menijo o pouku zunaj prostora šole, recimo, kaj se jim zdi koristno, kje vidijo omejitve in probleme ter kaj predlagajo.

Nekatera mnenja učiteljev 1. razreda OŠ

Učitelji 1. razreda menijo, da je pouk zunaj VIU koristen za učence, ker:

- »Za majhne otroke je pouk izven učilnice zagotovo primeren. Skozi aktivne metode, ob konkretnem materialu in v naravnem okolju je znanje zagotovo trajnejše. Na drugi strani pa imam pomisleke glede razpršene pozornosti, velike potrebe po gibanju in kratkotrajne koncentracije, zato se nekateri cilji težje usvajajo zunaj.«
- »Za učence 1. in 2. triade je tak način pridobivanja znanja neprecenljiv (izkustveno učenje – sploh v 1. razredu).«

Učitelji se zavedajo, da je izvajanje pouka zunaj prostora šole odvisno od njih samih: »Za pouk zunaj šole je najpomembnejša pripravljenost učitelja. Veliko načrtovanja je potrebnega, da lahko čas zunaj šole maksimalno izkoristiš. Veliko si lahko učitelji pomagamo tako, da med seboj sodelujemo in si delo delimo.« V tej navedbi so že nakazane omejitve, ki jih predstavljamo glede na pogost navajanja v preglednici 5.

Preglednica 5: Najpogosteje navedene omejitve za izvajanje pouka zunaj prostora šola (učitelji 1. razreda OŠ)

Omejitve za pouk zunaj prostora šole	**Število odgovorov**
Problem spremstva	5
Ustrezen prostor: urejen in tudi varen	4
Delovni zvezki	3
Učenci: živahni, velike skupine	2
Urnik	2
Čas	2
Finančna sredstva	1

Najpogosteje izpostavljajo problem spremstva, in sicer da ni dovolj ustrezno usposobljenega kadra za spremstvo. S tega vidika predpisa, da v 1. razredu OŠ hkrati poučujeta učitelj razrednega pouka in vzgojitelj predšolskih otrok, pri čemer drugi učitelj (ki lahko poučuje izjemoma namesto vzgojitelja) oz. vzgojitelj predšolskih otrok poučuje polovico ur pouka, ne moremo razumeti v prid možnosti izvajanja pouka zunaj šole (Zakon o osnovni šoli, 1996, 38. člen). Zato bi v bodoče lahko razmislili o možnosti poučevanja učitelja in vzgojitelja v 1. razredu za polni delovni čas. Problem pa je na nekaterih šolah tudi prostor. Omenjajo, da, recimo, nimajo zeliščnega ali zelenjavnega vrta, nimajo zunanje učilnice, »nimajo klopi in miz pod streho, da bi lahko izvajali pouk v vsakem vremenu,« pa tudi: »V našem primeru šola nima prostora za vse te dejavnosti in na šoli je preveliko učencev. Prostora pa je premalo, tako na dvorišču, igrišču in v sami šoli.«

Učitelji izpostavljajo tudi delovne zvezke, ki da jih je preveč v 1. razredu in jih morajo izpolnjevati, ker to pričakujejo starši. Ena od učiteljic je opozorila na več porabljenega časa in značilnosti učencev, npr.: »Osebno me moti več porabljenega časa za neko dejavnost. Če imaš preživahno skupino, je delo lahko precej kaotično.« Predloge anketiranih učiteljev prvega razreda predstavlja preglednica 6.

Preglednica 6: Izpostavljeni predlogi za pouk zunaj prostora šole po mnenju anketiranih učiteljev 1. razreda

Predlogi	**Število**
Manjše skupine učencev	5
Urejen zunanji prostor (zunanja učilnica, različni vrtovi)	5
Pripomočki za delo na terenu (namesto delovnih zvezkov)	3
Dopolnjen učni načrt, usmerjen tudi na pouk zunaj prostora šole	3
Izobraževanje bodočih učiteljev	1
Sodelovanje med učitelji	1
Skrb Ministrstva	1
Skrb Zavoda za šolstvo	1

Pri omejitvah smo že navedli, da učitelji menijo, da imajo prevelike skupine in da nimajo urejenega prostora zunaj šole, kar so navedli tudi kot predlog, da se uredi. Predlagajo pa tudi več različnih pripomočkov, ki bi jih lahko uporabili za delo zunaj prostora šole, npr.: »Včasih nas zelo omejujejo delovni zvezki. Namesto vaj v delovnih zvezkih bi lahko delali vaje na prostem.« Predlog je namenjen tudi založbam, da bi namesto delovnih zvezkov za 1. razred raje oblikovali več učnih sredstev: učil in učnih pripomočkov (Tomić, 2002) za pouk zunaj prostora šole.
Pa tudi mnenje: »Uvesti to v učni načrt, ozavestiti študente (bodoče učitelje), kako pomembno je, da učenci stvari spoznajo v drugem okolju in ne v razredu. Zavedati se moramo, da so otroci vse preveč v zaprtih prostorih pred različnimi napravami.« Apel je namenjen vsem fakultetam, ki izobražujejo učitelje.
Da ima izobraževanje za bodoče učitelje eno ključnih vlog, poudarjajo tudi v tujini (npr. Curriculum for excellence through outdoor learning, 2010), izpostavljajo pa ne le dodiplomsko izobraževanje, ampak tudi stalno strokovno izpopolnjevanje z aktivnimi učnimi metodami v delavniških oblikah (prav tam; Rickinson idr., 2004). Vpliv pa imajo tudi različni deležniki, tj. od ministrstva, različnih agencij, zavodov ipd. (Curriculum for excellence through outdoor learning, 2010), kar pa so izpostavili tudi anketirani učitelji.

Pa tudi strnjena predstavitev predlogov:
»Povezovanje z domačini (obiski z določeno vsebino). V UN ponovno uvesti domoznanstvo – poimenovanje lokalnih geografskih imen (vzpetine, vode, hišna imena, zaselki …). Nameniti ure za urejanje rastlinskih površin okoli šole ali pri domačinu doma. Vključiti gozdno pedagogiko v predmetnik.«
Še en zapis: »Večkrat na šolskem dvorišču izvedemo naravoslovne poskuse. Poslužujemo se tudi naravoslovnih dni zunaj šole (obisk kmetije, gozd, vodovje).« Zapis potrjuje, da je kraj izvedbe pouka zelo odvisen tudi od učitelja, da pa prevladuje mnenje, da je pouk zunaj šole primeren predvsem za naravoslovne predmete, v 1. razredu za predmet spoznavanje okolja.
Postavili smo vprašanje o razlogih za manj pogosto izvajanje pouka zunaj šole v primerjavi z izvajanjem kurikularnih vsebin zunaj vrtca. Na podlagi tu podanih komentarjev učiteljev pa sprašujemo, kako je mogoče, da navkljub sicer ustreznim določenim vidikom prehoda med vrtcem in šolo v strateških in zakonodajnih dokumentih (kot so npr. Bela knjiga, 1995, 2011; Izhodišča kurikularne prenove, 1996, Zakon o osnovni šoli, 1996; Zakon o vrtcih, 1996 ipd.), lahko načrtovane kurikularne vsebine vzgojitelji pogosteje izvajajo zunaj vrtca kot učitelji 1. razreda zunaj šole. Kaj jim omogoča to prakso? Glede na dejstvo, da tudi vzgojitelji mnogokrat menijo, da imajo prevelike skupine otrok za kakovostno vzgojo in izobraževanje in da nimajo povsod spodbudnega, fizičnega zunanjega učnega prostora, se lahko vprašamo, kako je mogoče, da vseeno izvajajo pogosteje kurikularne vsebine zunaj vrtca kot učitelji učne predmete zunaj šole. Čeprav se kurikulum vrtca in 1. razreda razlikujeta v specifičnosti podanih vsebin, se vendarle zastavlja vprašanje, ali ne kaže izvorov razlike v pogostosti izvedbe iskati tudi na ravni izvajanja kurikula učiteljev in vzgojiteljev, v praksi.
Ali se je torej izvedbena raven kombiniranih modelov učno-ciljnega in procesno-razvojnega modela kurikula, ki sta bila koncipirana tako za osnovno šolo kot vrtec, uveljavila v praksi tako v 1. razredu osnovne šole kot v vrtcu?
Glede na predstavljene ugotovitve domnevamo, da bi iskanje odgovora na to vprašanje pripomoglo k tehtnejšemu razmisleku o tem problemu v stroki, nadalje pa v šolski politiki.

Sklepne ugotovitve

Usmerili smo se na prehod iz vrtca v šolo na primeru pogostosti izvajanja učnih predmetov ali kurikularnih dejavnosti zunaj prostora vzgojno-izobraževalne ustanove (vrtec ali šola). S tem smo dodali še nekaj rezultatov k podatkom, ki smo jih zapisali v uvodu, npr. da narašča odlog otrok za vstop v prvi razred, število otrok, ki se šolajo na domu, in število otrok s posebnimi potrebami v vrtcu. Ugotovili smo, da je glede izvajanja vzgojno-izobraževalnih dejavnosti zunaj prostora vzgojno-izobraževalne ustanove še vedno razkorak med vrtcem in šolo. Pogostost izvajanja pouka v 1. razredu OŠ zunaj prostora šole se v primerjavi s pogostostjo izvajanja posameznega kurikularnega področja izven prostora vrtca po mnenju anketiranih učiteljev in vzgojiteljev statistično pomembno razlikuje, saj vzgojitelji zunaj prostora vrtca bolj pogosto izvajajo kurikularne dejavnosti kot učitelji 1. razreda izvajajo pouk učnih predmetov zunaj prostora osnovne šole. Statistično pomembne razlike nismo dobili le pri izvajanju predmeta spoznavanje okolja v primerjavi z izvajanjem družbe in narave v vrtcu. Povzemamo, da ne gre, vsaj v našem primeru, za »pošolanje« vzgojiteljic (Požar Matijašič, Štraus, Rutar in Cotič Pajntar, 2017), ampak bolj za to, da ni prišlo do vpliva vrtca na šolo, kot ugotavljata Bahovec in Bregar Golobič (2004), ali da na primeru pouka zunaj prostora šole ni zaznati prehoda med vrtcem in šolo. Na osnovi predstavljenih rezultatov opravljene raziskave anketiranih tudi sklepamo, za potrditev bi bile potrebne dodatne raziskave, da učenci 1. razreda preveč sedijo, da imajo preveč frontalnega pouka, manj aktivnih učnih metod oz. so manj deležni drugih sodobnih pristopov poučevanja (npr. didaktične igre, terenskega pouka, izkustvenega pouka, projektnega pouka, raziskovalnega pouka ipd.) (Ivanuš Grmek in Hus, 2006). Dodamo lahko, da je znotraj učilnic 1. razreda lahko vprašljiva tudi oprema, če so, recimo, vsi stoli enaki in enako visoki, podobno tudi mize in druga oprema, saj so za specializirane učilnice za naravoslovje ugotovili neujemanje šolskega pohištva z antropometrijskimi merami 11- do 12-letnih učencev (Rizman Herga in Fošnarič, 2017). Zato apeliramo na učitelje 1. razreda, da čim več uporabljajo naravni zunanji prostor šole za pouk različnih učnih predmetov, saj primeri dobre prakse v Sloveniji in tujini kažejo (npr. Šebjanič in Skribe Dimec, 2019), da se zunaj prostora šole lahko poučujejo vsi učni predmeti. Glede na prednosti, ki jim ima pouk zunaj prostora šole na celostno učenje učencev, pa naj bi se zunanjega prostora posluževali za pouk ne glede na vremenske razmere. Pri razlagi rezultatov pa moramo upoštevati, da je bil vzorec neslučajnostni in da je zajel manjši

del učiteljev 1. razreda. Po drugi strani pa je vzorec vključeval učitelje 1. razreda in vzgojitelje, ki so bili pretežno mentorji študentom.
Zaključujemo z mislijo ene od učiteljice: »Ne oddaljujmo se od narave – ne učimo se le iz učbenikov, pojdimo ven, sodelujmo z njo in jo ohranimo za bodoče rodove.«

Summary

In 1998 the executive order on the gradual implementation of the 9-year basic school (Odredba o postopnem uvajanju programa 9-letne osnovne šole) was published followed by diverse recommendations concerning the transition from preschool to the first grade of basic school. In spite of this, data point to an increase in the number of children whose enrolment to basis school is postponed and of children in home education. Increase can also be noticed in the number of children for whom decrees get issued on the basis of the Placement of Children with Special Needs Act and generally in the number of children with special needs. As presumably there should be a kind of continuity between preschool and school and adaptation of the education process, we were interested in finding out how the transition from preschool to school is manifested in the case of learning and teaching or of the implementation of curricular activities outside school buildings. Performance of educational activities outdoors namely has a great number of benefits that should be reaped, which also numerous studies in the fields of educational sciences, kinesiology, natural sciences, etc. point out. In foreign literature researchers and others (e.g. About Outdoor Learning, 2018; Gilchrist, Passy, Waite & Cook, 2016) have classified them in a few groups. They highlight benefits at a global level: fostering a connection that leads to respect and care for the natural world, an appreciation of biodiversity and sustainability, and pro-environmental behaviours; at the societal level: developing a sense of place leading to greater engagement with the community and an appreciation of the opportunities available to live, learn, and work in the local area; at the interpersonal level: providing a safe and supportive setting to enhance social and communication skills, appreciate and value difference, leadership, and teamwork. Encouraging loving and meaningful relationships across generations that foster tolerance, respect and kindness. Also at the intrapersonal level: engagement with nature and the environment for health, wellbeing and nature connection, physical skills, personal behaviours and social actions, leading to lifelong participation and outdoor competence.

They (ibid.) further stress developing character, resilience, positive risk taking, benefits at cognitive level, for example concerning knowledge, understanding and other academic outcomes, then affective level – encompassing attitudes, values, beliefs and self-perception, etc. Taking account of its numerous benefits we were interested in a comparison between the views of preschool-teachers and teachers in the first grade of basic school. A non-representative sample of preschool teachers and of teachers in the first grade from diverse Slovenian regions were included in the non-experimental comparative research study. The surveyees filled in a paper and pencil questionnaire that, among others, included questions about the frequency of the implementation of educational activities outdoors. The results processed on the basis of descriptive and inferential statistics (chi-squared test) have shown that in preschool statistically nearly all curricular activities take place outside the building more frequently than in school. Only in the case of the implementation of the school subject environment compared to the implementation of curricular activities in the area of society and nature outside the building no statistically significant differences were found. The results show that in the first grade of school sports is the subject the most frequently carried out outdoors, although physical activity in preschool is still carried out outdoors statistically significantly more often—according to the opinion of teachers in the first grade— than sport and environment in school. Mostly seldom, however, the surveyed teachers carry out the teaching of Slovenian outside school and even more seldom the teaching of mathematics, although in the syllabi for both Slovenian and mathematics there are topics that could be carried out in the external school space. 90.0 % of the surveyed teachers in the first grade, however, seldom or sometimes carry out the teaching of arts or music in external school space. The teachers in the first grade were also offered the opportunity to comment on their responses. They are aware of the advantages of classes outdoors that also enable experiential learning, physical activity, and also provide concrete material for educational work. However, they see limitations in the provision of escort staff, taking security measures, work-books that have to be solved, in large groups of pupils, time-tabling, time, and financial resources in the case learning and teaching takes place outside school premises.

Therefore they propose smaller groups of pupils, arranged external school space such as external space for teaching, learning aids for field work that should replace work-books, supplements to the syllabus, which should be more oriented to learning and teaching outside school buildings, and they also suggest training for teachers-to-be on this topic as well as cooperation among teachers and more attention and care of the Ministry and of the Education Institute dedicated to teaching outdoors.

Results indicate that the transition from preschool to school regarding the use of external space of the institution is the most seamless in the case of the subject environment. Although, due to the fact that the sample was not representative, the results cannot be generalised, we can sum up that the opinion prevails that outside school buildings only environment and sports can be carried out. Natural environment, as stated, has numerous advantages, so there should be incentives and encouragement for basic school teachers to use external space of schools more, also for the teaching of Slovenian, mathematics, and artistic subjects, which would result in greater continuity regarding the transition between preschool and basic school.

Literatura in viri

About Outdoor Learning. (2018). Institute for Outdoor Learning. Pridobljeno s https://www.outdoor-learning.org/Good-Practice/Research-Resources/About-Outdoor-Learning (Dostopno 13. 3. 2020.)

Andoljšek, I. (1973). *Osnove didaktike*. Ljubljana: Zavod za šolstvo SRS.

Apple, M. (1992). *Šola, učitelj in oblast*. Ljubljana: Znanstveno in publicistično središče.

Bela knjiga o vzgoji in izobraževanju v Republiki Sloveniji. (1995). Ljubljana: Ministrstvo za šolstvo in šport.

Bela knjiga o vzgoji in izobraževanju v Republiki Sloveniji. (2011). Ljubljana: Ministrstvo za šolstvo in šport.

Blažič, M., Ivanuš Grmek, M., Kramar, M., in Strmčnik, F. (2003). *Didaktika: Visokošolski učbenik*. Novo mesto: Visokošolsko središče, Inštitut za raziskovalno in razvojno delo.

Bunting, C. J. (2006). *Interdisciplinary Teaching through Outdoor Education*. Champaign: Human Kinetics.

Cotič Pajntar, J., in Zorc, N. (2018). Priporočila za uspešen prehod otrok iz vrtca v šolo. Ljubljana: Zavod Republike Slovenije za šolstvo. Pridobljeno s zrss.si/zrss/wp-content/uploads/priporocila-za-vrtce-prehod_9-juij-2018.pdf (Dostopno 16. 9. 2019.)

Curriculum for Excellence through Outdoor Learning. (2010). Learning and Teaching Scotland. Pridobljeno s https://education.gov.scot/Documents/cfe-through-outdoor-learning.pdf (Dostopno 2. 4. 2020.)

Dnevi dejavnosti. (b. l.) Pridobljeno s http://www.mizs.gov.si/fileadmin/mizs.gov.si/pageuploads/podrocje/os/devetletka/program_drugo/Dnevi_dejavnosti.pdf (Dostopno 14. 1. 2019.)

D. Bahovec, E., in Bregar Golobič, K. (2004). *Šola in vrtec skozi ogledalo. Priročnik za vrtce, šole in starše*. Ljubljana: DZS.

Dolenc-Orbanić, N., in Battelli, C. (2009). Kako spodbujati interes otrok za naravoslovje. V M. Cotič, V. Medved Udovič in M. Cencič (ur.). *Pouk v družbi znanja* (str. 159–169). Koper: Pedagoška fakulteta.

Furlan, P. (2018). *Krajinski park Sečoveljske soline kot model spodbudnega naravnega interaktivnega učnega okolja.* Doktorska disertacija. Koper: Univerza na Primorskem, Pedagoška fakulteta.

Gaber, S. (2016). Napako ustavljanja izobraževanja smo že naredili. Ne ponovimo je! V *Delo. Sobotna priloga*, 8. okt. 2016, str. 8–9.

Gilchrist, M., Passy, R., Waite, S., in Cook, R. (2016). *Exploring schools' use of natural spaces.* Pridobljeno s https://pearl.plymouth.ac.uk/bitstream/handle/10026.1/4823/Exploring%20schools%20use%20of%20natural%20spaces_final.pdf?sequence=3&isAllowed=y (Dostopno 17. 3. 2020.)

Gosenar, T., in Cencič, M. (2019). Učitelji razrednega pouka o pouku zunaj šole. *Sodobna pedagogika, 70*(2), 52–69.

Hardman, C. A., Horne, P. J., in Rowlands, A. V. (2009). Children's pedometer-determined physical activity during school-time and leisure-time. *Journal of Exercise Science & Fitness, 7*(2), 129–134.

Ivanuš Grmek, M., in Hus, V. (2006). Odprti pouk pri predmetu spoznavanje okolja. *Sodobna pedagogika, 57*(2), 132–145.

Izhodišča kurikularne prenove. (1996). Ljubljana: Nacionalni kurikularni svet.

Jesenska srečanja ravnateljev. (2017). Poročilo o izvedbi simpozija. Pridobljeno s http://solazaravnatelje.si/wp-content/uploads/2018/02/Srecanje-ravnateljev-vrtcev_Kako-prehajajo-otroci-iz-vrtca-v-osnovno-solo_povzetki-simpozija.pdf (Dostopno 13. 3. 2020.)

Kobal, L. (2016). Likovna ustvarjalnost: Menja učiteljev likovne umetnosti s slovenskih nižjih srednjih šolah v Italiji in italijanskih osnovnih šolah v Sloveniji. *Annales – Series Historia et Sociologia*, *26*(2), 343–354.

Kroflič, R. (1997). *Med poslušnostjo in odgovornostjo. Procesno-razvojni model moralne vzgoje*. Ljubljana: Vija.

Kroflič, R. (2002). *Izbrani pedagoški spisi. Vstop v kurikularne teorije*. Ljubljana: Zavod Republike Slovenije za šolstvo.

Kurikulum za vrtce (1999). Pridobljeno s https://www.gov.si/assets/ministrstva/MIZS/Dokumenti/Sektor-za-predsolsko-vzgojo/Programi/Kurikulum-za-vrtce.pdf (Dostopno 13. 3. 2020.)

Kužnik, L. (2009). *Interaktivno učno okolje in muzeji za otroke. Teoretski model in zasnova*. Ljubljana: Oddelek za etnologijo in kulturno antropologijo Filozofske fakultete Univerze v Ljubljani.

Marentič Požarnik, B. (2000). *Psihologija učenja in pouka*. Ljubljana: DZS.

Medved, D. (2019). Moj otrok se šola doma: Pogovor z Gito Matejo de Laat o šolanju na domu, ki je v Sloveniji vse bolj priljubljeno. *Naša družina*, 22. september 2019.

Novak. L. (2016). Šola, prilagojena šestletnikom, ali šestletniki, prilagojeni šoli? *Šolsko svetovalno delo*, *20*(3/4), 35–44.

OECD (2017). Starting Strong V: Transitions from Early Childhood Education and Care to Primary Education. Paris: OECD Publishing, Pridobljeno s https://read.oecd-ilibrary.org/education/starting-strong-v_9789264276253-en#page4 (Dostopno 13. 3. 2020.)

Odredba o postopnem uvajanju programa 9-letne osnovne šole. (1998). Uradni list RS, št. 22/1998, 20. 3. 1998.

Pečavar, Ż. (2010). Connection with nature and awareness as primary goals of outdoor education. V *Encountering, experiencing and exploring nature in education: 10th annual EOE conference,* (str. 175–178). Pridobljeno s http://www.csod.si/uploads/file/Mednarodna%20konferenca/Zbornik%202010_4.pdf (Dostopno 10. 2. 2018.)

Pergar, A. (2018). Šolanje na domu. *Didactica Slovenica – Pedagoška obzorja*, *33* (3–4), 166–177.

Peršič, M., in Vrtovec Beno, A. (2018). *Kdor seje, ta žanje: Šolski vrtovi na Notranjskem*. Postojna: Zavod znanje Postojna, OE Notranjski muzej Postojna.

Polak, A., Devjak, T., Skubic, D., in Pečjak, S. (2008). *Učitelji, učenci in starši o prvem triletju osnovne šole*. Ljubljana: Pedagoški inštitut.

Poljak, V. (1975). Organizacija pouka. V L. Krneta, V. Schmidt in P. Šimleša (ur.). *Pedagogika II* (str. 469–527). Ljubljana: Državna založba Slovenije.

Požar Matijašič, N., Štraus, M., Rutar, S., in Cotič Pajntar, J. (2017). Kako prehajajo otroci z vrtca v osnovno šolo pri nas v primerjav z vrstniki v drugih državah? XXIII. strokovno srečanje ravnateljic in ravnateljev vrtcev, 16. in 17. oktober, 2017. Portorož: Šola za ravnatelje. Pridobljeno s solazaravnatelje.si/wp-content/uploads/2017/10/Prehod-iz-vrtca-v-solo_srecanje-ravnateljev-vrtcev_oktober-2017.pdf (Dostopno 13. 3. 2020.)

Predmetnik osnovne šole. (2014). Dostopno na: http://www.mizs.gov.si/fileadmin/mizs.gov.si/pageuploads/podrocje/os/devetletka/predmetniki/Pred_14_OS_4_12.pdf (Dostopno 14. 1. 2019.)

Rickinson, M., Dillon, J., Teamey, K., Morris, M., Choi, M. Y., Sanders, D., in Benefield, P. (2004). A Review of Research on Outdoor Learning. National Foundation for Educational Research and King's College London. Pridobljeno s https://www.scirp.org/(S(351jmbntvnsjt1aadkposzje))/journal/paperinformation.aspx?paperid=68087 (Dostopno2. 4. 2020.)

Rizman Herga, N., in Fošnarič, A. (2017). Coordination of School Science Classroom Furnishings with Anthropometric Parameters for 11–12 Year-Old Children. *Revija za elementarno izobraževanje, 11*(1), 99–113.

Sagadin, J. (2003). *Statistične metode za pedagoge*. Maribor: Obzorja.

Šebjanič, E., in Skribe Dimec, D. (2019). Primeri dobre prakse pouka na prostem v Sloveniji in tujini. *Sodobna pedagogika, 70*(2), 70–85.

Šimunič, B., Volmut, T., in Pišot, R. (ur.) (2010). *Otroci potrebujemo gibanje: Otrok med vplivi sodobnega življenjskega sloga: Gibalne sposobnosti, telesne značilnosti in zdravstveni status slovenskih otrok*. Koper: Univerza na Primorskem, Znanstveno-raziskovalno središče, Inštitut za kineziološke raziskave, Univerzitetna založba Annales.

Šola v naravi za devetletno osnovno šolo. (2001). Pridobljeno s http://www.mizs.gov.si/fileadmin/mizs.gov.si/pageuploads/podrocje/os/devetletka/program_drugo/Sola__v__naravi.pdf (Dostopno 14. 1. 2019.)

Štemberger, V. (2012). Šolsko okolje kot učno okolje ali pouk zunaj. *Razredni pouk, 14*(1/2), 84–90.

Tomić, A. (2002). *Spremljanje pouka*. Ljubljana: Zavod Republike Slovenije za šolstvo.

Tušek, M. (2018). *Poučevanje izven učilnice pri predmetu spoznavanje okolja v prvem razredu na področju Goričkega*. Magistrsko delo. Maribor: Univerza v Mariboru, Pedagoška Fakulteta.

Vidmar, M. (2017). *OECD prehodi: Pregled politik in praks izobraževalnih sistemov na področju prehoda otrok iz vrtca v šolo*. Pridobljeno s http://www.eurydice.si/novice/tema-meseca/oecd-prehodi-pregled-politik-in-praks-izobrazevalnih-sistemov-na-podrocju-prehoda-otrok-iz-vrtca-v-solo/ (Dostopno 10. 6. 2019.)

Vidmar, M., Rutar Leban, T., in Rutar, S. (2017). *Transitions from early childhood education and care to primary education. OECD review of policies and practices for transitions from ECEC to primary education. Country background report Slovenia*. Ljubljana: Ministry of Education, Science and Sport; National Educational Institute Slovenia. Pridobljeno s https://www.zrss.si/pdf/transitions-from-early-childhood-education.pdf (Dostopno 12. 6. 2019.)

Volmut, T. (2014). *Z merilnikom pospeška izmerjena gibalna/športna aktivnost mlajših otrok in analiza izbranih intervencij: Doktorska disertacija*. Koper: Univerza na Primorskem, Pedagoška fakulteta.

Vonta, T. (1993). *Zagotavljanje kontinuitete vzgojnoizobraževalnega dela na prehodu iz vrtca v šolo*: elaborat raziskovalne naloge (1. faza). Ljubljana: Pedagoški inštitut. Pridobljeno s https://www.korakzakorakom.si/zagotavljanje-mehkega-prehoda-v-vrtec-ter-iz-vrtca-v-osnovno-solo (Dostopno 13. 12. 2019.)

Zakon o vrtcih. (1996). Pridobljeno s http://www.pisrs.si/Pis.web/pregledPredpisa?id=ZAKO447 (Dostopno 10. 6. 2019.)

Zakon o osnovni šoli (1996). Pridobljeno s http://pisrs.si/Pis.web/pregledPredpisa?id=ZAKO448 (Dostopno 10. 6. 2019.)

Avtorici

Dr. Majda Cencič

Redna profesorica, Univerza na Primorskem, Pedagoška fakulteta, Cankarjeva 5, 6000 Koper, Slovenija, e-pošta: majda.cencic@pef.upr.si

Full professor, University of Primorska, Faculty of Education, Cankarjeva 5, 6000 Koper, Slovenia, e-mail: majda.cencic@pef.upr.si

Dr. Barbara Horvat

Docentka, Univerza na Primorskem, Pedagoška fakulteta, Cankarjeva 5, 6000 Koper, Slovenija, e-pošta: barbara.horvat@pef.upr.si

Assistant professor, University of Primorska, Faculty of Education, Cankarjeva 5, 6000 Koper, Slovenia, e-mail: barbara.horvat@pef.upr.si

REVIJA ZA ELEMENTARNO IZOBRAŽEVANJE
JOURNAL OF ELEMENTARY EDUCATION
Vol. 14, No. 1 , pp. 73–92, Marec 2021

TEACHER SELF-ASSESSMENT OF THEIR SCIENCE AND TECHNICS COMPETENCES AND PROFESSIONAL DEVELOPMENT

DANIJELA BLANUŠA TROŠELJ[1], PETRA PEIĆ PAPAK[1] & DARJO ZULJAN[2]

[1] University of Rijeka, Faculty of Teacher Education, Rijeka, Croatia
[2] University of Primorska, Faculty of Education, Koper, Slovenia

CORRESPONDING AUTHOR/KORESPONDENČNI AVTOR
darjo.zuljan@pef.upr.si

Potrjeno/Accepted
6. 4. 2020

Objavljeno/Published
22. 3. 2021

Abstract/Izvleček In this paper, the authors present the results of an empirical study that formed part of the broader research project, "Culture of Educational Institution as a Factor in Co-Construction of Knowledge," at the University of Rijeka. The research was conducted on a sample of 317 elementary class teachers from Croatia and Slovenia. The authors sought to establish how class teachers assess their professionalism in practice; whether they show statistically significant differences in assessing their professionalism and professional development in practice at different stages of their careers.

Učiteljeva presoja naravoslovnih in tehničnih kompetenc ter lastnega profesionalnega razvoja

V prispevku avtorji predstavljajo rezultate empirične raziskave, ki je bila del širšega raziskovalnega projekta "Culture of Educational Institution as a Factor in Co-Construction of Knowledge" na Univerzi na Reki. Raziskava je bila izvedena na vzorcu 317 učiteljev osnovnih šol iz Hrvaške in Slovenije. Avtorje je zanimalo, kako učitelji ocenjujejo svoj profesionalizem v praksi, ali se učitelji v različnih obdobjih kariere statistično pomembno razlikujejo pri ocenjevanju svoje profesionalnosti in profesionalnega razvoja v praksi.

Keywords:
professional development, science and technics competences, class teachers.

Ključne besede:
profesionalni razvoj, naravoslovne in tehnične kompetence, učitelji.

UDK/UDC:
373.3.011.3-051, 37.091.3:5

DOI https://doi.org/10.18690/rei.14.1.73-92.2021

Introduction

The modern educational process should undergo continuous development and change, along with the teachers and pupils who are affected by such changes. In order for change to be continuous, Blažević (2013) believes that teachers must possess pedagogical, psychological, methodological, communicative, social, information-communication, intercultural, and organizational competences. This paper focuses on the pedagogical competences of teachers defined by Jurčić (2012, 16) as "personal, subject, communication, didactic-methodological, reflective, social, emotional, intercultural, and civic competences;" it is thus necessary to observe them as intertwined in the core areas of teachers' work. Pejić Papak, Vujičić, and Arrigoni (2015) emphasize that a pedagogically competent teacher is one who can harness the incentives and potential of their environment as well as their own (necessary personal and professional capacities) and achieve good student-centred developmental outcomes. Therefore, it is necessary first to define the key competences that a learner must have to be successful in modern society, including the need to develop more complex skills and adaptability, the ability of lifelong learning.

The European and national standards, guidelines, and forecasts provide a list of competences required for the 21st-century student and European citizen (Lončarić & Pejić Papak, 2009). The key competences for Lifelong Learning – A European Reference Framework (2006) are those which all individuals require for personal validation and development, an active civic life, social integration, and employment. These competences include Communication in the mother tongue; Communication in foreign languages; Mathematical competence and basic competences in science and technics; Digital competence; Learning to learn; Social and civic competences; Sense of initiative and entrepreneurship, and Cultural awareness and expression. The key competences for lifelong learning also permeate the topics presented in the Recommendations of the Commission for European Communities (Improving competences for the 21st Century: An agenda for European cooperation on schools, 2008): critical thinking, taking the initiative, problem-solving, risk assessment, decision making, and constructive management of feelings. All key competences are considered equally important because each contributes to a successful life in the knowledge society, and many of them overlap and are intertwined.

It is desirable that the aspects that are important in one area are also interactive and support competences in another area.

The development of a national competence-based curriculum (Vujičić & Pejić Papak, 2017) directs the contemporary demand for new types of knowledge, skills, abilities, values, attitudes and competences that promote innovation, creativity, problem-solving, critical thinking, entrepreneurial skill, and information and communication skills, which can be achieved through a contemporary approach to teaching, strategies that focus on the student who must be at the centre of the educational process and a teacher who supports, initiates, and moderates activities that enable the students to construct knowledge.

The continuity of development requires a permanent development of teachers' competences because only a competent teacher can develop the competences that the students will need to integrate themselves and engage successfully in their environment. The authors share the understanding of professional development provided by Valenčič Zuljan (2001, 30), who sees professional development as "a process of meaningful and lifelong learning in which teachers (students) conceive and develop their conceptions and change their teaching practice; it is a process that involves the teacher's personal, professional, and social dimension and implies their progression towards critical, independent, responsible decision-making and behavior". Professional development cannot be a spontaneous process but involves systematically planned opportunities and gaining experience (Čepić, Kalin, & Šteh, 2017), which depend on changes in society, expectations from and towards the profession itself, as well as a change in the professional himself.

Today, it is understood that professional development is no longer a choice of motivated individuals but a necessity for every teacher. With the increasing (awareness of the) importance of teacher professional development, the number of studes on professional development has increased, as well. Some research focuses on the stages of professional development (e.g., Fuller, 1969; Katz, 1972; Huberman, 1992, 1993; Day, Sammons, Stobart, Kington and Gu,2007; Blanuša Trošelj, 2018), while others focus on individual factors (e.g., research as a factor in professional development or analysis of multiple factors in professional development (Valenčič Zuljan, 2012; Gonzalez, Brown & Slate, 2008; Inman & Marlow, 2004; Day et al., 2007; Bubb & Earley, 2010; Blanuša Trošelj, 2018).

Different factors affect teachers and their professional development throughout their career or, if they are the same factors, not in equal measure. Many researchers (Fuller, 1969; Kagan, 1992; Katz, 1972; Berliner, 1992) focus on differentiating the stages in professional development. They have created models of professional development, dealing with various characteristics, needs and goals of teachers in specific phases of professional development. Katz (1972) points out that thoughts and behaviours developing intermittently, in sequence, adjusting to the individual's tasks and environment. Therefore, it is impossible (Katz, 1972) to start one's professional role as a professional veteran. Every teacher possesses certain competences at the beginning of his/her career; these are tested, changed, and upgraded to "higher" levels through years of practice.

One of the key factors in teacher professional development is the teacher's ability to reflect on his/her day-to-day educational practice (Schön, 1983; Valenčič Zuljan, 2008). It represents the "transformation of knowledge with the help of understanding the practice" (Šagud, 2012, 284). In doing so, the reflexive teacher thinks about himself, the student, the activities, opportunities, and appropriate actions that will assist development (Mlinarević, 2002) by constantly questioning and testing his/her thoughts, behaviours and procedures in his/her work. Various internal factors are important for quality reflection, such as the teacher's understanding, beliefs, and knowledge of the importance of reflection for the teacher's quality pedagogical work, the teacher's ability to analyse and assess the impact of his/her work on the cognitive, emotional, and psychomotor development of the student, the readiness of the individual to introduce change, as well as external factors, the school climate and culture –peer interactions and the way the institution is run (Vujičić & Pejić Papak, 2017).

Numerous challenges, increasingly heterogeneous classes, and greater public expectations from teachers contribute to the increased stress placed on the teaching profession. Various studies confirm that the teaching profession is one of the more stressful callings (Johnson, Cooper, Cartwright, Donald, Taylor, & Millet, 2005; Kyriacou, 2011; Antonius et al. 2006); it is therefore important for the teacher to build resilience to ensure the long-term quality of his/her performance.

Valenčič Zuljan and Kiswarday (2015) define a resilient teacher as a qualified professional who is able to create a teaching environment in which the optimal educational and personal development of the students is achieved.

At the same time, the teacher is able to create a processed image of himself and of the teaching profession over the course of interpersonal influences of personal and social views. This enables him to improve his professional development continuously and to change the environment constructively.

The notion of a resilient teacher is clarified from the aspect of the teacher's competence to provide quality instruction and other educational activities as well as the teacher's deep understanding of himself and his own professional development. Resilience and professional development are mutually interconnected. Teacher resilience is important for teacher professional development (a teacher who is constantly stressed finds it more challenging to perform his job and to care for his long-term professional development). At the same time, a teacher who works on the development of his/her competences and invests in his/her professional development is more resistant to stress as well as better at performing his/her role.

Research methodology and problem

The achievement of quality education depends significantly on the teacher. Research has shown (Darling Hammond, Holtzman, Gatlin, & Heilig, 2005) that teacher quality has a significant impact on student achievement and that this is one of the most important factors in the school environment, exerting a greater effect on student performance than school organization, school management, or financial conditions. Based on these research findings, it is crucial to equip teachers to perform their professional roles, as well as to make them aware of the need for their continuing professional learning and development in order to achieve quality student knowledge.

The extent to which teachers will be prepared to learn professionally depends on their conception of the professional role of the teacher, their motivation, and reflection skills as well as the stimuli coming from their work environment.

In this paper, we were interested in establishing how teachers assess their professionalism and professional development in practice, and whether teachers at different stages of their careers show statistically significant differences in assessing their professionalism and professional development in practice.

Research questions

1. How do teachers assess their own professionalism in practice, and do teachers show statistically significant differences in assessing their professionalism and professional development in practice at different stages of their careers?
2. How do teachers assess their science and technics competences, and are their assessments statistically significantly related to the factors in professional development?

Research methods

The research was conducted in accordance with the principles of the quantitative research paradigm. We used a descriptive and causal, non-experimental method of pedagogical research (Cencič, 2009; Sagadin, 1993).

Instrument of data collection

For the purpose of this research, a questionnaire was constructed that included Likert-type measurement instruments (This paper forms part of the project "Culture of Educational Institution as a Factor in Co-construction of Knowledge," University of Rijeka (number: 13.10.2.2.01) and five-point assessment scales that probed teachers' attitudes towards the contemporary approach to the educational process. For the purposes of this paper, the results of the Scale related to the teachers' assessment of their own professionalism in practice, Teacher Professional Development, containing 19 items, were analysed. The Scale was adopted from Blanuša Trošelj's (2018) doctoral thesis, Professional Development of Preschool Teachers in Croatia. Since the Scale in the doctoral thesis was applied to preschool teachers, we examined the Scale's characteristics on the sample of class teachers. After Oblimin rotation, the statements were abstracted into substantively three meaningful factors (KMO = 0.841; Bartlett's test of Chi-Square sphericity = 2824.250 with p = .000), while two items were exempt from either factor, as they were not attributed to either.

In addition, the following socio-demographic indicators were examined: gender (dichotomous variable) and age (open-ended question), the results of which were grouped into six categories of seniority in accordance with Day et al. (2007).

Instruments of statistical data processing

The data were processed in the IBM SPSS Version21 statistical package. Factor analysis using Oblimin rotation was used to abstract the factors on the Scale, while the Kruskal Wallis and Mann Whitney tests were used to determine the differences. Descriptive analysis and correlation tests were used to determine the interconnectedness of items related to science.

Participants

The study was conducted on a sample of 317 elementary class teachers from the Republic of Croatia and the Republic of Slovenia. The majority of the participants were female (N = 278, 96.2 %), and only 11 were male (3.8 %); 28 respondents did not provide information on their gender. These teachers' work experience ranged between one and 40 years of service, with an average of 15 years of service. For the purpose of further analysis and in accordance with Day et al. (2007), the teachers were grouped into six categories of work experience according to the stage of the teacher's professional life: 47 teachers had up to 3 years of service (17 %); 17 teachers had between 4 and 7 years of service (6.1 %); 65 teachers had between 8 and 15 years of service (23.5 %); 51 teachers had between 16 and 23 years of service (18.4 %); 59 teachers had between 24 and 30 years of service (21.3 %), and 38 teachers (13.7 %) had over 30 years of service. Forty teachers did not respond to this question and were therefore excluded from further analysis. Participation in the study was anonymous and voluntary.

We called the first factor (Table 1) Professional Insecurity; it comprises seven statements that substantially describe the teachers' fears and insecurity in their work. It includes the following items: *It is difficult for me to explain my actions at work to my associates, colleagues, and the principal*; *I struggle with certain situations in my work*; *I am no longer interested in additional training*; *I make mistakes more frequently in the presence of other adults in the group*; *I am afraid that I will not make the right decision in my work*; *I am afraid of new and/or unfamiliar work situations*, and *I have done my part; it is time for someone younger*. The reliability coefficient of this factor is Cronbach alpha 0.786. Other characteristics of this factor are M = 2.1086, SD = 0.04726, Symmetry = 0.866, Kurtosis = 0.019.

Metric characteristics of the Scale

Table 1: Structure of factors on the Scale of Teacher Professional Development.

Pattern Matrix			
	Component		
	1	**2**	**3**
It is difficult for me to explain my actions at work to my associates, colleagues and the principal.	**-.702**		
I struggle with certain situations in my work.	**-.677**		
I am no longer interested in additional training.	**-.658**		-.471
I make mistakes more frequently in the presence of other adults in the group.	**-.643**		
I am afraid that I will not make the right decision in my work.	**-.573**		
I am afraid of new and/or unfamiliar work situations.	**-.572**		
I have done my part; it is time for someone younger.	**-.561**		-.561
I consider myself a good mentor to the youth.		**.813**	
I apply and test the theory in practice with ease.		**.676**	
I am fully in control of things in my work.		**.676**	
I am confident in myself and my competences.		**.645**	
In my work, I use new knowledge derived from science research.		**.508**	
I behave professionally at every moment of my work.		**.420**	
I still have a lot to learn.	-.305		**.632**
I think I am in my prime work years.		.338	**.612**
I still have a lot to offer.			**.605**
I think that I need the help of more experienced colleagues.	-.321		**.499**

The second factor, Professionalism (Professional Expertise), includes items which, unlike the previous factor, support professional stability and the sense of "managing" the situation in one's teaching profession:

I consider myself a good mentor to the youth; *I apply and test theory in practice with ease*; *I am fully in control of things in my work*; *I am confident in myself and my competences*; *In my work, I use new knowledge derived from scientific research*, and *I behave professionally at every moment of my work*. The reliability coefficient of this factor is Cronbach alpha 0.721. Other characteristics of this factor are M = 3.9362, SD = 0.03558, Symmetry = -0.027, Kurtosis = -0.218.

Finally, the third abstracted factor, Room for Professional Growth, includes the following items: *I still have a lot to learn*; *I think I am in my prime work years*; *I still have a lot to offer*; and *I think that I need the help of more experienced colleagues*. The reliability coefficient of this factor is Cronbach alpha 0.505. Other characteristics of this factor are M = 3.8418, SD = 0.04290, Symmetry = -0.512, Kurtosis = 0.831.

The Kolmogorov-Smirnov test of normal distribution was performed for all three factors, and all three deviated from the normal distribution. Therefore, non-parametric tests were applied in subsequent data processing.

Results and interpretation

Teachers' assessments of their professionalism and professional development in practice

We sought to find out how teachers assess their own professionalism in practice. We were also interested in whether teachers show statistically significant differences in their assessment of their professionalism and professional development in practice at different stages of their careers. The Kruskal Wallis test analysed whether there was a statistically significant difference in the variables Professional Insecurity ($\chi^2 = 14.490$, $df = 5$, $p < .05$), Professionalism ($\chi^2 = 18.425$, $df = 5$, $p < .05$), and Room for Growth ($\chi^2 = 28.109$, $df = 5$, $p < .05$). It emerged that there are statistically significant differences between different groups of teachers with respect to their stage of professional development, which was determined based on the difference in the length of the teachers' years of service on all three variables. The Mann Whitney test was performed to determine which categories of teachers showed statistically significant differences.

With regards to Professional Insecurity, a statistically significant difference was identified between teachers with up to 3 years of service and teachers with 4 to 7 years of service ($U = 57.500$, $Z = -3.846$, $p < .05$), in the sense that teachers with fewer years of service ($M = 28.26$) experience higher levels of insecurity than those with more years of service ($M = 11.42$). Also, teachers with up to 3 years of service show a statistically significant difference in this feeling from the group with 8 to 15 years of service ($U = 584.500$, $Z = 2.584$, $p < .05$).

Teachers with up to 3 years of service ($M = 52.29$) feel more insecure than teachers with 8 to 15 years of service ($M = 38.03$). Teachers with up to 3 years of service also show a statistically significant difference from teachers with 24 to 30 years of service ($U = 484.000$ $Z = -2.103$, $p < .05$), whereby teachers with up to 3 years of service ($M = 43.33$) feel more insecure than teachers with 24 to 30 years of service ($M = 32.8$).

A statistically significant difference also emerged between teachers with 4 to 7 years of service and teachers with 16 to 23 years of service ($U = 118.000$, $Z = -2.372$, $p < .05$) and 24 to 30 years of service ($U = 164.500$, $Z = -2.072$, $p < .05$).

Moreover, teachers with 4 to 7 years of service experience a lower level of uncertainty (M = 16.08) than teachers with 16 to 23 years of service (M = 26.42). Teachers with 4 to 7 years of service experience less insecurity (M = 19.65) even in comparison to teachers with 24 to 30 years of service (M = 29.99). No statistically significant differences were recorded among other groups of teachers in the feeling of Professional Insecurity with regards to different years of service.

In terms of Professionalism, differences were identified between separate groups of teachers at different stages of professional life. A statistically significant difference emerged between teachers with up to 3 years of service and teachers with 8 to 15 years of service (U = 1000.500, Z = -3.020, p < .05), because teachers with fewer years of service (M = 45.29) feel a lower level of professionalism than those with more years of service (M = 63.87). Also, teachers with up to 3 years of service experience a statistically significant difference in this feeling from the group with 16 to 23 years of service (U = 683.000, Z = -3.572, p < .05). Even in this situation, teachers with up to 3 years of service (M = 38.53) experience a lower level of professionalism than teachers with 16 to 23 years of service (M = 58.84).

Finally, teachers in the first phase of professional life demonstrate a statistically significant difference from teachers with 24 to 30 years of service (U = 758.000, Z = -3.922, p < .05), in the sense that teachers with fewer years of service assess their professionalism with lower values (M = 40.13) than their colleagues with more years of service (M = 63.43). There were no statistically significant differences between other groups of teachers with respect to different stages of professional life.

More differences were recorded between different groups of teachers in the factor Room for Professional Growth than in the previous two factors.

Thus, statistically significant differences emerged between groups of teachers with up to 3 years of service and teachers with 24 to 30 years of service (U = 683.500, Z = -4.206, p <. 05) because teachers with fewer years of service (M = 65.64) feel there is more room for growth than teachers with 24 to 30 years of service (M = 40.99). Also, teachers with up to 3 years of service show a statistically more significant difference in this feeling than the group of teachers with over 30 years of service (U = 421.000, Z = -3.693, p < .05).

Furthermore, teachers with 4 to 7 years of service show a greater statistically significant difference than teachers with 24 to 30 years of service (U = 334.500, Z = -1.692, p < .05); teachers with fewer years of service (M = 46.32) feel that they have more room for growth than teachers with more years of service (M = 34.87).

Teachers with 8 to 15 years of service show a greater statistically significant difference from teachers with 24 to 30 years of service (U = 1167.000, Z = -3.350, $p < .05$); teachers with fewer years of service (M = 70.48) feel there is more room for growth than teachers with more years of service (M = 49.47).

Furthermore, there are statistically significant differences between all groups of teachers in the sense that teachers show statistically greater differences with the previous phase of professional life as their years of service increase in the sense that they feel an ever-decreasing need for growth. Accordingly, teachers with 8 to 15 years of service also show a greater statistically significant difference from teachers with more than 30 years of service (U = 689.000, Z = -3.104, $p < .05$), whereby teachers with fewer years of service (M = 56.06) feel that they have more room for growth than teachers with more years of service (M = 37.69).

Teachers with 16 to 23 years of service show a greater statistically significant difference from teachers in the next phase of professional life (U = 1115.500, Z = -2.099, $p < .05$) and feel there is more room for growth (M = 61.13) than their colleagues with 24 to 30 years of service. However, teachers with 24 to 30 years of service feel there is more room for growth (M = 48.40) than teachers with more than 30 years of service (M = 36.36) and, according to the analysis, show a statistically significant difference in this regard (U = 542.500, Z = -2.213, $p < .05$).

No statistically significant differences were recorded in the feeling of Room for Growth in the earlier stages of the professional life of teachers.

Teachers' assessment of their science and technics competences

In times of rapid technological development, the scientific literacy of each individual is very important. Participation in a technical society requires an in-depth and critical understanding of technics and its impact on individuals, the environment and society. Therefore, the teachers' knowledge of these topics, didactic competence and positive attitudes to science and technics are of vital importance if they wish to encourage the scientific literacy of their students. We were curious to explore how teachers assess their science and technics competences and whether their assessments were statistically significantly related to the factors in professional development. Items were rated on a five-point scale; 1 – I strongly disagree; 2 – I disagree; 3 – I neither agree nor disagree; 4 – I agree; 5 – I strongly agree.

It is observable from Table 2 that ratings 4 and 5 are more represented than 1 and 2 in all the items of science and technics competences. However, it should be pointed out that the share for the rating 3 – I neither agree nor disagree - is high for all items and ranges from 26.4 % for "Teaching science and technics brings me professional satisfaction" to 46.2 % for "I find teaching scientific content challenging in terms of spatial and material conditions."

Rating 4 has the highest share (in terms of frequency) in four items:

- "Teachers should receive additional training in science and technics" (47.9 %), (rating 3 – 29.7 %, rating 5 – 17.4 %);
- "I am very capable of dealing with students' questions about science and technics" (46.8 %), (rating 3 – 38.2 %; rating 5 – 8.5 %);
- "I have sufficient content knowledge to be able to provide quality support to students in their research and project development" (51.4 %), (rating 3 – 36 %, rating 5 – 8.5 %); and
- "Teaching science and technics brings me professional satisfaction" (48.1 %), rating 3 – 26.4 %, rating 5 – 21.8 %).

Rating 3 has the largest proportion in two items:

- "I find teaching scientific content challenging in terms of the spatial and material conditions" (46.2 %) and
- "I do not feel competent enough while teaching science in class" (39.2 %). These are also items with a slightly greater representation of rating 2 (11.8 % and 31.8 %).

Teachers who assess themselves as Professionally Insecure (factor 1) give statistically significantly higher assessments of the item "I do not feel competent enough while teaching science in class," while no statistically significant differences were obtained for other items.

Teachers who assess themselves as Professional Experts (factor 2) assess the following items statistically significantly higher:

- "Teachers should receive additional training in science and technics" ($p = .000$);
- "I am very capable of dealing with students' questions about science and technics" ($p = .000$);
- "I have sufficient content knowledge to be able to provide quality support to students in their research and project development" ($p = .000$); and
- "Teaching science and technics brings me professional satisfaction" ($p = .004$).

On the other hand, the teachers assess the item "I do not feel competent enough while teaching science in class" significantly lower.

Table 2: Relationship between teachers' assessment of science and technics competences and factors in teacher professional development.

		1	2	3	4	5	Fact. 1	Fact. 2	Fact. 3
Items	**M** **SD**	**f** **(%)**	**f** **(%)**	**f** **(%)**	**f** **(%)**	**f** **(%)**	**ρ** **p**	**ρ** **p**	**ρ** **p**
Teachers should receive additional training in science and technics.	3.77 0.79	0.3	4.7	29.7	**47.9**	17.4	-.04 .570	**.20**** **.000**	**.16**** **.005**
I am very capable of dealing with students' questions about science and technics.	3.58 0.73	0	6.3	38.2	**46.8**	8.5	-.03 .712	**.32**** **.000**	.00 .894
I have sufficient content knowledge to be able to provide quality support to students in their research and project development.	3.64 0.69	0	4.1	36	**51.4**	8.5	-.09 .195	**.39**** **.000**	-.00 .923
I find teaching science content challenging in terms of spatial and material conditions.	2.57 0.94	1.9	11.8	**46.2**	33.0	7.1	.08 .221	-.02 .774	.16 .021
I do not feel competent enough while teaching science in class.	2.57 0.94	13.8	31.8	**39.2**	13.8	1.4	**.23**** **.001**	**-.15**** **.027**	.05 .391
Teaching science and technics brings me professional satisfaction.	3.87 0.81	0.9	2.8	26.4	**48.1**	21.8	-.14 .055	**.19**** **.004**	**.18**** **.009**

Legend: Fact. 1– Professional Insecurity; Fact. 2– Professionalism, Fact. 3 – Room for Growth; r-correlation coefficient; * $p < .05$. ** $p < .01$.

The item "I find teaching scientific content challenging in terms of the spatial and material conditions" is not statistically significantly related to factor 2.

Teachers who emphasize the value of Room for Professional Growth (factor 3) assess the following items as statistically significant:

- "Teachers should receive additional training in science and technics" (p = .005);
- "I find teaching scientific content challenging in terms of spatial and material conditions." (p = .021); and
- "Teaching science and technics brings me professional satisfaction" (p = .009).

Three factors were abstracted on the Scale by means of factor analysis with the aim for the teachers to assess their own professionalism and professional development in practice: Professional Insecurity, Professionalism, and Professional Growth. In conclusion, it was found that there is a statistically significant difference between different groups of teachers in their length of service with respect to the stage of professional development. Teachers with fewer years of service experience have a higher level of Professional Insecurity, and Professionalism than those with more years of service. In addition, statistically significant differences occur in the group of teachers with up to 3 years of service because they feel there is more room for Professional Growth.

Conclusion

The initial period of education is important in the development of the science and technics competence of an individual and the shaping of his/her relationship to science and technics.

The extent to which teaching in the first years of schooling (class instruction in Croatian schools, i.e., the first and second triads of nine-year Slovenian primary schools) will influence the development of science and technics literacy of children depends on the competence of class teachers and their readiness for lifelong learning.

Teachers' awareness of the importance of developing children's science and technics literacy, as well as their ability to organize quality teaching and stimulate student interests, is of paramount importance. In science and technics education, at the beginning of primary education, it is necessary to take into account the developmental level of students and the specifics of learning during this period, as well as the fact that the learning process must be based on the child's natural curiosity, on learning about the child's experience and knowledge, the encouragement of cognitive conflict, and scaffolding in the process of its resolution. In the process of solving a cognitive conflict and in the whole process of learning, teacher support is crucial.

To achieve quality learning, the teacher should enable the students to access knowledge through different paths, by using varied materials and doing different activities, which is especially important for younger students. Project work, problem-based learning, inquiry and experiential learning are all kinds of instruction in which technology is usually used in an authentic, i.e. real-life context, which makes instruction more relevant and interesting. Through these approaches, students gain a more thorough knowledge of science and technics. Consequently, they also have a positive effect on the students' attitude towards instruction. This requires the teacher to take care of his own professional development and gain confidence in teaching.

Therefore, the goal of professional development is the improvement of teaching practice and, consequently, the welfare of the pupils. It is a long-term process that involves continuing opportunities and experiences systematically designed for each teacher, depending on his/her background, interests, characteristics, and stage of professional development. In an ever-changing society, teachers cannot restrict themselves to the position and knowledge they currently have. Although teachers at particular stages of professional development show some differences, they all must possess the skill of constant adjustment, replenishment, and acquisition of new abilities and knowledge.

This is supported by the results of this research, revealing the peculiarities of each stage of teacher professional development in the field of technics competences.

We found that the teachers included in this research attribute high ratings to the meaning of science and technics competence development. As much as 63.3 % of teachers believe that additional teacher education is important or very important. They also assess their own qualification for teaching highly. The item "I am very capable of dealing with students' questions about science and technics" was given ratings 4 and 5 by 55.3 % of teachers, while the item "I have sufficient content knowledge to be able to provide quality support to students in their research and project development" was given ratings 4 and 5 by 59.9 % of teachers. As much as 79.2 % of teachers rated the item "I find teaching scientific content challenging in terms of spatial and material conditions" with ratings 4 and 5. We were pleased to find that 69.9 % of teachers believe that teaching science and technics brings them professional satisfaction.

Various studies show that enthusiasm in teaching a certain school subject and professional motivation affect teacher effectiveness and consequently student achievement (Kunter, Tsai, Klusmann, Brunner, Krauss, & Baumert, 2008; Kunter, Klusmann, Baumert, Richter, Voss, & Hachfeld, 2013).

In connection with the factors in professional development and the teachers' assessment of their science and technics competences, it can be concluded that those teachers who see themselves as Professionally Insecure show a statistically significantly higher assessment of their lack of competence in teaching science and technics content in the classroom. In addition, teachers who attribute importance to the factor Room for Professional Growth have a statistically significant understanding of the importance of education in the field of science and technicsand take pleasure in teaching science and technics.

Taking into account the high ratings of teachers' own qualification (ratings 4 and 5) and a fairly high share of rating 3 (undecided), it would be interesting to widen the scope of the research and add observation of instruction as well as a survey for students. It would also be valuable to perform interviews with teachers about gaining the competences in question and which factors influenced their professional development.

References

Berliner, D. C. (1992). The nature of Expertise in Teaching. In: F. Oser, A. Dick, and J. L. Patry (Eds.), *Effective and Responsible Teaching: The New Synthesis* (pp. 227–249). San Francisco: Josey-Bass Publishers.

Blanuša Trošelj, D. (2018). *Professional development of preschool teachers in Croatia* (Doctoral dissertation). Univerze v Ljubljani. Pedagoška fakulteta.

Blažević, I. (2013). *Kurikulumske kompetencije učitelja i odgojno-obrazovna praksa (Curriculum competences of teachers and educational practice)*. Znanstvena monografija s Drugog kongresa pedagoga u Opatiji 24.–26. 9. 2012. Zagreb: Hrvatsko pedagogijsko društvo, 16–27.

Bubb, S., & Earley, P. (2010). *Helping Staff Development in School*. London: SAGE.

Cencič, M. (2009). *Kako poteka pedagoško raziskovanje: Primer kvantitativne empirične neeksperimentalne raziskave (How pedagogical research is conducted: An example of quantitative empirical non-experimental research)*. Ljubljana: Zavod Republike Slovenije za šolstvo.

Čepić, R., Kalin, J., & Šteh, B. (2017). Profesionalni razvoj učitelja: kontekst, perspective izazovi (Teacher professional development: context, perspectives and challenges). In: R. Čepić and J. Kalin (Eds.), *Profesionalni razvoj učitelja: status, ličnost i transverzalne kompetencije,* 21–44). Rijeka: Učiteljski fakultet Sveučilišta u Rijeci.

Commission of the European Communities (2008). *Improving competences for the 21st Century: An Agenda for European Cooperation on Schools*. Retrieved from http://ec.europa.eu/education/school21/sec2177_en.pdf (Accessed: 20th February 2020).

Darling Hammond, L., Holtzman, D. J., Gatlin, S. J., & Heilig, J. V. (2005). Does teacher preparation matter? Evidence about teacher certification, Teach for America, and teacher effectiveness. *Education Policy Analysis Archives/Archivos Analíticos de Políticas Educativas*, *13*, 1–48.

Day, C., Sammons, P., Stobart, G., Kington, A., & Gu, Q. (2007). *Teachers matter. Connecting work, lives and effectiveness*. Maidenhead: Open University Press.

Fuller, F. (1969). Concerns of teachers: A developmental conceptualization. *American Educational Research Journal*, *6*(2), 207–226.

Gonzalez, L., Brown, M. S., & Slate, J. R. (2008). Teachers Who Left the Teaching Profession: A Qualitative Understanding. *The Qualitative Report, 13*(1), 1–11.

Huberman, M. (1992). "Teacher development and instructional mastery". In *Understanding teacher development*, Edited by Hargreaves, A., & Fullan, M. 122–142. London: Cassell.

Huberman, M. (1993). *The lives of teachers*. London: Cassell.

Inman, D., & Marlow, L. (2004). Teacher Retention: Why Do Beginning Teachers Remain in the Profession? *Education*, *124*(4), 605–614.

Johnson, S., Cooper, C., Cartwright, S., Donald, I., Taylor, P., & Millet, C. (2005). The experience of work-related stress across occupations. *Journal of Managerial Psychology*, *20*(2), 178–187.

Jurčić, M. (2012). *Pedagoške kompetencije suvremenog učitelja (Contemporary teacher's pedagogical competences)*. Zagreb: Recedo.

Kagan, D. D. (1992). Professional Growth Among Pre-service and Beginning Teachers. *American Educational Research Journal*, *62*(2), 129–169.

Katz, L. G. (1972). Developmental Stages of Preschool Teachers. *The Elementary School Journal*, *73*(1), 50–54.

Kunter, M., Tsai, Y. M., Klusmann, U., Brunner, M., Krauss, S., & Baumert, J. (2008). Students' and mathematics teachers' perceptions of teacher enthusiasm and instruction. *Learning and Instruction*, *18*(5), 468–482.

Kunter, M., Klusmann, U., Baumert, J., Richter, D., Voss, T., & Hachfeld, A. (2013). Professional competence of teachers: Effects on instructional quality and student development. *Journal of Educational Psychology*, *105(3)*, 805.

Lončarić, D., & Pejić Papak, P. (2009). Profiliranje učiteljskih kompetencija (Profiling teacher competences). *Odgojne znanosti 11*(2), 479–495.

Mlinarević, V. (2002). Učitelji odrednice uspješnog poučavanja (Teachers are the determinants of successful teaching). *Život i škola*, *47*, 7.

Pejić Papak, P., Vujičić, L., & Arrigoni, J. (2015). Teachers' Views on the Development of Personal Competences and Pupil Competences: Croatian Experiences. *Journal of Education & Social Policy*, *22*(1), 20–29.

Sagadin, J. (1993). *Poglavja iz metodologije pedagoškega raziskovanja* (*Chapters from the methodology of pedagogical research*). Ljubljana: Zavod Republike Slovenije za šolstvo.

Šagud, M. (2012). *Refleksivna praksa – suvremena paradigma cjelo životnog učenja i obrazovanja (odgajatelja) (Reflective practice – the contemporary paradigm of lifelong learning (educators))*. Zagreb: Filozofski fakultet.

The European Parliament and Council of the European Union. (2006). Key Competences for Lifelong Learning — A European Reference Framework. Retrieved from http://eurlex.europa.eu/LexUriServ/site/en/oj/2006/l_394/l_39420061230en00100018.pdf (Accessed: 20th February 2020).

Valenčič Zuljan, M. (2001). Modeli in načela učiteljevega profesionalnega razvoja. *Sodobna pedagogika*, *52*(2), 122–141.

Valenčič Zuljan, M. (2008). *Učiteljna put profesionalnog razvoja*: *od početnika do eksperta (The professional path of professional development: from beginner to expert)*. Vršac: Visoka škola strukovnih studija za obrazovanje vaspitača „Mihailo Palov".

Valenčič Zuljan, M. (2012). *Profesionalne poti pedagoških delavcev (Professional paths of teaching staff)*. Vršac: Visoka škola strukovnih studija za obrazovanje vaspitača.

Valenčič Zuljan, M., & Kiswarday, V. R. (2015). The resilient teacher: the way to reach quality education in contemporary society. *Odgoj u školi*, 75–99.

Vujičić, L., & Pejić Papak, P. (2017). Critical-Reflective Model in the Educational Process. In: *Contributions to the Development of the Contemporary Paradigm of the Institutional Childhood*: *An Educational Perspective*, 339–351. Zurich: LIT VERLAG.

Authors

Danijela Blanuša Trošelj, Ph.D.

Assistant professor, University of Rijeka, Faculty of Teacher Education Rijeka, Sveučilišna avenija 6, 51 000 Rijeka, Croatia, e-mail: danci.ri@gmail.com

Docent, Sveučilište u Rijeci, Učiteljski fakultet, Sveučilišna avenija 6, 51 000 Rijeka, Hrvatska, e-pošta: danci.ri@gmail.com

Petra Pejić Papak, Ph.D.
Associate professor, University of Rijeka, Faculty of Teacher Education Rijeka, Sveučilišna avenija 6, 51 000 Rijeka, Croatia, e-mail: petra.pejic.papak@uniri.hr
Izredni profesor, Sveučilište u Rijeci, Učiteljski fakultet, Sveučilišna avenija 6, 51 000 Rijeka, Hrvatska, e-pošta: petra.pejic.papak@uniri.hr

Darjo Zuljan, Ph.D.
Associate professor, University of Primorska, Faculty of Education, Cankarjeva 5, 6000 Koper, Slovenia, e-mail: darjo.zuljan@pef.upr.si
Izredni profesor, Univerza na Primorskem, Pedagoška fakulteta, Cankarjeva 5, 6000 Koper, Slovenija, e-pošta: darjo.zuljan@pef.upr.si

REVIJA ZA ELEMENTARNO IZOBRAŽEVANJE
JOURNAL OF ELEMENTARY EDUCATION Vol.
14, No. 1, pp. 93–110, Marec 2021

TEACHERS' KNOWLEDGE REGARDING CHILDREN'S HEALTH AT THE ELEMENTARY SCHOOL LEVEL

NAILA SADAF[1]& AFSHAN HUMA [1]

[1] Allama Iqbal Open University, Islamabad, Pakistan

CORRESPONDING AUTHOR/KORESPONDENČNI AVTOR
afshanhuma@gmail.com

Potrjeno/Accepted
25. 10. 2020

Objavljeno/Published
22. 3. 2021

Abstract/Izvleček This article is based on one of the research questions in a larger study that aimed to assess the impact of the school health program at elementary schools in Punjab, Pakistan. It explores whether the school health program was helpful in enhancing teachers' knowledge regarding major health issues among school children - anaemia, iron deficiency, malnutrition, asthma and breathing problems, and seasonal illness. The study revealed some significant findings, which are discussed with reference to the previous literature; conclusions are reached and recommendations given to improve teachers' knowledge and skills for improving school health.

Znanje učiteljev o zdravju otrok v osnovni šoli
Članek temelji na enem od raziskovalnih vprašanj obsežnejše študije, katere namen je bil oceniti učinek šolskih zdravstvenih programov v osnovnih šolah v Punjabu (Pakistan). Predstavlja enega glavnih delov raziskave o tem, koliko je šolski zdravstveni program pripomogel k izboljšanju znanja učiteljev glede petih pomembnejših zdravstvenih težav šolskih otrok, to so anemija, pomanjkanje železa, slaba prehrana, astma in težave z dihanjem ter sezonske bolezni. Podatki so bili zbrani s testom, pripravljenim za preverjanje znanja učiteljev o zdravju učencev in o učinkovitem odzivanju na zdravstvene težave. Raziskava je podala nekaj pomembnih ugotovitev, ki jih v nadaljevanju obravnavamo glede na obstoječo literaturo, nato pa ponudimo sklepe in priporočila za izboljšanje veščin učiteljev za dvig zdravja šolarjev.

Keywords:
Teachers' Knowledge; Health Education; School Health Program.

Ključne besede:
znanje učiteljev, zdravstvena vzgoja, šolski zdravstveni program.

UDK/UDC:
37.011.3-051:613.955(549.1)

DOI https://doi.org/10.18690/rei.14.1.93-110.2021

University of Maribor Press

Background

Developing countries like Pakistan have always been reported to have lower standards of health and hygiene in schools and elsewhere. In Pakistan, many reports have highlighted the challenges of enrolment and retention of students in schools. National reports mention that more than 20 million children are still out of school, and the share of children that are out of school between the ages of five and 16, is 44 percent between classes 1 and 10, while only 30% of children remain enrolled up to the secondary school level (AEPAM, 2018). The Ministry of Education, (1992) and UNESCO (2012) identified the factors that contribute to dropout as illness associated with the child, poor family economic status, attitude and ignorance of parents about their role in the education of their child, an unpleasant and unfriendly environment in school, irrelevance of the curriculum and the poor quality of teaching (Farooq, 2016).

Owing to physical illness, disability or disorders, many children find it difficult to continue their studies and so leave school, without the school knowing the exact nature of their health problem and its feasible solution (PMU& PHSRP, 2009–10). The World Health Organization (2003) reported that if we want our children to take full advantage of the education that is offered to them, their ability to learn and to attend school should not be compromised by health conditions. Teachers' and Parents' health knowledge has been found to be positively correlated with child health and nutrition in developing countries (Mwanri, Worsley, & Masika, 2001). The number and kinds of diseases that can affect education process are extremely diverse, and as children grow, the health and nutritional challenges that they face also change. Poor health and nutrition affect access to education, since some diseases seriously affect the growth and development of children and subsequently their chances of enrolment. Children in developing countries are particularly likely to face a variety of diseases and nutritional deficiencies. Unfortunately, these countries are not yet able either to have the services to provide education or to deal properly with poor health among their school children and with the consequent behaviours and attitude problems of children with poor health (Jukes, Drake, & Bundy, 2008).

Researchers and practitioners of child health and development have mentioned that schools could become a hub to fight against infectious diseases and to deliver an extensive range of health services to children and their families (Ahmad & Danish, 2013), because schools can provide organized opportunities for learning; moreover, pupils spend a significant amount of their time in schools and with teachers, during which time they become involved in a range of activities. The World Health Organization also recognizes the role of schools in the promotion of health and defines 'Health Promoting Schools' as schools 'constantly strengthening [their] capacity as a healthy setting for living, learning and working' (WHO, 1997).

For many years, national and international organizations have been working to improve health and hygiene conditions through School Health Programs (programs that promote health through schools); it has been usually expected and ensured that children will enrol and stay in school, will learn more while in school and will develop and enhance their skills, knowledge, and healthy behaviours that will definitely protect them and future generations from serious diseases (UNESCO, 2012). The most visible benefit of school health and nutrition programs can be education outcomes, and their socioeconomic returns in later stages of life.

Over the past two decades, school health and nutrition programs focused on low income countries shifted significantly away from a medical approach. It has shifted towards an approach that improves all children`s health and nutrition, mainly the disadvantaged and poor localities. The concept of school health interventions began to change in the 1980s, when studies showed that school health and nutrition programs were not only important contributors to health outcomes, but also vital components in the effort to improve achievement and completion rates, especially for children coming from lower socioeconomic backgrounds (Bundy, et al., 1993); research has also proved a positive correlation between the health condition of learners and their learning outcomes (Prasla & Prasla, 2011). The provincial government in Punjab, in collaboration with the Punjab Health Sector Reforms Program, the health department, the education department, district governments and UNICEF, developed and implemented a School Health Program in Punjab schools. Under this program, school health and nutrition supervisors were appointed to perform screening practices for children and to train schoolteachers to enhance their skills and health-related knowledge, to build the capacity of schoolteachers to screen children and promote hygiene education among the children (PMU & PHSRP, 2009–10).

It has been observed that even after this huge intervention, there was no major change within schools to ensure a safe and healthy learning environment.
The researchers' assumption in the current study was that teachers did not have enough knowledge regarding the school health program; therefore, this program could not make a major difference. The goal of the present study was to assess public elementary school teachers` knowledge about the health issues of children under the School Health Program, and to detect any difference between male and female teachers` knowledge about the health issues of school children under the School Health Program.

Literature Review

Being a social institution, school makes children undergo emotional, physical, mental, and social upbringing. The development of a child's natural competences takes place in school because it acts as an incubator. Education itself has proven to be a process that can boost children's potential to the maximum, and can make them productive citizens, so that they can play their role in the improvement of society and country. During the education process, there are several factors upon which a balanced upbringing of both boys and girls is reliant, but among these, health plays the most significant role. A physically and mentally fit child is more expected to succeed in all walks of life (UNESCO, n.d). The relationship between health status and academic achievement is more complex than it seems at first glance. Clearly, those children probably miss fewer school days because of illness if their health care needs are met, and such children are better able to focus on learning in the classroom (Grant & Brito, 2010).
Education and health are also closely connected when children and young people with poor vision or hearing have learning difficulties; those who are malnourished or tired have lower concentration skills; similarly, students with poor resistance to infections, or whose chronic situations are not effectively managed suffer a considerably greater rate of school absences; moreover, they also exhibit mental health problems, and substance use can diminish the capacity of students to learn and flourish. Educational achievements and good health are the means that provide an opportunity for individuals to live dynamic, satisfying and productive lives (National Health and Medical Research Council [NHMRC], 1996).

If students are not motivated and able to learn, it does not matter what responsibilities are assigned to teachers, how well equipped they are to teach, or what kind of governing structures are set up for schools; educational progress will be severely limited. Health-related problems play a key role in limiting the motivation and capacity of students to learn.

Healthier students are better learners (Seirawan, Faust, & Mulligan, 2012). Since a child's probability of school enrolment and capacity to learn and succeed in school are directly affected by health and nutritional status, so improving the nutritional and health status of students positively affects school enrolment and attendance. In Ghana, malnutrition among children was associated with significant delays in school enrolment. At the pre-elementary level, improving child health and nutrition has long-term impacts on development. In the Philippines, a study found that a one-standard-deviation increase in early-age child health increased subsequent test scores by about a third of a standard deviation. A longitudinal study in Pakistan found that a standard deviation increase of one-third in child height increased school enrolment by 4 percentage points for boys and 19 percentage points for girls. In rural Kenya, an evaluation of school-based mass treatment for de-worming found that student absenteeism fell by a quarter (Filmer, 2003).

At the start of the nineteenth century, it was perceived for the first time that there existed a relationship between health and education, and as a result, hospital staff were employed by schools in many countries to inspect school children and identify potential infectious diseases. In their initial stages, school health services were simply engaged in treatment rather than prevention of disease, but from the start, the concept was clear that school health services could improve health, along with the school performance of children, especially those who could not afford better health facilities (Ahmad & Danish, 2013). Thus, the idea of improving the health and then the learning of school children through school-based health and nutrition programs is not a new one. There are many countries who have School Health Programs, and effective School Health Programs have resulted in the emergence of child-friendly schools and have thus led towards the advancement of education for all (UNESCO, 2000). There are several possible settings for school-based health interventions. To reach students at school has always been a traditional way, so school staff and especially teachers may incline towards individual-based or classroom-based health education of school children.

Nevertheless, the critical components for improving students' healthy behaviours are health promoting policies, procedures and environments. Hence, at the school level or even the district level, school health approaches may be considered universal because they reach all students and staff, and implementation is less costly, while more targeted interventions are thereby reinforced. School interventions comprise different kinds of training.

Such training includes a range of activities and lessons, not only for students, but also training opportunities for teachers and staff; for example, in mandatory health classes, instruction can be provided to students about prevention of various diseases; for students who are at higher risk, teachers can be offered training in more targeted activities; staff can also be trained in a range of disease prevention efforts to ensure the involvement of families and community members. Provision of training to parents and teachers, in school interventions, to develop skills in conflict management and communication with students also indicate School Health Programs' potential for preventing negative health behaviours (Dilley, 2009). These approaches can prove to be effective for the promotion of health and healthy behaviours among students, adolescents and among families of low socioeconomic status.

Problem statement

In many countries, including Pakistan, school health programs include teacher training. It is important that teachers have the knowledge and skills to maintain school health. Teachers can play major role in the sustainability of school health after the intervention is over. Therefore, in this program evaluation study, one major research question was to assess teachers' knowledge regarding children's health in the elementary schools in Punjab, Pakistan

Methodology

A study was conducted in the province of Punjab, Pakistan. This study was limited to three districts (Vehari, Lodhran and Bahawalpur) located in Southern Punjab of Pakistan. The three districts had 3,483 public elementary schools and 8,352 elementary school teachers.

This study was descriptive in nature and included collection and analysis of quantitative data.

The population of this study was widely scattered throughout three districts of Southern Punjab. For this purpose, out of the total population of three districts of Southern Punjab i.e. Bahawalpur, Vehari and Lodhran, 346 schools were selected through stratified random sampling. From these 346 schools, 468 elementary school teachers were included in the sample.

A knowledge test was used as a tool to collect data from teachers regarding their knowledge about the 5 major health issues among elementary school children under the School Health Program.

Material for the knowledge test was drawn from the training manual for teachers under the School Health Program. These knowledge tests were sent to the selected teachers to be completed, along with a consent form. The consent form provided adequate orientation regarding the study objectives and methods. Data confidentiality and the subjects' privacy were maintained throughout the study.

The data instrument was pre-tested on 25 members of the study population, beyond the sample size, to ensure the reliability and proper administration of the data collection form. A reliability coefficient was calculated for enquiries regarding teachers' knowledge about children's health issues (Cronbach's alpha = 0.972). The validity of the questionnaire was checked and improved by four experts from different fields.

Out of 368 teachers who received consent forms, 353 agreed to participate (95% response rate). For the sake of data validity, 5 subjects were excluded because of missing demographic information; thus, the final number of participants was 348 teachers. Data entry and data processing were carried out using SPSS 20.0 software.

Analysis

Both descriptive and inferential data analysis were applied, using the appropriate statistical tests of significance, including the t-test. Categorical variables were expressed in percentages with 95% confidence intervals. To assess the knowledge of teachers about the children's health issues, descriptive analysis was used. To establish opinion differences on each item between categories of respondents i.e. male and females, two independent sample t-tests were used.

Results

In Table 1, descriptive analysis of the knowledge test is presented with respect to the anaemia related knowledge of teachers. It is notable that only an average number of teachers know about the after-effects of anaemia in children, but the majority of teachers can identify anaemia in the school children, since they do know the symptoms of severe anaemia

Table 1: Teachers' Responses on Anaemia Related Questions

Items	Descriptive Analysis	Correct Answer	Incorrect Answer	Tota 1
Anaemia affects a child's physical & cognitive growth	Frequency	214	134	348
	Percentage	61.7	38.5	100
Pale skin, gums, & eyelids are symptoms of severe anaemia	Frequency	294	54	348
	Percentage	84.7	15.5	100

The results in Table 1 show that training of public elementary school teachers by school health and nutrition supervisors has enabled them to identify anaemia in children during screening of their class; however, teachers do not know the potential effects on children if anaemia is not treated properly. Even after training under the School Health Program, public elementary school teachers are unable to understand the severity and serious effects of anaemia.

Table 2: Teachers' Responses on Iron Deficiency Anaemia Related Questions

Items	Descriptive Analysis	Correct Answer	Incorrect Answer	Total
In iron deficiency, nails become thin, brittle and spoon shaped	Frequency	123	225	348
	Percentage	35.3	64.8	100

In Table 2, descriptive analysis of the knowledge test is presented on teachers' level of knowledge about iron deficiency anaemia and its symptoms. It is noteworthy that a below-average number of teachers know about the kinds of anaemia, i.e. iron deficiency anaemia and its symptoms in children. The results in Table 2 show that training of public elementary school teachers by school health and nutrition supervisors has not enabled them to identify iron deficiency anaemia in children during screening of their class under the School Health Program

Table 3: Teachers' Responses to Questions about Malnutrition and its Symptoms

Items	Descriptive Analysis	Correct Answer	Incorrect Answer	Total
Malnutrition in a child can be identified through general appearance, certain diseases & laboratory tests	Frequency	111	237	348
	Percentage	31.9	68.3	100
Numbness or weakness in parts of the body can be suspected as malnutrition or tuberculosis	Frequency	71	277	348
	Percentage	20.4	79.8	100

In Table 3, descriptive analysis of the teachers' knowledge test is presented with respect to malnutrition in school children, its identification and symptoms. It is worth mentioning that the majority of teachers did not know how malnutrition in school children could be identified or its symptoms. Similarly, teachers did not know the symptoms of other serious diseases, e.g. tuberculosis. The results in Table 3 show that training of public elementary school teachers by school health and nutrition supervisors has not enabled them to identify malnutrition in children during screening of their class.

Table 4: Teachers' Responses to Questions about Worm Infection

Items	Descriptive Analysis	Correct Answer	Incorrect Answer	Total
A child who eats dirt can be suspected to have hook worms	Frequency	173	175	348
	Percentage	49.9	50.3	100

In Table 4, descriptive analysis of the teachers' knowledge test is presented with respect to worm infection in school children, its identification and symptoms. It is worth noting that the majority of teachers neither know how worm infections in school children can be identified nor what the symptoms are. The results in Table 4 show that training of public elementary school teachers by school health and nutrition supervisors has not enabled them to identify worm infections in school children, during screening of their class. In Table 5, descriptive analysis of the teachers' knowledge test is been presented with respect to teachers' knowledge about the breathing and heart problems of school children and their initial symptoms. It is worth noting that the great majority of teachers knew about the signs and symptoms of Asthma in school children, but there were some teachers who were below-average in identifying heart and other breathing problems by the signs and symptoms

Table 5: Teachers' Responses to Questions on Asthma and Breathing Problems

Items	Descriptive Analysis	Correct Answer	Incorrect Answer	Total
Blue skin and lips, mean problems with breathing & heart	Frequency	151	197	348
	Percentage	43.5	56.7	100
A wheeze & difficulty in breathing out mean Asthma	Frequency	319	29	348
	Percentage	91.9	8.3	100

The results in Table 5 show that the training of public elementary school teachers by school health and nutrition supervisors has not enabled them to identify heart and breathing related problems in children by the symptoms, during screening of their class.

Table 6: Teachers' Responses to Questions on Seasonal Health Problems

Items	Descriptive Analysis	Correct Answer	Incorrect Answer	Total
Try not to blow your nose; just wipe it to prevent a cold from leading to an ear infection	Frequency	93	255	348
	Percentage	26.8	73.5	100

In Table 6, descriptive analysis of the test has been done to check their knowledge about general seasonal health problems among children. It is noticeable that the majority of teachers do not know how to deal with general and seasonal health problems. The result in Table 6 show that the training of public elementary school teachers by school health and nutrition supervisors has not enabled them to properly guide school children about how to deal with general seasonal health problems to avoid their becoming serious.

Table 7: Teachers' Responses to Questions on General Screening

Items	Descriptive Analysis	Correct Answer	Incorrect Answer	Total
The child's skin should be examined b/w toes, fingers, & behind the ears	Frequency	245	103	348
	Percentage	70.6	29.6	100
On the wrist, use fingers to take the person's pulse	Frequency	185	163	348
	Percentage	53.3	46.9	100

In Table 7, descriptive analysis of the test has been presented to clarify information about how well informed and skilled teachers are about general screening practices among school children. Clearly, the majority of teachers were aware of how to examine children for skin problems and how to generally examine a child during screening at school, but only an average number of teachers were aware of how to take a child's pulse. The result in Table 7 shows that, even after training by school health and nutrition supervisors, public elementary school teachers are not able to fully screen students according to medical examination criteria.

Table 8: Mean Score Comparison of Male and Female Teachers' Health Related Knowledge

District	Level	N	Mean	SD	t-cal	df	P
Vehari	Male	58	5.57	1.920	.109	114	.167
	Female	58	5.60	1.462			
Lodhran	Male	58	5.72	1.785	1.390	114	.310
	Female	58	5.26	1.822			
Bahawalpur	Male	58	5.71	1.787	1.786	14	.077
	Female	58	6.28	1.641			

In Table 8, an independent sample t-test was used to compare the mean scores for male and female teachers' health-related knowledge. It was found that, overall, there was no difference in the health-related knowledge of male and female teachers in any of the three districts. In the Vehari district, the mean difference was insignificant (p= .167). Here male and female teachers were equally well trained and exhibited an equal level of knowledge about student health issues. Similarly, in the Lodhran district, there was again no significant difference in male and female teachers' health-related knowledge (p= .310).

Likewise, the same dispositions (p= .077) can be observed among male and female teachers from the Bahawalpur district, i.e., no significant difference was found between the knowledge level of male and female teachers in this district. The health-related knowledge of male (M=5.57, SD=1.920) and female teachers (M=5.60, SD=1.462) in the Vehari district, male (M=5.72, SD=1.785) and female teachers (M=5.26, SD=1.822) in the Lodhran district, and male (M=5.71, SD=1.787) and female teachers (M=6.28, SD=1.641) in the Bahawalpur district was the same.

Findings and Discussion

Most of these teachers did know the symptoms of anaemia, and during screening of children under the School Health Program they could identify students with anaemia, but most did not know about the aftereffects of anaemia. Teachers, even after training under the School Health Program, did not understand the severity of anaemia, nor what kind of physical and mental harm anaemia could create if an anemic child were not treated properly and immediately; and this despite the fact that anaemia affects motor performance, educational achievements, and cognitive functioning. It is also linked to cognitive dysfunction, behavioural deficits, and decreased immune function (Mwanri, Worsley, & Masika, 2001). Anaemia cannot be taken as a simple or ignorable disease among children, since it is caused by a number of factors and micronutrient deficiencies (Mesfin, Berhane, & Worku, 2015).

The severity of anaemia can also be recognized in the fact that, as anaemia harms the immune mechanisms, so it causes increased levels of morbidity, which may lead to low productivity, fatigue, and common feelings of being unwell. In school children, it negatively affects school performance, cognitive development, and physical growth. Globally, anaemia affects people in both developing and developed countries and is considered a public health problem with serious consequences for human health, and social and economic development. Since anaemia adversely affects energy levels and overall growth, it is considered a critical health concern (Mesfin, Berhane, & Worku, 2015). The prevalence of anaemia among school-age children in developing countries, is 40%. Other factors related to lower hemoglobin (Hb) levels in children include poor nutritional practices among mothers, coupled with their lack of awareness about the problem; low family and educational status; low iron bioavailability in the diet and unhealthy food habits; decreased physical activity; parasitic infestations; and malaria (Assefa, Mossie, & Hamza, 2014). In such conditions, teachers' responsibility to identify anaemia in children and give proper attention to its treatment and eradication is increased many fold, especially in developing countries. Most of these teachers have no knowledge about iron deficiency, its signs and symptoms. In such a situation, a teacher will be unable to identify iron deficient children by noting the symptoms of iron deficiency and will be unable to give attention to such students and their treatment.

Nevertheless, the most significant contributor to anaemia is iron deficiency, and in school-age children, it is the most common form of micronutrient deficiency, usually caused by insufficient diet or infection, mainly by malaria and hookworm (Hall, Drake, and Bundy 2001). Research has also proven that there is a connection between short attention spans and low iron levels in children, and this can also affect the recall capabilities of children (Sisay, 2015). In children, occurrence of iron deficiency is a natural phenomenon. Owing to the iron deficiency that occurs because of the high demand for iron during the period of rapid growth, young children, especially those from low income families, are at higher risk for developing anaemia. It has been estimated that 36% of the population in the developing world undergoes this disease, and consequently, children's growth is affected in these areas (Assefa, Mossie, & Hamza, 2014). In such conditions, if teachers in developing countries are unable to identify iron deficiency among children and do not make arrangements to cure it, both the physical growth and the cognitive functioning of children will remain at risk.

The majority of teachers during cannot identify during screening those students who are suffering from malnutrition and showing obvious symptoms of malnutrition. Meanwhile, research indicates that in elementary school-age children, owing to miserable nutritional status, health problems are the greatest cause of low school enrolment, unsatisfactory classroom performance, high absenteeism, and early dropout. Childhood malnutrition has been observed as one of the reasons behind the high child mortality rates in developing countries. Slower cognitive development and serious health impairments that reduce an individual's quality of life later in life are linked to chronic malnutrition in childhood. In developing countries, malnutrition is so widespread that in 2013 the World Food Program (WFP) reported that in low-income and developing countries, one of every five children below 5 years is malnourished. Malnourished children are likely to get sick frequently, resulting in death.

The scientific evidence shows that in the formal educational system, infant and childhood malnutrition is a risk factor, and nutrition should be included as a determinant of school performance and achievement (Sisay, 2015). Underweight (low weight for age) is an indicator of both acute and chronic malnutrition, while stunting (low height for age) is a physical indicator of long-term or chronic malnutrition, and in school-age children, both are common.

Many children do not enrol in school because of stunting and malnutrition and thus remain out of school.

Teachers have below average knowledge about parasitic infections and their signs and symptoms in children, while millions of school-age children face a major health problem, that is, infection by hookworm, whipworm and roundworm. These parasites ingest nutrients from the children they infect. Thus, malnutrition is aggravated by them, and the children's physical development is retarded. The tissues and organs in which they live are also destroyed by them, thus causing intestinal obstruction, diarrhoea, ulcers, abdominal pain, anaemia, and various other health problems. Slower cognitive development and impairment of learning leading to poor school performance are linked with all of these consequences of infection (Luong, 2003). It has been hypothesized that educational achievement is reduced by severe worm infection, either through specific channels, including protein-energy malnutrition, or by inducing anaemia, which is known to affect educational outcomes (Kremeri, Miguel, & Michael, 2004). Infectious diseases and nutritional deficiencies exert a negative impact on children's and adolescents` nutritional status and thus hinder their growth.

A child's internal mucosa is damaged by intestinal helminth-worm infections, leading to decreased digestion; the resulting poor nutrient absorption leads to stunting. During childhood, deficiencies in micro- and macronutrient intake can impair both cognitive and physical growth and can also increase the risk of mortality. Moreover, immune deficiency results from insufficient intake and consumption of selected micronutrients, thus increasing the possibility of further infection. More than a third of the world's population, especially in the developing nations of Latin America, Asia and Africa, is infected with soil-transmitted (hookworm) helminths (STH) (Ross, et al., 2017). Hookworms enter the body through the skin of children and are mainly transmitted from soil. Once inside the human body, hookworms cause anaemia in the host. Children in the poorest countries are probably infected from the time they stop breast-feeding, and for the rest of their lives are continually infected and re-infected.

For children, only rarely do infections have consequences, while chronic, long-term infection exerts a negative effect on almost all aspects of a child's development e.g., nutrition, health, learning, cognitive development, and educational achievement.

Regular deworming contributes to good health and nutrition for school-age children; since school-age children of any age group normally have the maximum capacity for worm infection, this in turn, leads not only to increased enrolment but also to more frequent attendance and thus to reduced class repetition, and eventually to improved educational attainment (WHO, 2003). Most of these teachers could identify the symptoms of asthma, but less than half were able to identify other breathing problems by the signs and symptoms. Researchers have proved a connection between breathing problems, asthma and student absenteeism. Taras found that, "children with asthma and other breathing problems are conceivably at risk for decreased school functioning due to acute aggravations of the disease, increased absenteeism secondary to symptoms, and effects of asthma or other breathing problems medication" (Taras, 2006).Even after training under the School Health Program, the great majority of teachers do not know how to deal with seasonal health problems of children, to prevent their becoming serious. However, severe cough and cold symptoms can keep a child at home even for a long time. In such a situation, on the one hand, teachers will be unable to guide students in how to properly deal with common cold problems to prevent their becoming serious, and on the other, teachers will be unable to identify a cold as a symptom of any serious disease--while a severe cold and cough can be symptoms of infectious conditions, such as croup, viral bronchitis, or whooping cough. It could also be a warning sign of asthma. Moreover, during mild cold and respiratory symptoms, even if child's cough is mild, the virus might still pass to somebody else, and there remains a risk of the whole class becoming infected and ill (Brennan, 2017). School health and nutrition supervisors' training for teachers under the School Health Program has not enabled them to properly screen students, and most teachers do not even know how to take someone's pulse. Failure by teachers to screen students properly can lead to student ailments even after regular screening by teachers.

Conclusions and Recommendations

The study has shown that, even after training under the School Health Program, the average public elementary school teacher, in three selected districts, was able to provide correct answers to only 45-55% of questions related to the health issues of children.

School health and nutrition supervisors' training for public elementary school teachers has enhanced teachers' knowledge about children's health issues to only a moderate level, and teacher's health-related knowledge still needs to be improved
The findings of the study indicate that, even after training under the School Health Program, teachers do not possess a satisfactory level of knowledge about children's health related issues; therefore, to improve the results of the School Health Program and the academic performance and educational achievements of students by making them healthy, the following proposals are made:

- The number of School Health Program training sessions by school health and nutrition supervisors should be increased.
- There should be formal, regular children's health-related training sessions for teachers by health or education departments.
- Medical Officers should accompany school health and nutrition supervisors to school, to provide detailed information to teachers about various health issues and diseases among school children.
- Teachers should be facilitated to take special courses about the health problems of school children.

References

Assefa, S., Mossie, A., & Hamza, L. (2014, January 16). Prevalence and severity of anemia among school children in Jimma Town, Southwest Ethiopia. 2. doi:https://doi.org/10.1186/2052-1839-14-3

Brennan, D. (Ed.). (2017, October 22). *Is Your Child Too Sick for School.* (WebMD) Retrieved from WebMD: https://www.webmd.com/children/guide/too-sick-for-school#1 (Accessed: 10th January, 2017.

Bundy, D., Shaeffer, S., Jukes, M., Beegle, K., Gillespi, A., Drake, L., Wrigh, C. (1993). School-Based Health and Nutrition Programs. In D. T. Jamison, J. G. Breman, A. R. Measham, G. Alleyne, M. Claeson, D. B. Evans, P. Musgrove (Eds.), *Disease Control Priorities in Developing Countries* (Second ed., pp. 3-5). New York: Oxford University Press and The World Bank. Retrieved from https://www.n-cbi.nlm.nih.gov/books/NBK11783/pdf/Bookshelf_NBK11783.pdf (Accessed: 4th February, 2018).

Farooq, M. S. (2016). Causes of Primary School Students' Dropout in Punjab:Primary School Teachers' Perspective. *Journal of Elementary Education, 26*(1), 2.

Filmer, D. (2003). *Determinants of Health and Education Outcomes.* The World Bank. The World Bank. Retrieved from http://siteresources.worldbank.org/DEC/600659-11099-53265771/20383949/30377_32_Filmer_Determinants_of_Health_and_Education_OutcomesMay2003.pdf (Accessed: 1st February, 2017).

Grant, R., & Brito, A. (2010). *Chronic Illness and School Performance:A Literature Review Focusing on Asthma and Mental Health Conditions.* New York: Children's Health Fund. Retrieved from https://schoolhealthteams.aap.org/uploads/ckeditor/files/chronic-illness-and-school-performance.pdf (Accessed: 11th May, 2017).

Kremeri, Miguel, E., & Michael. (2004, January). WORMS: IDENTIFYING IMPACTS ON EDUCATION AND HEALTH IN THE PRESENCE OF TREATMENT EXTERNALITIES. *Econometrica, 72*(1), 5.

Luong, T. (2003). De-worming school children and hygiene intervention. *International Journal of Environmental Health Research*, 4.

Mesfin, F., Berhane, Y., & Worku, A. (2015, April 22). Anemia among Primary School Children in Eastern Ethiopia. (M. A. Paulo, Ed.) *PLoS ONE, 10*(4), 2. doi:10.1371/journal.pone.0123615

Mwanri, L., Worsley, A., & Masika, J. (2001, December 1). School and anaemia prevention: Current reality and opportunities—a Tanzanian case study. *Health Promotion International, 16*(4), 1-4. Retrieved from https://academic.oup.com/heapro/article/16/4/321/656748 (Accessed: 11th May, 2017).

Ross, A. G., Papier, K., Luceres-Catubig, R., Chau, T. N., Inobaya, M. T., & Ng, S.-K. (2017, September 21). Poverty, Dietary Intake, Intestinal Parasites,and Nutritional Status among School-Age Children in the Rural Philippines. *Tropical Medicine and Infectious disease.* doi:doi:10.3390/tropicalmed2040049

Sisay, B. (2015). *Assessment on the Effects of Child Undernourishment on the Academic Performance of Studentsin Governmental Primary School: The Case of "Atselibnedingel" Governmental Primary School in Addis Ababa.* Addis Ababa University. Retrieved from http://etd.aau.edu.et/bitstream/123456789/8103/1/16.Beiment%20Sisay.pdf (Accessed: 9th May, 2017.

Taras, H. (2006, April 7). *How Health Affects a Child's School Performance.* (Newsroom, Producer) Retrieved from UC San Diego Health: https://health.ucsd.edu/news/2006/Pages/04_07m_Taras.aspx (Accessed: 8th January, 2017).

WHO. (2003). *School Deworming at a glance.* WHO. Retrieved from www.who.int/intestinal_worms/resources/en/at_a_glance.pdf (Accessed: 9th May, 2017).

Authors

Naila Sadaf
PhD Student, Allama Iqbal Open University, Faculty of Education, Department of Educational Planning Policy Studies, Sector H-8, 44000 Islamabad, Pakistan, e-mail: naila.mphil@gmail.com
Doktorska študentka, Univerza Allama Iqbal Open, Pedagoška fakulteta, Oddelek za študij izobraževalne politike, Sektor H-8, 44000 Islamabad, Pakistan, e-pošta: naila.mphil@gmail.com

Afshan Huma, PhD
Assistant professor, Allama Iqbal Open University Faculty of Education, Departmens of Department of Educational Planning Policy Studies, Sector H-8, 44000 Islamabad, Pakistan, e-mail: afshan.huma@aiou.edu.pk
Docentka, Univerza Allama Iqbal Open, Pedagoška fakulteta, Oddelek za študij izobraževalne politike, Sektor H-8, 44000 Islamabad, Pakistan, e-pošta: afshanhuma@gmail.com

REVIJA ZA ELEMENTARNO IZOBRAŽEVANJE
JOURNAL OF ELEMENTARY EDUCATION
Vol. 14, No. 1 , pp. 111–123, Marec 2021

TEACHERS' PERSPECTIVES ON BOYS' UNDERPERFORMANCE IN EDUCATION IN KHYBER PAKHTUNKHWA, PAKISTAN

RAZA ULLAH[1] & HAZIR ULLAH[2]

[1] Intenational Islamic University, Islamabad, Pakistan
[2] Quaid-I-Azam University, Islamabad, Pakistan

CORRESPONDING AUTHOR/ KORESPONDENČNI AVTOR
Razaullahkhan01@gmail.com

Potrjeno/Accepted
3. 12. 2020

Objavljeno/Published
22. 3. 2021

Keywords:
Arts & Humanities, Education, Purposive sampling, Underperformance

Ključne besede:
umetniški in humanistični predmeti, vzgoja in izobraževanje, namensko vzorčenje, manjša uspešnost

UDK/UDC:
37.091.26(549.1)

Abstract/Izvleček This article is an attempt to explore possible causes of boys' underperformance in the Secondary School Certificate (SSC) and Higher Secondary School Certificate (HSSC) Annual examinations of the Board of Intermediate and Secondary Education (BISE) Peshawar, KP, Pakistan. The aim of the study is to explore the issue of boys' underperformance from the perspectives of school and college teachers. Thus, the data for the study come from qualitative interviews with 30 school and college teachers (15 male and 15 female). We employed purposive sampling technique for including teachers. The findings of the study recommend that evidence-based strategies need to be adopted to improve boys' academic performance and attitudes to learning.

Pogledi učiteljev na manjšo učno uspešnost dečkov v provinci Khyber Pakhtunkhwa, Pakistan

Članek poskuša raziskati možne vzroke za nižjo uspešnost dečkov na izpitih, ki jih urad za šolstvo (Board of Intermediate and Secondary Education) letno izvaja v nižji (Secondary School Certificate – SSC) in višji srednji šoli (Higher Secondary School Certificate – HSSC). Cilj študije je proučiti vprašanje manjše uspešnosti dečkov z vidika učiteljev v srednji in višji šoli. Podatki za raziskavo izvirajo iz kvalitativnih intervjujev s 30 (15 moških in 15 žensk) učitelji v srednjih in višjih šolah. Da bi izboljšali učno uspešnost dečkov in njihov odnos do učenja, je treba sprejeti strategije, ki temeljijo na podatkih, pridobljenih s študijo.

DOI https://doi.org/10.18690/rei.14.1.111-123.2021

Background

A number of studies have shown that female students outperform their male counterparts in arts and humanities, while boy students are better in STEM subjects (Natta, Desai, & Vanneman, 2017). Nevertheless, several studies have concluded that female students perform better than their male counterparts in almost all subjects (Driessen & Van Langen, 2013; Ullah, Ullah, & Allender, 2020; Ullah & Ullah, 2019). This is a vivid gender reverse trend in educational performance. Studies in the past highlighted and reported female students' underperformance (Nyalusi, 2013; Ullah, Ullah, & Allender, 2020). These studies show that female students were less competitive in education in the recent past (Driessen & Van Langen, 2013). This gender reverse trend in educational performance has received serious academic attention across the world. For example, in the 1970s and 80s, the issue of female students' underperformance in education was a key focus of debate and research in the developed and developing nations (Ullah & Ullah, 2019). From the mid-1990s, feminist struggles and movements have reduced gender discrepancies in education (Ullah, Ullah, & Bilal, 2020). These feminist struggles resulted in the creation of learning environments friendly towards females in the West. The favourable learning environment improved girls' academic performance in many parts of the developed world, including the United State of America and the United Kingdom. In the USA and UK, a favourable learning environment led to a gender reverse change in educational performance; female students achieved good results and surpassed boys in humanities subjects (O'Donnell & Sharpe, 2002).

Since then, boys' underperformance in education has become a key topic of debate and research in the sociology of education. Policy makers and academics have focused on boys' underachievement in education in both developed and developing countries (Drudy, 2008; Marks, 2008; Mullis et al., 2000; Stromquist, 2007). As in other parts of the world, the issue of boys' underperformance in education has recently received due academic attention in Pakistan (Ullah, Ullah and Allender, 2020). This means that the issue of boys' underperformance is not limited to some developing countries but prevails across the developed and developing world, including Pakistan. Unlike the developed world and some developing countries, Pakistan has a dearth of empirical studies on the issue of boys' underperformance.

Only a few small-scale studies have been carried out on boys' underperformance in education in Pakistan (Aslam, 2009; Ullah, Ullah and Allender, 2020; Ullah & Ullah, 2019). This shows that the issue of boys' underperformance is a neglected area in the context of Pakistani society in general and in KP in particular.

This study thus attempted to explore the issue of boys' underperformance from the perspective of school and college teachers. We do believe that the current study has identified and explored some of the important reasons behind boys' underperformance from the perspective of teachers.

Review of Literature

Boys' academic underperformance has been an issue of great academic interest for the last three-and-a-half decades across the globe (Smith, 2011; Titus, 2004). It is now an established fact that boys are underperforming in education. Boys' academic underperformance is equally visible in developing countries. People who believe that boys are more intelligent than girls also acknowledge the current trend towards boys' underperformance (see Baru, 2012; Ullah & Ullah, 2019). Findings from early and recent studies suggest that boys are underperforming in education at the school, college and university levels (DiPrete & Buchmann, 2013; Ullah & Ullah, 2019).Thomson et al., (2012) assert that boys are underperforming in education at all levels. Fergusson and Horwood (1997), in their study "Gender differences in educational achievement in a New Zealand birth cohort," argued that boys are underperforming in terms of grades and results at school and college levels.

It is pertinent to mention here that boys' academic underperformance is primarily reported in Arts and Humanities subjects. Card and Lemieux (2001) have highlighted boys' poor performance in English, History, Economics and Cultural Studies. Several studies from around the world have reported similar findings (Bailur, 2006; Buchmann & DiPrete, 2006; Charles & Luoh, 2003). These studies have found that the academic performance of boys is influenced by anxiety, student attitudes, culture and norms, the type of school, the teacher's role, school location, self-esteem and family background. Most of these studies have been carried out in developed countries. (Baru, 2012; R. Ullah & Ullah, 2019).We have identified a considerable number of studies in countries of the developing world (Agbalajobi, 2010; Alam, 2017). The phenomenon (boys' underperformance), however, has not revived due academic attention in many developing countries, including Pakistan.

Skimming the literature, we could not find any academic research that focuses on the reasons and causes of boys' underperformance in education in Pakistan.
In a country like Pakistan where men distinctly dominate almost all aspects of social life, this gender reverse change in education has not received public and academic attention.
We also stress here that this gender reverse change in academic performance is taking place despite notable gender inequality in education: female students have more limited access to educational resources than their male counterparts (Ullah & Ali, 2018). This study, we believe, is very important because it explores the reasons behind boys' lack of performance in education in the context of Pakistan from the perspective of teachers.

Material and Methods

The results of content analysis of the schools' and colleges' annual examination of the Board of Intermediate and Secondary Education (BISE) Peshawar Khyber Pakhtunkhwa show boys underperforming in education (Ullah, Ullah, & Allender, 2020). Based on the findings from the content analysis, this article aims to explore teachers' perspectives on boys' underperformance on the Secondary School Certificate and Higher Secondary School Certificate Annual examinations of the Board of Intermediate and Secondary Education (BISE) Peshawar, KP. The study is qualitative in nature.
Data for the study come from in-depth qualitative interviews with school and college teachers. We used purposive sampling technique for including respondents in the study. The sample comprises 15 male teachers and 15 female teachers from different schools and colleges in KP. The rationale for including male and female teachers from different schools and colleges was to gain deeper insight into the reasons behind boys' underachievement in education. Similarly, we included respondents (male and female teachers) who had more than 20 years of teaching experience and were aware of the trend towards *b*oys' underperformance in education. An interview guide, consisting of open-ended questions, was used to explore the teachers' perspectives on this educational issue. The reasons for boys' underperformance, especially in Arts and Humanities subjects, were discussed in all interviews with teachers.

Our data was qualitative and was processed and analysed in line with qualitative research techniques (thematic analysis). While doing qualitative thematic analysis, we followed all the procedures and phases (familiarization, coding, generating themes, reviewing themes, defining and naming themes and writing up). We first familiarised ourselves with our field data; we then transcribed and coded the data. The codes were analysed through careful reading to remove overlapping codes. After careful reading of our data, we generated broader themes.

With a comprehensive analysis of the broader themes, we generated more precise themes. We also labelled each theme to indicate its topic. We rigorously reviewed the themes and labelled them before presenting our findings under relevant themes. Our analysis enabled us to present our field data under the following key meaningful themes.

Findings and Discussion

In the urban centres of Khyber Pakhtunkhwa Pakistan, as in many other parts of the world, boys are underachieving in secondary and higher secondary education (Aslam 2009; Agrawal and Nehajul, 2017). As in other urban centres of Pakistan, boys are underperforming in secondary and higher secondary education in Peshawar, KP (Ullah, Ullah and Allender, 2020). The article, focusing on this gender reverse trend in academic performance, has explored some important reasons behind boys' underperformance in education. The study's findings, with sensitivity to the social and cultural context of KP, are presented and discussed in the following sections.

Parents' unconditional love and affection for sons is toxic to boys' studies

Expressing affection and love for children has proven to be highly significant for balanced growth of children (Alanen & Mayall, 2001). Nevertheless, showing love and affection to children without knowing how to discipline them can be toxic for children (Becker, 1964). This study's findings reveal that unconditional parental love and freedom are the core reasons behind boys' underperformance in education. The study's findings reveal that unconditional love and affection spoil boys, and this subsequently has a negative influence on their studies. The following excerpts from teacher interviews support this claim. One of the respondents argued as follows:

Parents give more love and affection to sons than daughters. Sons enjoy high status and freedom within and outside home.

This freedom and high status often spoil them. They get involved in various activities which badly influence their performance in education.

An almost identical response was given by another respondent who asserted that excessive love and affection make boys careless. Their careless behaviour later continues in school. A senior schoolteacher opined that "boys are given more importance in the family. This distracts them from studies". One respondent stated the following:

Boys' underperformance in education is linked with their personal freedom and higher status in the family. The unconditional love and affection boys receive from parents entice boys into many negative habits which adversely affect their engagement with studies and performance on examinations.

These responses show that unconditional love and affection socialize boys to be irresponsible and less interested in studies, which negatively affects their performance in education. In addition to love and affection, boys enjoy unbridled mobility and freedom to engage in activities that adversely affect their studies. This is in line with Brown, Lauder and Ashton (2010), who argue that boys' poor performance in education is due to their personal freedom and higher status in the family. The nub of the discussion here is that unconditional parental love and affection for their sons could be a key reason behind boys' underperformance in education.

Paternal absence and boys' underperformance in education

Research studies in different socio-cultural contexts have established a link between the absence of fathers and boys' underachievement in education (Ogbu, 2003). The findings of this study are similar to those reported by Ogbu (2003). The findings of our study reveal that having a father living abroad or away from home is one of the key factors in boys' underachievement in education in KP. Our findings also indicate that sons, in the absence of their fathers, indulge in various types of undesirable activity that can distract them from their studies. The following excerpt from the respondent interviews is among several excerpts that support this assertion:

In our society, mostly fathers live away from home for work/labour within the country or abroad. Their absence leads to loss of or no checks and balances on children, especially on boys. Boys, in the absence of their fathers, mostly fall in undesirable activities that negatively affect their academic performance.

An almost identical response was expressed by a college lecturer who argued: "Mostly, fathers living outside the country. Sons in most cases, do not face any hurdle to go out. They spend their time with friends in outdoor activities". This means that sons, in the absence of fathers, have no restrictions on their mobility and activities. Another respondent argued that "unfortunately, our students come from the middle class, where parents are working either abroad or elsewhere within the country. In their absence, their sons indulge in unproductive activities that spoil them and their studies".

The above responses refer to the importance of paternal presence and involvement in the educational achievement of their children. Parents. particularly fathers, construct checks and balances for their children that significantly affect the educational performance of the children (Spera, Wentzel & Matto, 2009). This is reinforced by Ogbu (2003), who asserted that, when a father lives abroad, his sons do not take their studies seriously. They spend less time on their studies, which results in their underperformance in education.

The findings of past and present studies suggest that the absence of paternal surveillance of sons allows them to spend time in bad company and engage in undesirable activities. The findings of this study support these earlier studies and extend the argument that bad company exerts detrimental effects on boys' academic performance. One of the respondents said, "Boys spend most of their time with friends outside the home. They [boys] indulge in smoking, celebration of weekend parties and excursions. These habits badly affect their educational performance". An almost identical response was given by another respondent, who stated: "Boys are spending most of their time with friends, watching movies and playing games. They have little time for their studies".

Excessive use of social media and boys' academic performance

Paternal absence and bad company push boys towards various negative activities, including excessive use of social media. Research studies (see Burns & Bracey, 2001; Furrer & Skinner, 2003) have concluded that excessive use of social media negatively affects educational performance. Uncensored and unlimited use of social media is usually a gendered phenomenon in Pakistan (Ullah & Ali, 2018). Boys have more freedom in our society than girls, and they have more and easier access to social media. The link between excessive use of social media and boys' poor academic performance was pointed out by the majority of our respondents.

They unanimously argued that excessive use of social media by boys has caused serious damage to boys' studies and their educational performance. Several of our respondents said that "boys' underperformance in education is caused by their excessive use of mobile and social media. The excessive and uncensored use of social media adversely affects their studies". They also reported that "due to excessive use of social media, they are not getting maximum time for their studies." The Chairman of BISE Peshawar, KP offered this firm argument:

Uncensored and unlimited use of mobile phone and internet is not only dangerous for teenagers' studies but also motivates them to indulge in various immoral activities. They spend much time in using Facebook and playing games. They play games on mobile for hours, which leaves them with no quality time for their studies.

A senior teacher argued that "boys are underperforming in education, owing to unlimited and uncontrolled access to cell phone and internet use, which pushes them in the wrong direction". These responses suggest that excessive use of social media negatively affects the performance of boys in education. The study's findings show great similarity with the findings of other research studies in many different socio-cultural contexts (Jha & Kelleher, 2006; Titus, 2004). Furrer and Skinner (2003) claimed a strong link between excessive use of social media and boys' underachievement in education. Our findings extend the existing body of scholarship on the link between excessive use of social media and its negative effects on boys' studies and educational performance.

Boys' free mobility and unrestrained outdoor activity

The study findings reveal that participation by boys in outdoor activities: sports, driving, going to market, and *hujra* (a drawing room/common community guesthouse in Pashtun culture where hosts and guests routinely congregate) result in boys' underperformance in school. They waste much of their time in extra-curricular activities and do not have enough time for their studies. The following extract is one of several from our respondents' interviews:

> Boys, as compared to girls, have more opportunities to engage in outdoor activities (sports, driving, going to market), which distract them from their studies. They are wasting much of their time in playing various games, driving cars and spending time with friends in *hujras*. These activities badly affect their studies.

Another respondent said that "boys don't have access to these activities during their early schooling (primary level). Therefore, they perform well in their studies.

As soon as they enter the middle level, they get exposure to these activities, which then affect their academic performance". This suggests boys gain freedom as soon as they reach their teenage years and become involved in a multiplicity of activities that negatively affect their schooling.

An almost identical response was given by another respondent who associated boys' academic underperformance with their unlimited engagement with sports.

He opined that "boys' underperformance in education is due to their unlimited engagement on the playground". A third respondent stated: "Boys go outside the home, spend most of their time in *hujrah* with friends, having no plan for their studies". The link between boys' excessive involvement in extra-curricular activities and their poor academic performance is reinforced by another respondent. He argued that "Boys have other channels for themselves which keep them away from studies. For example, they go out, spend time with friends and may easily engage in bad activities". Another respondent claimed that "Boys have extra activities which cause their underperformance in education".

In brief, it can be argued that boys' access to outdoor activities negatively affects their studies. Boys' excessive engagement in outdoor activities results in their underachievement in school. These findings confirm those by Burns and Bracey (2001), who found that boys spent too much time outside the home. They also asserted that boys, apart from their excessive engagement in sports, also engage in activities that are detrimental for their studies. The findings of this study thus add to the existing scholarship on boys' underperformance in education by highlighting the negative consequences of boys' uncontrolled and unlimited engagement in outdoor activities.

Boys' engagement in work other than studies

Some of the respondents attributed boys' underperformance in school to their sharing of the family workload. Boys, alongside their schooling, perform labour to assist their parents in fulfilling the needs of their families, and this can adversely affect their educational performance. Boys' underperformance is linked to their participation in socio-economic activity (Hodgetts, 2008). This, however, cannot be generalized and needs to be understood with reference to a child's socio-economic background and their social situation in society (see Ullah and Ali, 2018). A summary of remarks from a few respondents is given below in support of this claim:

> Family socio-economic situation and financial position have a significant role in boys' underperformance in education. We have mostly working- and middle- class students. They, along with their studies, are engaged in labour, do part time jobs or assist their parents in their work. This negatively influences their academic performance.

Another respondent said that "boys are facing too great a burden in assisting their parents in business and other activities. Boys' engagement in these activities diverts their attention from studies".

A similar response was given by another respondent who stated: "We have students from very poor backgrounds, who help and assist their parents. This affects their studies and leads to their falling behind."

These responses demonstrate that, alongside their studies, boys also assist their parents to meet their families' needs. The participation of boys in socio-economic activities adversely affects their academic outcome.

The study's findings are similar to those identified by Reimer (2012). For example, his findings claimed that when boys engage in various types of labour, this can badly affect their educational achievement. Similarly, the findings of the study conducted by Jha and Kelleher (2006) support the study's findings by emphasizing that in many developing countries, the issue of boys' underperformance in school has largely been associated with the socio-economic status of the family. The study's findings thus strengthen the argument that the work burden of boys, in addition to their studies, seriously affects their educational performance.

Conclusion

We, in this paper, have explored the plight of boys who fail to achieve their potential in education at school and college levels in Peshawar, Khyber Pakhtunkhwa, Pakistan. The paper has explored the reasons behind boys' underperformance from the school and college teachers' perspective in SSC and HSSC examinations of BISE Peshawar, KP. The findings of the paper revealed that parental unconditional and unlimited love for sons, paternal absence (living away from home), excessive use of social media by boys, free mobility and unrestrained outdoor activities and boys' engagement in work other than studies are among the leading factors in boys' underperformance for teachers on examinations in Pakistan.

Thus, the findings provide new insight into the understanding of boys' underachievement and extend the existing concern about and debate on boys' and girls' educational performance. These findings provide convincing insight for creating strategies to improve boys' engagement with their studies and improve their academic performance. Based on the study findings, it can be stressed and suggested that parents need to supervise their male children's activities. Parents/guardians could restrict boys' excessive use of social media and excessive participation in outdoor activities. In this study, we have focused narrowly on the issue of boys' underperformance in education from the perspective of teachers.

To gain a more comprehensive understanding of the issue, it is suggested that the perspectives of parents and students themselves need to be explored in future research.

References

Agbalajobi, D. T. (2010). Women's participation and the political process in Nigeria: Problems and prospects. *African Journal of Political Science and International Relations*, *4*(2), 75–82.

Agrawal, M., & Nehajul, M. S. (2017). Predictors of Academic Performance: Emotional Intelligence and Stream among Graduate Students. *Educational Quest*, *8*(3), 743–750.

Alam, S. (2017). Female education: The facilitating and hindering factors regarding female education in Gilgit-Baltistan context of Pakistan. *International Women Online Journal of Distance Education*, *6*(2), 35.

Alanen, L., & Mayall, B. (2001). *Conceptualizing child-adult relations*. Psychology Press.

Aslam, M. (2009). Education gender gaps in Pakistan: Is the labor market to blame? *Economic Development and Cultural Change*, *57*(4), 747–784.

Bailur, K. B. (2006). *Influence of relations of family and peers and pressures of PUC II year students' on their adjustment and academic performance* [PhD Thesis]. UAS, Dharwad.

Baru, P. M. (2012). A Comparative Analysis of Academic Performance of Boys and Girls in Mixed Day Secondary Schools In Kenya: A Case of Kihumbu-Ini Division of Gatanga District, Murang‟a County. *A Research Project Report Submitted in Partial Fulfillment of the Requirements for the Award of Master of Arts Degree in Project Planning and Management, University of Nairobi.*

Becker, W. C. (1964). Consequences of different kinds of parental discipline. *Review of Child Development Research*, *1*(4), 169–208.

Brown, P., Lauder, H., & Ashton, D. (2010). *The global auction: The broken promises of education, jobs, and incomes*. Oxford University Press.

Buchmann, C., & DiPrete, T. A. (2006). The growing female advantage in college completion: The role of family background and academic achievement. *American Sociological Review*, *71*(4), 515–541.

Burns, J., & Bracey, P. (2001). Boys' underachievement: Issues, challenges and possible ways forward. *Westminster Studies in Education*, *24*(2), 155–166.

Card, D., & Lemieux, T. (2001). Dropout and enrollment trends in the postwar period: What went wrong in the 1970s? In *Risky behavior among youths: An economic analysis* (pp. 439–482). University of Chicago Press.

Charles, K. K., & Luoh, M.-C. (2003). Gender differences in completed schooling. *Review of Economics and Statistics*, *85*(3), 559–577.

DiPrete, T. A., & Buchmann, C. (2013). *The rise of women: The growing gender gap in education and what it means for American schools*. Russell Sage Foundation.

Driessen, G., & Van Langen, A. (2013). Gender differences in primary and secondary education: Are girls really outperforming boys? *International Review of Education*, *59*(1), 67–86.

Drudy, S. (2008). Gender balance/gender bias: The teaching profession and the impact of feminisation. *Gender and Education*, *20*(4), 309–323.

Fergusson, D. M., & Horwood, L. J. (1997). Gender differences in educational achievement in a New Zealand birth cohort. *New Zealand Journal of Educational Studies*, *32*, 83–96.

Furrer, C., & Skinner, E. (2003). Sense of relatedness as a factor in children's academic engagement and performance. *Journal of Educational Psychology*, *95*(1), 148.

Hodgetts, K. (2008). Underperformance or 'getting it right'? Constructions of gender and achievement in the Australian inquiry into boys' education. *British Journal of Sociology of Education*, *29*(5), 465–477.

Jha, J., & Kelleher, F. (2006). *Boys' Underachievement in Education: An exploration in selected commonwealth countries*. Commonwealth of Learning (COL).

Marks, G. N. (2008). Accounting for the gender gaps in student performance in reading and mathematics: Evidence from 31 countries. *Oxford Review of Education*, *34*(1), 89–109.

Mullis, I. V., Martin, M. O., Fierros, E. G., Goldberg, A. L., & Stemler, S. E. (2000). *Gender differences in achievement: TIMSS*. Chestnut Hill, MA: TIMSS & PIRLS International Study Center, Boston College.

Natta, S., Desai, S., & Vanneman, R. (2017). Gender and Educational Attainment in India: Girls Outperforming Boys. *PAA 2017 Annual Meeting*.

Nyalusi, A. E. (2013). *Factors Affecting Girls' Academic Performance in Community Secondary Schools A Study of Mbeya City* [PhD Thesis]. The Open University of Tanzania.

O'Donnell, M., & Sharpe, S. (2002). *Uncertain masculinities: Youth, ethnicity and class in contemporary Britain*. Routledge.

Ogbu, J. U. (2003). *Black American students in an affluent suburb: A study of academic disengagement*. Routledge.

Reimer, J. K. (2012). *Local negotiation of globalised educational discourses: The case of child friendly schools in rural Cambodia* [PhD Thesis]. University of British Columbia.

Smith, E. (2011). Women into science and engineering? Gendered participation in higher education STEM subjects. *British Educational Research Journal*, *37*(6), 993–1014.

Spera, C., Wentzel, K. R., & Matto, H. C. (2009). Parental aspirations for their children's educational attainment: Relations to ethnicity, parental education, children's academic performance, and parental perceptions of school climate. *Journal of Youth and Adolescence*, *38*(8), 1140–1152.

Stromquist, N. P. (2007). The gender socialization process in schools: A cross-national comparison. *Background Paper Prepared for the Education for All Global Monitoring Report 2008*.

Thomson, S., Hillman, K., Wernert, N., Schmid, M., Buckley, S., & Munene, A. (2012). *Monitoring Australian year 4 student achievement internationally: TIMSS and PIRLS 2011*.

Titus, J. J. (2004). Boy trouble: Rhetorical framing of boys' underachievement. *Discourse: Studies in the Cultural Politics of Education*, *25*(2), 145–169.

Ullah, H., & Ali, J. (2018). Education in Pakistan: The Need for Greater Alignment between Policy and Praxis. *Al-Idah*, *36*(2), 1–10.

Ullah, R., & Ullah, H. (2019). Boys versus Girls' Educational Performance: Empirical Evidences from Global North and Global South. *African Educational Research Journal*, *7*(4), 163–167.

Ullah, R., Ullah, H., & Allender, T. (2020). Girls Underperforming in Science: Evidences from Khyber Pakhtunkhwa, Pakistan. *Journal of Elementary Education*, *29*(2), 1–14.

Ullah, R., Ullah, H., & Bilal, M. (2020). Biological versus Feminists Perspectives on Girls' Underperformance in STEM Subjects in Pakistan. *Liberal Arts and Social Sciences International Journal (LASSIJ)*, *4*(1), 10–18.

Authors:

Raza Ullah, PhD

International Islamic University, P.O.Box 1243, Sector H-10 Islamabad, Pakistan, e-mail:razaullahkhan01@gmail.com

Mednarodna islamska univerza, P.O.Box 1243, Sector H-10 Islamabad, Pakistan, e-pošta: razaullahkhan01@gmail.com

Hazir Ullah, PhD
Associate Professor, P.O.Box 1243, Sector H-10 Islamabad, Pakistan, e-mail: hazirullah@qau.edu.pk
Izredni profesor, P.O.Box 1243, Sector H-10 Islamabad, Pakistan, e-pošta: hazirullah@qau.edu.pk

NAVODILA AVTORJEM

Osnovni namen revije je povezati širok spekter teoretičnih izhodišč in praktičnih rešitev v izobraževanju ter tako spodbujati različne metodološke in vsebinske razprave. Uredniški odbor združuje strokovnjake in raziskovalce iz več evropskih držav in s tem želi ustvariti možnosti za živahen dialog med raznovrstnimi disciplinami in različnimi evropskimi praksami, povezanimi z izobraževanjem.

Revija za elementarno izobraževanje torej objavlja prispevke, ki obravnavajo pomembna, sodobna vprašanja na področju vzgoje in izobraževanja, uporabljajo primerno znanstveno metodologijo ter so slogovno in jezikovno ustrezni. Odražati morajo pomemben prispevek k znanosti oziroma spodbudo za raziskovanje na področju vzgoje in izobraževanja z vidika drugih povezanih ved, kot so kognitivna psihologija, razvoj otroka, uporabno jezikoslovje in druge discipline. Revija sprejema še neobjavljene članke, ki niso bili istočasno poslani v objavo drugim revijam. Prispevki so lahko v slovenskem, angleškem ali nemškem jeziku.

Sprejemanje člankov v objavo

Prejete prispevke najprej pregleda urednik/založniški odbor in ugotovi, ali vsebinsko ustrezajo konceptu in kriterijem revije.

1. Če prispevek ustreza konceptu in kriterijem revije, ga uredniški odbor pošlje dvema anonimnima recenzentoma. Članek, ki je vsebinsko skladen s konceptom revije, vendar ne ustreza drugim kriterijem, lahko uredništvo vrne avtorju, da ga popravi.
2. Avtor dobi recenzirani prispevek vključno z morebitnimi priporočili za izboljšave/popravke, v primeru zavrnitve pa z navedenimi razlogi zanjo.
3. Končno odločitev o objavi članka sprejme urednik na temelju priporočil recenzentov. Pri tem utemeljitve za svojo odločitev ni dolžan navesti.
4. Besedilo prispevka mora biti pripravljeno v skladu z Navodili avtorjem.
5. Avtor jamči, da so v prispevku predstavljeni podatki natančni, verodostojni in izvirni. Ko je članek sprejet v objavo, avtor podpiše Izjavo o etičnosti raziskovanja in Izjavo avtorja o izvirnosti prispevka. Vsi prispevki gredo skozi postopek za ugotavljanje plagiatorstva.

Navodila za oblikovanje besedila

Pri pripravi besedila prispevka upoštevajte naslednja navodila:

1. Tipkopis oddajte kot dokument v programu Microsoft Word. Nabor pisave je Times New Roman, velikost črk 12 za osnovno besedilo in 10 za povzetka v slovenskem in angleškem jeziku, literaturo in citate, če so daljši od 3 vrstic, razmik med vrsticami pa je 1,5. Velikost pisave v tabelah in naslovih tabel ter grafov je 10; razmik med vrsticami enojni. Širina tabele naj ne presega 12,5 cm. Besedilo naj bo obojestransko poravnano. Vodilni naslovi naj bodo zapisani krepko, prvi podnaslovi ležeče, drugi podnaslovi pa navadno. Naslovov in strani ne številčite in ne uporabljajte velikih tiskanih črk.
2. Besedilo prispevka naj ne presega 38.000 znakov s presledki vključno s povzetki, literaturo in ključnimi besedami.
3. Naslov prispevka naj ne presega 15 besed in naj bo v slovenskem in angleškem jeziku.
4. Prispevek naj ima na začetku povzetek v slovenskem jeziku ter njegov prevod v angleškem jeziku (oziroma obratno) in naj ne presega 100 besed. Za povzetkom naj bo 5 ključnih besed. Poleg povzetkov naj prispevek na koncu prispevka, pred literaturo, vsebuje daljši povzetek (500-700 besed) v angleščini, če je članek napisan v slovenščini.
5. V prispevku ne uporabljajte ne sprotnih ne končnih opomb.
6. Vire navajajte v skladu s standardom APA (American Psychological Association) standardom. V literaturo vključite samo v tekočem besedilu navedene vire, ki jih uredite po abecednem vrstnem redu.
7. V posebnem dokumentu pošljite naslednje podatke: ime in priimek avtorja, akademski naziv, organizacijo, kjer je avtor zaposlen, elektronski naslov, naslov bivališča in naslov prispevka.

Primeri:
Knjige: priimek, začetnica imena avtorja, leto izida, naslov, kraj, založba.
Duh, M. (2004). *Vrednotenje kot didaktični problem pri likovni vzgoji.* Maribor:Pedagoška fakulteta.

Članki v revijah: priimek, začetnica imena avtorja, leto izida, naslov prispevka, ime revije, letnik, številka, strani. Planinšec, J. (2002). Športna vzgoja in medpredmetne povezave v osnovni šoli. *Šport*, *50*(1), 11–15.

Prispevki v zbornikih: priimek, začetnica imena avtorja, leto izida, naslov prispevka, podatki o knjigi ali zborniku, strani, kraj, založba.

Fošnarič, S. (2002). Obremenitve šolskega delovnega okolja in otrokova uspešnost. V M. Juričič (ur.), *Šolska higiena: zbornik prispevkov* (str. 27–34). Ljubljana: Sekcija za šolsko in visokošolsko medicino SZD.

Vključevanje reference v tekst: če gre za dobesedno navedbo, napišemo v oklepaju priimek avtorja, leto izdaje in stran (Lipovec, 2005, str. 9), če pa gre za splošno navedbo, stran izpustimo (Lipovec, 2005).

Prispevke lahko avtorji pošljejo po elektronski pošti na naslov rei.pef@um.si ali oddajo preko spletne aplikacije: https://journals.um.si/index.php/education.

MANUSCRIPT SUBMISSION GUIDELINES

The basic purpose of the journal *JEE i*s to cover a broad spectrum of education theory and its implications for teaching practice, seeking to bridge and integrate diverse methodological and substantive research. The Editorial Board brings together academics and researchers from different European countries, who seek to promote a vigorous dialogue between scholars in various fields both central and related to scientific enquiry in education.

Articles accepted for publication in *JEE* should address an important, up to date issue in education, apply appropriate research methodology, and be written in a clear and coherent style. Accepted articles should make significant contributions to the field. In addition, *JEE* accepts articles which promote advances in education from closely related fields, such as cognitive psychology, child development, applied linguistics and others. *JEE* does not publish articles that have appeared elsewhere or have been concurrently submitted to or are already under consideration for publication in other journals. The languages accepted for the papers eligible for publication in *JEE* are Slovene and English.

Paper Acceptance Procedure

After a paper is submitted to *JEE*, the editor/publishing board first establishes if it is within the journal's domain of interests and meets the journal's requirements for style and quality.

1. If the paper meets the standard and the concept of the journal, it is sent to reviewers. *JEE* uses a double-blind review. Papers which are within the journal's domain but do not meet its requirements for style or quality, may be returned to the author for revision.
2. The reviewed papers are returned to the authors with reviewers' feedback and suggestions for improvement or an indication of the reasons for a rejection.
3. The decision regarding publication is made by the editor after considering the reviewers' recommendations. The editorial board is under no obligation to provide justification for its decision.
4. The text of the paper should be edited in accordance with the Submission Guidelines.
5. Authors must certify that the data cited in the article are, to the best of their knowledge, accurate, reliable and authentic. When the article is accepted for publication, the author has to sign the Publishing Ethics Statement and the Statement of Authenticity. Manuscripts will also be submitted to plagiarism detection software.

Preparation of Copy

Follow these instructions for the preparation of the manuscript:

1. Submit your manuscript as a Word file. Use Times New Roman: 12 pt. for main text and 10 pt. for abstract in Slovene and English, and for references and quotations of three lines or more. All text must be 1.5 spaced and justified. The font size in tables and table and diagram titles is 10; the line spacing single. Maximum table width is 12,5 cm. The text should be aligned on both sides. Use boldface type for first level headings, italics for second level headings and regular type for all other headings. Do not number headings. Do not number headings or use uppercase.
2. The length of your paper should not exceed 38.000 characters with spaces including the abstracts, bibliography, and key words.
3. The title of your article should not exceed 15 words. The title should be written in English and in Slovene.
4. At the beginning of the manuscript include an abstract (up to 100 words) in the language of the article, and its translation into the other language, followed by 5 key words. In addition to the

abstracts also include a longer summary (about 500-700 words) at the end manuscript, before reference - in English if the article is in Slovene.
5. Do not use either footnotes or endnotes.
6. Quote references in accordance with the American Psychological Association (APA) style. Include only the sources cited in current text, arranged in alphabetical order.
7. Send a separate document with the following information: author's name and family name, address, full title of the article, academic title, affiliation and e-mail address.

Example:
Books: last name and name of the author, year of publication, title, location, press.
Duh, M. (2004). *Vrednotenje kot didaktični problem pri likovni vzgoji.* Maribor: Pedagoška fakulteta.

Articles from Magazines: last name and name of the author, year published, title of the article, name of the magazine, year, issue number, page(s).
Planinšec, J. (2002). Športna vzgoja in medpredmetne povezave v osnovni šoli. *Šport*, *50*(1), 11–15.

Academic Journals: last name and name of the author, year published, title of the article, information about the journal, page(s).

Fošnarič, S. (2002). Obremenitve šolskega delovnega okolja in otrokova uspešnost. V M. Juričič (ur.), *Šolska higiena: zbornik prispevkov* (str. 27–34). Ljubljana: Sekcija za šolsko in visokošolsko medicino SZD.

Citing sources in the body of the text: If a direct quotation is cited, write the last name of the author, year it was published and page number. Put this information in parenthesis (Lipovec, 2005, pg. 9). If the information is paraphrased, leave out the page number (Lipovec, 2005).

Manuscripts may be sent electronically to rei.pef@um.si or https://journals.um.si/index.php/education .