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Presenting the Selection of Innovative Approaches Taken in Physical Activities in the Pre-School Period

The society’s expectations towards preschool teachers are high, which is why their role is becoming more complex, requiring a higher level of professionalism. Recently, experts have been highlighting innovative approaches in different areas of teaching. Pre-school teachers are the holders of initiative and ideas, must be creative, self-initiative, responsible, autonomous and professionally competent. Last but not least, they must be innovative, that is, having the will, the knowledge and the ability to use and realise a good idea. Therefore, pre-school teachers need to be trained, educated and acquainted with various aspects of teaching physical activity. With the acquired knowledge and experience teachers can express their creativity in the field of movement as well. The problem of our research is to determine whether pre-school teachers use innovative approaches to physical activity in kindergarten. The aim of our research is to use the questionnaire to establish whether and what kind of innovations are used by the pre-school teachers in providing physical activity. The sample is non-random and has been intentionally selected. 115 pre-school teachers (of these 5 males) from 12 Slovenian regions decided to participate in the research. The average age of men is 29.6 and of women 42.1. There are 32 teachers who are employed in the first age group, 65 teachers in the second age group and 18 teachers in the combined class. We found that pre-school teachers with higher education less frequently plan physical activities in the playroom (rho = -0.18; p = 0.050), and that there are more outdoor activities (rho = 0.22; p = 0.018). In addition, teachers who work with the first age group perform outdoor activities more frequently than the teachers who teach in the second age group. From the analysis of the obtained data, we find that pre-school teachers prefer choosing the proposed curriculum contents and activities than innovative approach. Namely, the curriculum represents the professional basis...
The term “innovation” comes from the Latin word “innovare”, which means to renew or change. It is clear from this epistemological point of view that innovation does not refer to the discovery of something new. It is what brings new revenue to the company and increases its competitive advantage. Innovation usually also involves creativity, but these two terms are not identical. Innovation can be defined as the successful implementation of creative ideas in the business environment. Creativity of an individual or a group is the starting point of the innovation process, which is a necessary but not a sufficient step (Jontez, 2012). Creativity is important because it improves a quality solution to the problems in life. Creative thinking brings original solutions to recurring problems, both in personal and professional areas emphasize that creative thinking can improve the quality of our day to day lives. Creativity is also important because it predicts life achievements better than any other, widely used method, such as intelligence tests, school grades, or any other standardized aptitude tests (Albert and Runco, 1999).

The term creativity is more often used in the pedagogical process. Through education, we develop and nurture an individual’s creativity, knowledge, skills and abilities, which greatly contribute to innovation and ensure successful innovation (Looney, 2009). Creativity is a non-uniformly defined term and can be understood and interpreted in different ways. Some associate this concept with special talent, others with intelligence or with thinking outside the familiar framework, and still others with the fact that you dare to take a step in another direction and find new solutions and ideas (Naraločnik, 2016). Šrića (1999) defined creativity as the ability to create new ideas, regardless of their potential applicability. Creativity is the basis for innovation, and innovation is the result of the creativity used. The individual who has the will, knowledge and ability to use and implement a good idea is referred to as innovative. Therefore, innovative individuals are needed by every modern organization that wants to achieve high goals and development.

The individuals who show creative potential in society are positive, motivated, cooperative, relaxed and feel good physically both in their home environment and at work (Simončič, 2013).

Society’s expectations of preschool teachers are high, so their role is becoming increasingly complex, which requires a higher level of professionalism from them (Košica, 2016). Recently, experts have been highlighting innovative approaches in various areas of teaching. Preschool teachers are the holders of initiative and ideas they must be creative, self-initiative, responsible, autonomous and professionally competent. And last, but not least, they must be innovative, which means that they have the will, knowledge and skills to use and implement a good idea. Therefore, it is necessary to educate, train, and acquaint teachers with different aspects of teaching physical activity. With the acquired knowledge and experience, the teacher can express creativity in the field of movement as well.

It is important for teachers to implement a modern approach to physical activities, in the form
of proactive physical learning. This kind of approach is characterized by the fact that it is implemented through independent searching and thinking and solving qualitatively set challenges related to movement. The latter develop children's motor skills and enable them to gain motor experience (Retar, 2015).

For the preschool period, it is essential to understand both the creative process from a broader perspective of child development, as well as from the perspective of knowledge of appropriate (curricular) methods and forms of work as well as principles and goals that enable the development of creative abilities (Tomori, 2016).

The aim of the teacher is not only to provide adequate care for preschool children, but it is much broader. The teacher pays attention to the child's holistic development, motor, cognitive, emotional and social abilities and characteristics. With an individual approach, the teacher enables each individual to enrich their knowledge so that the child feels progress and is happy for it (Videmšek and Pišot, 2007). That is why it is important that the teacher is constantly professionally developing and constantly learning through work. Only in this way can the teachers improve their developmental competence, which enables them to successfully manage the learning and educational process, innovation and creativity, and to use the latest knowledge of the profession in kindergarten activities, and also include the knowledge of children's needs (Devjak, 2004).

Retar and Lepičnik Vodopivec (2017) examine how preschool teachers perceptions of their professional competence for innovative physical activity instruction in early childhood. The authors find that preschool teachers emphasize the importance of physical activity organized with innovative approaches. Unfortunately, we have not come across any study that explores what innovative approaches to physical activity are, which can make it difficult to understand this concept.

The purpose of our research is to determine through a questionnaire, whether and what innovative approach teachers choose in conducting a sports activity according to their age, level of education, length of service and age of children with whom they work.

**Methods**

**Sample of Subjects**

The data were obtained on a non-random sample of teachers from 12 Slovenian regions (Mura, Drava, Carinthia, Savinja, Central Sava, Lower Sava, Southeast Slovenia, Littoral–Inner Carniola, Central Slovenia, Upper Carniola, Gorizia and Coastal–Karst). We sent 120 (100 %) questionnaires to 12 kindergartens. 115 (95.8 %) teachers decided to participate in the research, namely 5 (4.1 %) male and 110 (91.6 %) females. The average age of the male is 29.6 and that of female is 42.1 years of age.

Depending on the age of the teachers, we formed four groups. 36 (30 %) teachers were included in the age group over 50, the next age group between 41 and 49 comprised 28 (23.3 %) teachers, and in the age group 40 to 31 there were 30 teachers (25 %). The youngest group, in the age range from 30 to 21, included 21 (17.5 %) teachers.

68 (56.6 %) teachers have a higher or completed first level of education, and 3 (2.5 %) teachers have a master's degree or a completed second level. 31 (25.8 %) teachers have completed a secondary education, and 13 (10.8 %) professionals have completed higher education.

More than a third of 47 (39.1 %) teachers have more than 21 years of service. 32 (26.6 %) teachers have up to 20 years of service in the kindergarten. 36 (30 %) teachers were included in the group of up to 10 years of service.

There are 32 (26.6 %) teachers who work with children in the first age group, and 65 (54.1 %) in the second age group. Also, 18 (15 %) teachers worked in the combined department.
Questionnaire

The questionnaire was designed to meet the needs of independent research. To obtain the data, we designed an anonymous questionnaire that served the purposes of this research. The whole questionnaire included 10 questions, four of which were open and six of which were closed.

Data Collection Process

Data were collected from February to April 2018. To conduct the survey, we first asked for the consent of the kindergarten management, and then we sent the questionnaires to the kindergartens. The research was not carried out within the project.

Data Analysis Methods

With the statistical program IBM SPSS Statistics 26 (IBM Inc., USA), the data were processed and analyzed using nonparametric statistical tests - Spearman’s correlation coefficient and Kruskal-Wallis Test. We calculated the frequencies of individual responses in the questionnaire.

Results

In the research, we wanted to determine the connection between the selection of innovative approaches in the field of supervised physical activity, planning and implementation of supervised physical activity in the gym or outdoors according to the age of teachers.

| Table 1: Spearman correlation (rho) with supervised physical activity and age. |
|------------------|------------------|------------------|
| Age (in years)   | rho              | p                |
| How often do you choose innovative approaches for supervised physical activities? | 0.04 | 0.671 |
| How often do you plan supervised physical activities in the playroom or the gym? | -0.063 | 0.503 |
| How often do you perform supervised outdoor physical activities? | -0.132 | 0.162 |

Note: p<0.05

We found that there were no correlations between the age of teachers and the choice of innovative approaches (rho = 0.04, p = 0.671), the frequency of planning (rho = -0.063, p = 0.503) and implementation (rho = -0.132, p = 0.162) supervised physical activities in the gym or outdoors.

| Table 2: Supervised physical activity according to the selection of innovative approaches and space in connection with the length of service of teachers. |
|------------------|------------------|------------------|
| Length of service | 0-10 years | 11-20 years | more than 21 years |
| N               | 36       | 32         | 47             |
| How often do you choose innovative approaches for supervised physical activities? | 2.68 ± 0.47 | 2.50 ± 0.62 | 2.60 ± 0.68 | 0.422 |
| How often do you plan supervised physical activities in the playroom or gym? | 2.28 ± 0.78 | 2.22 ± 0.66 | 2.32 ± 0.81 | 0.685 |
| How often do you perform supervised outdoor physical activities? | 2.44 ± 0.76 | 2.38 ± 0.71 | 2.26 ± 0.80 | 0.563 |

Note: p<0.05
We also found that there were no differences in the frequency of selection of innovative approaches in supervised physical activity and between the three groups of teachers according to length of service (p = 0.422). There were also no differences between the frequency of planned supervised physical activity in the gym (P = 0.685) and the frequency of supervised physical activities outdoors (p = 0.563) between groups of teachers according to their length of service.

Table 3: Spearman correlation (rho) with choice of innovative approaches and level of education.

Supervised physical activity according to the choice of innovative approaches and location in connection with the teacher’s level of education.

<table>
<thead>
<tr>
<th>Level of education</th>
<th>rho</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often do you choose innovative approaches in your teaching of physical activities?</td>
<td>-0.76</td>
<td>0.419</td>
</tr>
<tr>
<td>How often do you plan supervised physical activities in the playroom or gym?</td>
<td>-1.83</td>
<td>0.50</td>
</tr>
<tr>
<td>How often do you perform supervised outdoor physical activities?</td>
<td>0.222</td>
<td>0.018</td>
</tr>
</tbody>
</table>

Note: p < 0.05

The results shown in Table 3 show that teachers with a higher level of education are less likely to plan physical activities in the playroom (rho = -0.18; p = 0.050) and more often outdoors (rho = 0.22; p = 0.018). In addition, teachers who teach in the first age group are more likely to carry out supervised outdoor physical activities than teachers who teach in the second age group.

Table 4: Supervised physical activity according to the selection of innovative approaches and space of recreation in relation to the age group in which the teacher works.

<table>
<thead>
<tr>
<th>Age group of children in which the teacher works</th>
<th>N</th>
<th>Age group 1</th>
<th>Age group 2</th>
<th>Combined department</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often do you choose innovative approaches in supervised physical activities?</td>
<td>2.72 ± 0.52</td>
<td>2.51 ± 0.66</td>
<td>2.72 ± 0.46</td>
<td>0.226</td>
</tr>
<tr>
<td>How often do you plan supervised physical activities in the playroom or in the gym?</td>
<td>2.06 ± 0.72</td>
<td>2.32 ± 0.77</td>
<td>2.50 ± 0.71</td>
<td>0.080</td>
</tr>
<tr>
<td>How often do you perform supervised outdoor physical activities?</td>
<td>2.65 ± 0.55</td>
<td>2.18 ± 0.79</td>
<td>2.44 ± 0.78</td>
<td>0.019</td>
</tr>
</tbody>
</table>

Note: p < 0.05

We found that there were no differences in the frequency of the selection of innovative approaches in supervised physical activity (p = 0.226) and the frequency of planned supervised physical activity in the gym (P = 0.080) depending on the age group of children in which the teacher works. However, we found differences between the average value of the frequency of outdoor physical activity between the first and second age group of children, namely the latter has a lower (p = 0.006).
Descriptive data are the results of two open-ended questions (Jelovčan, 2019):

1. What do you understand by Innovative approaches to physical activity?

The results show that the two thirds of the professionals included in the survey (76 participants) understand the concept of innovative approaches in physical activity as “Something new”. The content according to curriculum was selected by 37 teachers. “Improving the content of physical activities, including daily outdoor activities” was chosen by 24 teachers. “Other” was marked by 16 teachers who evaluated the concept of innovative approach as “FIT4kids”, “I do not understand the concept”, “A visit to the sports centre”, “Cooperating with external associates”, “Systematic performing of physical activity”, “Innovative props”.

2. Which innovative approaches do you choose to improve supervised physical activities?

The answers to this question showed that 73 teachers chose the learning content according to the curriculum. There were 65 teachers who opted for activities in nature, with a wide selection of props, teaching methods and forms of work. The concept of choosing innovative approaches was marked by 17 teachers as “Content is chosen by children”, and 33 teachers opted for “Other” which comprised the options “FIT4kids”, “Cooperation with a sports instructor”, “I do not choose innovative approaches”, “I use ICT”, “Team cooperation” …

Discussion

Including modern strategies in the field of movement in the planned work in kindergarten is necessary because children acquire knowledge in a way that requires research, comparison and solving problems in teaching of movement. The results of our study show that there is no connection between the selection of innovative approaches in the field of supervised physical activity, planning and implementation of supervised physical activity in the gym or outdoors taking into consideration the age of teachers and their length of service. Teachers answered two open-ended questions: “What do you mean by innovative approaches in physical activity?” and “Which innovative approaches do you choose to improve your teaching of physical activities?” The results of the research show that the teachers understand the concept of “what are innovative approaches in physical activity” as the content of the Curriculum, “something new” and everyday outdoor exercise. He also notes that the teachers include among the innovative approaches the following: “FIT4kids” programme, a visit to a sports centre, inviting an associate from a field of sports and including innovative sports equipment. When referring to innovative approaches, professionals listed the contents of physical activity curriculum. Also, the selection of answers to the question “Which innovative approaches do you choose to improve your teaching techniques of physical activities?” showed that teachers chose the contents of the Curriculum for kindergarten. They also opted for outdoor activities, a wide selection of sports equipment, various teaching methods and various forms of work.

A disadvantage of our research is that we designed a questionnaire for the purpose of this research. This questionnaire had not been validated previously.

Retar and Lepičnik Vodopivec (2017) conclude that in the field of innovative teaching of movement, stereotypical perception of problems, routine problem solving, fear of mistakes and risks associated with possible injuries are often exposed among obstacles. Stereotypical relying on tradition and avoiding change, lacking a favourable organizational climate, and the predominance of routine practices are often present.

What is more, we established that the preschool teachers who were included in our study and teach in the first age group are more likely to per-
form supervised outdoor physical activities than the teachers who teach in the second age group, depending on their level of education and age group of children. The reasons can be found in the fact that the teachers who teach in the second age group pay more attention to other supervised activities of Curriculum in kindergarten.

Innovative and/or creative approaches in education are important, as they complement already established, routine professional programs and force us to think more boldly about the applicability and effectiveness of educational approaches in general.

The preschool teachers in the Trnovo Kindergarten (Antič, et al., 2013) perceive innovation as »something new«, but also »better« than before, so at the same time something effective.

The results (Karković, 2016) obtained in surveys with preschool teachers show that in the last five years more Slovenian (54.7%) than Croatian preschool teachers (45.3%) have introduced innovations in their pedagogical work. In the description of innovations they introduced, Slovenian preschool teachers most commonly mentioned the NTC method, staying outdoors and performing pedagogical activities outside in all weather conditions, introducing the Reggio Emilia approach and the Montessori method. Croatian respondents most often mentioned the introduction of the Reggio Emilia concept in the context of the »kindergarten as a child’s home« project, the organization of a sensory room or corner, and work in stages and small groups due to the large number of children in the department.

Based on the analysis of the obtained data, we find that the professionals prefer to choose the proposed contents and activities from the curriculum rather than an innovative approach. The curriculum represents a professional basis for work in kindergarten and represent possible ways and means of achieving goals that intertwine through all areas. By implementing the presented approach, we will be able to further contribute to the fact that physical activity continues to have a positive impact on the health and overall development of the user and co-creates one's sustainable lifestyle.

Preschool teachers, who are willing to change and explore the change offered and who would like to establish the way to success also come up with new suggestions themselves and update their own practice. Some of the principals who were interviewed believe that the obstacle to promoting innovation are the employees who only claim to be ready for changes and innovations. And there are also those who openly encourage change but keep using the old system. (Karković, 2016).

If preschool teachers want to change the behaviour, they must change their own perceptions (Rupnik Vec, 2006).

Conclusion

In the conclusion we can establish that preschool teachers are aware of the importance of innovative approaches to improve supervised physical activities. However, a survey should be carried out in order to determine the competence of preschool teachers through a more detailed study which are the key triggers that encourage teachers to innovatively teach in the field of movement. We find that most preschool teachers misinterpret the innovative approach to physical education, as the activities that they claim are innovative have already been included in the Kindergarten Curriculum. Our opinion is that preschool teachers do not distinguish between the concept of an innovative approach and creativity.
References

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ПРЕДСТАВЉАЊЕ ОДАБРАНИХ ИНОВАТИВНИХ ПРИСТУПА ФИЗИЧКИМ АКТИВНОСТИМА У ПРЕДШКОЛСКОМ ПЕРИОДУ

Полазишта: Очекивања друштва према одгојитељима предшколске деце су висока, зато јоштаје њихова улога све комплекснија, што изискује од њих вишу разину стваралечке. У зајњем раздобљу стваралечких и ствараљу иновација, иновативне идеје, стварале поједини обласни настави. Одговорање оној иницијацији у редоследу, мора бити својепредостављајући, самоиницијативан, одговоран, креативан, самоиницијативан, аутоиницијативан и стваралечки. И највећа рогор одговорања је иновативан, што значи да има волу, знање и стваралечки уводу да гостру идеју примени и реализује. Зато јошта као иницијација поставају, одговорања и уводу аутоиницијативни, самоиницијативни и стваралечки активности, који стварају и стваралечки уводу стваралечке активности. Свакомодне знањима и искуствима може иновативити изразити стваралечку и уводу у области стваралечкости.

Проблем: Проблем нашег измеривања је да утврдимо да ли васпитачи користе иновативне приступе стваралечки активности у вртци. Сврха нашег измеривања је стваралечка иновативност у области стваралечке активности.

Методе: Узорак је случајан и наменски одабран. За сарадњу у измеривању се одлучило 115 одговорања (5 аутоиницијативних) из 12 словеначких региона. Просечна увода стваралечка је 29,6 године, а жена 42,1 годину. У групи првог старосног раздобља делује 32, у другом старосном раздобљу 65 и у комбинованом одељењу 18 одговорања.

Резултати: У измеривању смо желели утврдити стваралечку иновативност између аутоиницијативних приступа у области стваралечке активности, који стварају и уводу стваралечки активности. Стваралечка иновативност са вишем стубовом уводе стваралечки активности, а уводе стваралечки активности и стваралечки уводе стваралечки активности, а уводе стваралечки активности, а уводе стваралечки активности. Стваралечка иновативност са вишем стубовом уводе стваралечки активности, а уводе стваралечки активности, а уводе стваралечки активности, а уводе стваралечки активности. Стваралечка иновативност са вишем стубовом уводе стваралечки активности, а уводе стваралечки активности, а уводе стваралечки активности, а уводе стваралечки активности.
физичке/спортске активности на овограденом у јрвој и другој сијаросној групи деце, Јошетара има, наиме, нижу (п=0,006). Описни јодаци овоградене јишања „Штап јошразумева Јошам иновативни јристиги код физичке/спортиске активности” изказују да је разумевање Јошма Јиша на иновативни јрисуићи код физичке/спортиске активности код две Јеренчне сијаручних радики (76) „пештио ново”. Курикуларне садржаје је одалеко 37 одграјиља. „Подоблагаци садржаје физичких/спортиских активности, шакођер свакодневном физичком активностима на овограденом” одалеко је 24 одграјиља. Као „друго” је 16 сијаручих радики вредновало Јошам иновативни јрисуићи: ФИТ4кис, оглазак у сијарски центар, вански сарадници, сисеномајично изводићи физичку/спортиску активности, иновативна љомоћна средстава, реквизици... Исто јако је одгабир одговора код Јишања „За које иновативне јрисуиће се ојерељујети за подођиће вођених физичких/спортиских активности?” изказуо да су 73 одграјиља одалке садржаје курикулума. За активности у јриоди љомоћу шароликих одаигра реквизици, насиливних мелодија и облика рада ојерелека се 65 сијаручних радики. Поникње одаигра иновативних јрисуића је 17 одграјиља вредновало као „сахржање одаиграју деца”, као друго је 33 одграјиља ојерелеко: ФИТ4кис, сарадња са сијарским Јевагеом, не одаигра иновативне јрисуиће, примена ИКТ, љомско сарадњавање...

Закључак: Иновативни и/или креативни јрисуићи у одгоју и образовању су важни, јер докнуку већ узврђене, руиснинае сијарчне јроирме и Јераци нас ка смиојем јренишвињу о јрименосици и ефикасности одграјињих Јишина њуаиње. Из анализе добивених јодацих узимали су сијарчне радици вишо од иновативна иновативна јрисуића одаиграли ојерелече садржаје и делатности курикулума који значе сијарчне јешеме за рад у врикуну и Јересиавању могуће љушеве и начине реализовања циљева који се Јреизићу кроз све обласци. Поред јошта смо узимали да одграјињели укључени у нашо искрајовиње који Јредају у јрвом сијаросном раздобљу чеше изводе вођение активности на овограденом нео одграјиње који Јредају у другом сијаросном раздобљу јрема њиховој разлици образовања и сијаросној групи деце. Разлог можемо искрајовићи у Јоме да одграјиње који Јредају у другом сијаросном раздобљу јосвестују вишо јажеже другим вођеним обласцима активности курикулума у врикуну. Незосициона неше искрајовиња је да смо сасићавали унешник за Јошребе овои искрајовиње.

Кључне речи: обласци делатности крејиње, сијараляшио, одграјиње, јредиковско раздобље.