

EDUCATING FUTURE PRESCHOOL AND PRIMARY SCHOOL TEACHERS TO TEACH PHYSICAL EDUCATION - BOLOGNA PROCESS IN CROATIA

Ivan Prskalo¹, Vladimir Findak² and Boris Neljak²

¹Faculty of Teacher Education, University of Zagreb, Croatia

²Faculty of Kinesiology, University of Zagreb, Croatia

Preliminary communication

UDC 374.3:377.6:796(072.2)(4-67EU)(497.5)

Abstract:

The research was conducted at 9 teacher education institutions in Croatia in 2001 and 2005, before and after the reforms prompted by the Croatian Ministry of Science, Education and Sport with the goal to adjust Croatian higher education to the Bologna process. Both quantitative and qualitative changes were obtained in the study subjects that prepared students for teaching physical education. The Bologna process has effected positive absolute and relative changes in the number of Kinesiology lessons at the higher education institutions preparing future primary school class teachers and kindergarten educators. The relative changes in Kinesiology Teaching Methods for primary school educators have been statistically proven - the subject was allotted, after the introduction of the Bologna process, more contact hours in the syllabi of both the primary school and the kindergarten educators' study programmes. However, relatively, there have been slightly fewer lessons in the studies for kindergarten educators since the year 2005, which can be explained by the change of the total number of lessons after changing from a two-year to a three-year study programme. The number of Physical Education (PE) lessons for kindergarten educators has been reduced, whereas the number of PE lessons for primary school class teachers has been increased, although the total number of lessons has been reduced. With the introduction of the Bologna process, 4 out of 9 institutions for primary school educators have started, since the 2005/2006 academic year, to educate primary school class teachers to a university level, while all 8 kindergarten teacher studies have remained vocational three-year-studies. Since the academic year 2006/2007, primary school teachers throughout the Republic of Croatia have been educated to a university level, whereas the kindergarten training institutions need to be transformed into university level institutions by the year 2010.

Key words: *education of educators, physical education, Bologna process, Croatia*

Introduction

Kindergarten, or preschool, and primary school educators are the first persons a child meets when starting formally organised activities in physical education (PE). They implement, organise and manage the entire process of education (Kretschme, 2001; McKenzie et al., 1996; Neljak, 1993). At the kindergarten age, everything revolves around the kindergarten educators, while for the age range 6-10 years, the role is taken over by primary school class educators. They are in a position to establish functional relationships among the various educational fields and also to intensify, rationalise and humanise the entire process of schooling at a younger school age. Their role is further accentuated by the characteristic of modern times, which burdens children with an increase in intellectual and emotional

activity on the one hand, and with an insufficient physiological (physical) workload accompanied by fast food diets on the other (Nagyová & Ramacsay, 1999; Dollman, Olds, Norton, & Stuart, 1999). If we add the fact that the characteristics of a greater genotype and a lesser portion of acquired variance can optimally be developed at a chronologically younger age, the importance and competence in teaching PE of these educators become crucial for children's optimal growth and development.

Preschool and primary school teachers are educated in the Republic of Croatia at nine higher education institutions. The core of their education for teaching PE is directed at the adoption of both theoretical knowledge and practical skills of kinesiology and its applied discipline - Kinesiology Teaching Methods (Findak, 1992, 1999), accentuat-

ing the role of teaching methods (Byra & Jenkins, 1998; Coker, 1999; Harrison et al., 1999; Sinibaldi, 2002), organisation of work (Ernst & Byra, 1998; Findak, Delija, Mraković, & Metikoš, 1996; Hastie, Sanders, & Rowland, 1999; Prskalo, 2001, 2002), affirming the relation between the demands and the pupils' skill levels (Silverman, Woods, & Subramaniam, 1999). Teachers' proficiency in this field is further developed by the study of the subject Physical Education which enables students to acquire the necessary motor skills and knowledge (Neljak, 2002), and also to obtain PE-related theoretical information, while simultaneously transforming their anthropological characteristics and skills (Scantling, Dugdale, Bishop, Lackey, & Strand, 1998).

It can be expected, and this research should confirm it, that the democratic processes in the Republic of Croatia, as well as the strong support for European integration, have fostered an acceptance of the aforementioned values in the education of kindergarten educators and primary school class teachers. The following historical step was the signing of the Bologna Declaration (CRE/Confederation of EU Rectors, 1999) on 19 June, 1999, signed by the Republic of Croatia in 2001 and confirmed by the Croatian Parliament in 2003. The purpose of this research is to answer certain questions, primarily concerning the educational quality of studies before and after the beginning of the reform, the goal of which was the adjustment in line with the Bologna process, as well as the absolute and relative indicators of the number of contact hours (instruction, seminars, exercises) in the training of kindergarten and primary school teachers to teach Physical Education - a field that has a significant role in the balanced development of the psycho-somatic characteristics of a child. (Findak & Prskalo, 2004; Findak, Prskalo, & Pejčić, 2003).

The aim of this work is to establish, through the empirical indicators, the absolute and relative changes in the number of lessons as a consequence of the adjustment of the teacher education studies' curricula in the Republic of Croatia to the Bologna Declaration, and the change from a professional to a university study.

Hypothesis:

H01 Adjustment of the curricula in accordance with the Bologna Declaration has not effected any either absolute or relative change in the number of instruction hours for study subjects Kinesiology, Kinesiology Teaching Methods and Physical Education at the institutions that educate primary school class teachers.

H02 Adjustment of the curricula in accordance with the Bologna Declaration has not effected any either absolute or relative change in the number of instruction hours for Kinesiology, Kinesiology Teaching Methods and Physical Education at the

institutions educating kindergarten (preschool) teachers.

Methods

The method of a systematic observation of all nine Croatian teacher education institutions was applied. The first data were collected in the year 2001 and the second data set in the year 2005, after the reform implementation. The data were collected via a questionnaire given to the members of the Association of Teacher Education Institutions, the Republic of Croatia education supervision officers, as well as after the insight into the curricula of the teacher training and education institutions in Croatia. The information acquired comprised: the type of studies (either a university or a professional); and the number of lessons for the study subjects: Kinesiology, Kinesiology Teaching Methods, Physical Education and elective courses, which all prepare students for their future work in the field of physical education in preschool and the first four grades of primary school.

The results were processed with the use of descriptive statistics; fit of distributions was assessed with the Kolmogorov-Smirnov procedure along with the significant difference, namely the Kolmogorov-Smirnov test assesses the hypothesis that two samples were drawn from different populations. Unlike the parametric t-test for independent samples or the Mann-Whitney *U* test, which tests for differences in the location of two samples (differences in means, differences in average ranks, respectively), the Kolmogorov-Smirnov test is sensitive to the differences in the general patterns of distributions in two samples (i.e., to the differences in dispersion, skewness, etc.). The results were also graphically presented using Statistica 7.1.

Results

The study subject Kinesiology in the kindergarten teacher education curricula

Based on an examination of 2001 curricula for the two-year professional studies programme for kindergarten educators at 8 kindergarten teacher education institutions in the Republic of Croatia, the Kinesiology course was taught only at two of them (that is 25%), whereas at 6 institutions (75 %) it was not present at all. Since the reform and the adjustment to the Bologna prescriptions, 3 institutions (37.5 %) still do not have Kinesiology and 5 institutions (62.5 %) have Kinesiology in the curricula of a three-year professional study programme. Figure 1 shows the average number of lessons at the kindergarten teacher education institutions and percentage proportion in relation to the total number of the syllabus' courses.

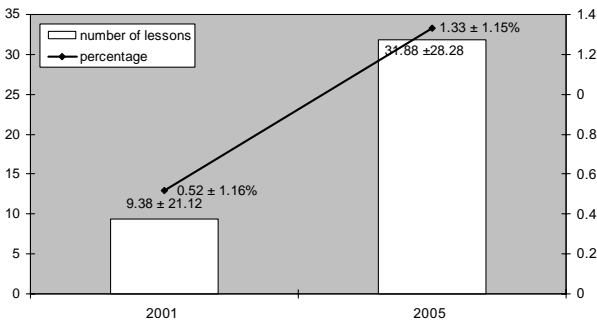


Figure 1. The number of Kinesiology lessons in the preschool teacher education.

The study subject Kinesiology in the primary school class teacher education curricula

Based on an examination of 2001 curricula for the four-year professional study programmes for primary school class educators at 9 primary school teacher education institutions in the Republic of Croatia, the Kinesiology course was taught at all of them. After the reform and adjustment to the Bologna process, Kinesiology has continued to be taught. Figure 2 shows the average number of lessons at the primary school teacher education institutions and the percentage proportion in relation to the total number of all courses.

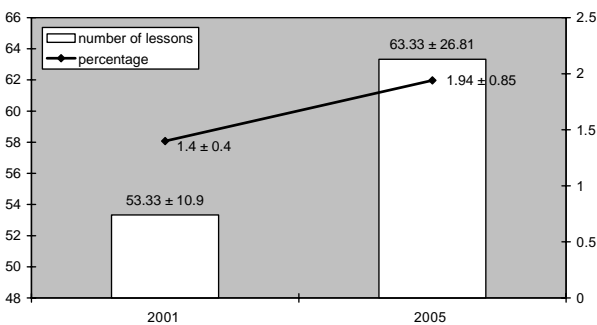


Figure 2. The number of Kinesiology lessons in the primary school teacher education

Kinesiology Teaching Methods in the kindergarten teacher education curricula

Before the Bologna process application, all 8 institutions of kindergarten teacher education in Croatia had Kinesiology Teaching Methods (under the name of “Physical Education Teaching Methods”). In the year 2005, its status was preserved, thus demonstrating that academies and faculties were aware of the importance of the course for future kindergarten teachers. The average data of the

absolute and relative indicators of the number of lessons are shown in Figure 3.

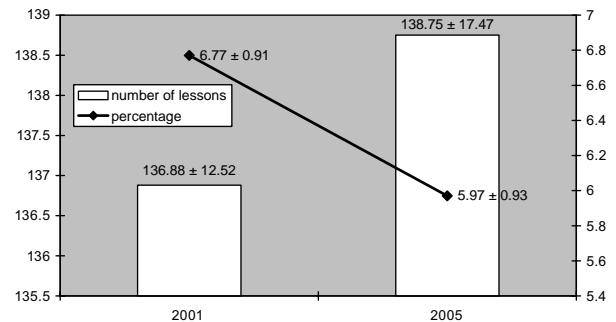


Figure 3. The number of Kinesiology Teaching Methods lessons in the preschool teacher education.

Kinesiology Teaching Methods in the primary school class teacher education curricula

The number of Kinesiology Teaching Methods lessons in Croatia in 2001 was 105-180, and it has not changed since the reforms, although 4 institutions had a university level status and five had a professional level status. The average number of Kinesiology Teaching Methods lessons and the percentage proportion of the total number of lessons are presented in Figure 4. A result of the adjustment to the Bologna Declaration is an increase in the number of Kinesiology Teaching Methods lessons in the absolute and relative sense. This leads to the conclusion that the need has been recognised for providing a quality of knowledge within the Kinesiology Teaching Methods as a precondition of enhancing the quality of future educators. The trend of the changing teacher training from the professional to the university level is seen across Europe. The results show the importance of developing high quality curricula for psychological and pedagogical education as well as for in-school training and teaching methods (Vizek-Vidović & Pavin, 2005).

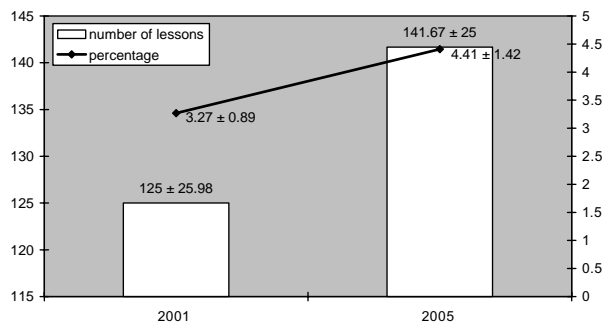


Figure 4. The number of Kinesiology Teaching Methods lessons in the primary school class teacher education.

Physical Education in the kindergarten teacher education curricula

Physical Education was taught at all professional kindergarten teacher education institutions in 2001, with 120 hours at 7 institutions (87.5 %) and 90 (12.5 %) at one institution. Since the reform, 7 institutions (87.5 %) have the course within the group of compulsory subjects, whereas one institution has it as an elective course only. The average number of Physical Education lessons and the percentage proportion of the total number of lessons are presented in Figure 5.

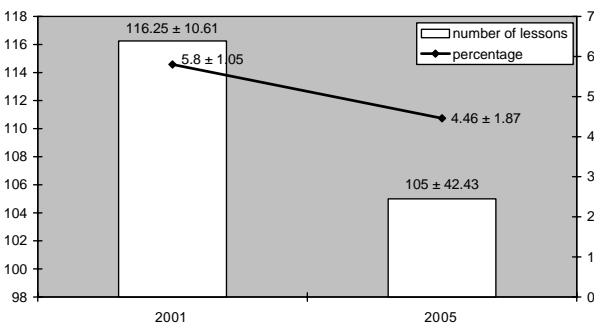


Figure 5. The number of Physical Education lessons in the preschool teacher education.

Physical Education in the primary school class teacher education curricula

Teacher training, as a professional study offered at 9 teacher education institutions, had Physical Education as a regular, compulsory subject at 8 of them (88,89%); only one institution (11.11%) did not offer it. The Association of Kinesiology Teachers who teach at the teacher education institutions, and education inspectors of the Republic of Croatia protested about this by writing to all the teacher education institutions and training colleges, the Ministry and the National Council for Higher Education, explaining how important this subject is for future class teachers. Since the Bologna Declaration, it has been taught at all Croatian teacher education institutions. The average number of lessons and the percentage proportion of this course are shown in Figure 6. As can be seen from the earlier mentioned aims, this study subject is directed towards the transformation of students' anthropological status and towards motor skills and knowledge adoption, as well as to the preparation of students for their future occupation. Therefore, it should be treated as a part of the professional compulsory core of study subjects.

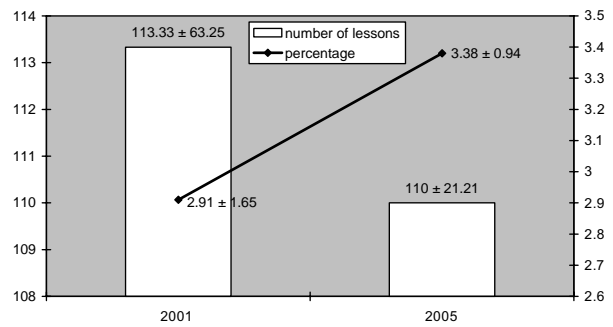


Figure 6. The number of Physical Education lessons in the primary school class teacher education.

Absolute and relative values and the frequency distributions in the number of lessons for Kinesiology, Kinesiology Teaching Methods and Physical Education at Croatian institutions educating teachers

The significant differences in the average values for absolute and relative values in the number of lessons and the frequency distribution in the number of lessons for Kinesiology, Kinesiology Teaching Methods and Physical Education at the Croatian colleges educating kindergarten and primary school teachers were tested by the non-parametric Kolmogorov-Smirnov procedure and the results are given in Table 1. This procedure has been chosen because of the small, yet complete, sample of teacher education institutions and the fact that the Kolmogorov-Smirnov procedure for testing distribution has shown a normal distribution in the number of lessons for Physical Education at the institutions educating kindergarten teachers, before and after the Bologna reform (max $D=0.51$, $p<0.05$) and for the same course at the institutions educating primary school class teachers after the Bologna reform (max $D = 0.5$, $p<0.05$).

The frequency distribution of the number of lessons for Kinesiology, Kinesiology Teaching Methods and Physical Education at institutions educating kindergarten and primary school teachers in Croatia, before and after the Bologna process are shown in Figures 7-12.

With most variables, the Bologna process has caused more observable negative asymmetry, as can be seen in Table 2, which points to grouping of values in higher areas of the x axis for Kinesiology Teaching Methods and Physical Education at the institutions educating primary school teachers and the study subject Kinesiology at the institutions educating kindergarten teachers.

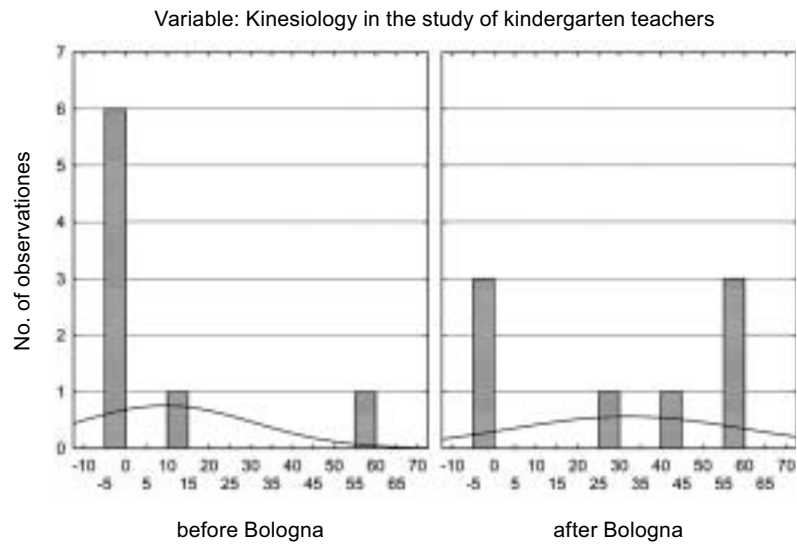


Figure 7. The frequency distribution of the number of lessons for the Kinesiology subject at the institutions educating kindergarten teachers in Croatia before and after the introduction of the Bologna process.

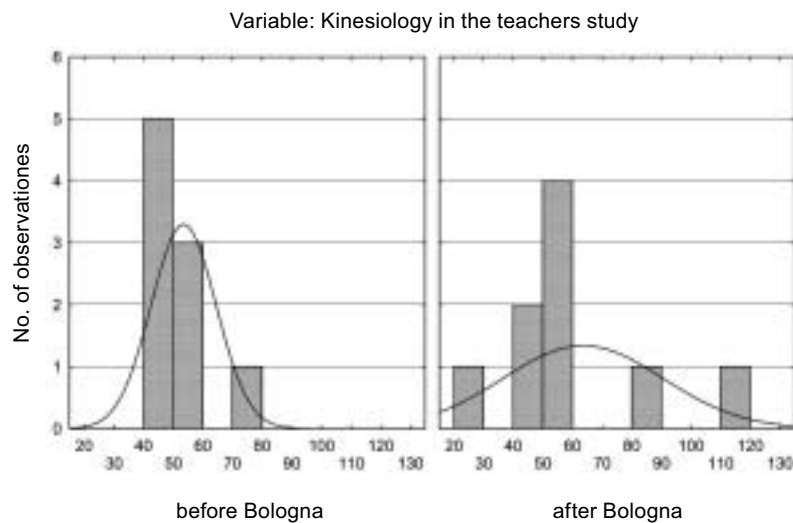


Figure 8. The frequency distribution of the number of lessons for the Kinesiology lessons at the institutions educating primary school class teachers in Croatia before and after the introduction of the Bologna process.

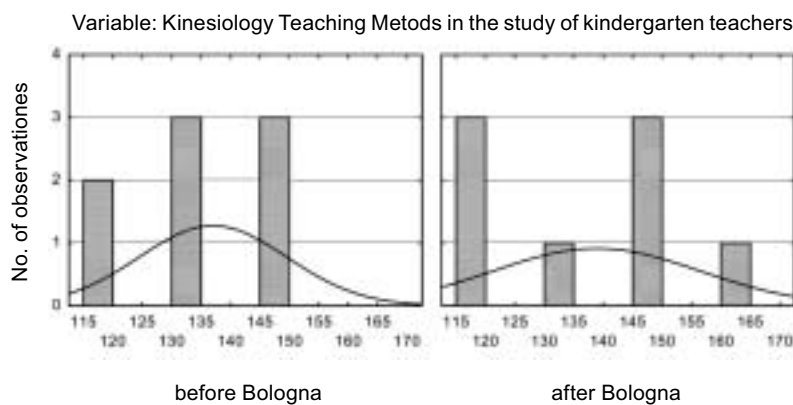


Figure 9. The frequency distribution of the number of lessons for Kinesiology Teaching Methods at the institutions educating kindergarten teachers in Croatia before and after the introduction of the Bologna process.

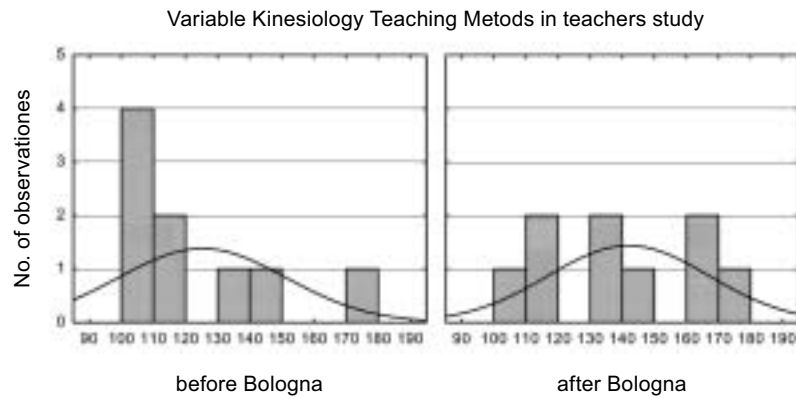


Figure 10. The frequency distribution of the number of lessons for Kinesiology Teaching Methods at the institutions educating primary school class teachers in Croatia before and after the introduction of the Bologna process.

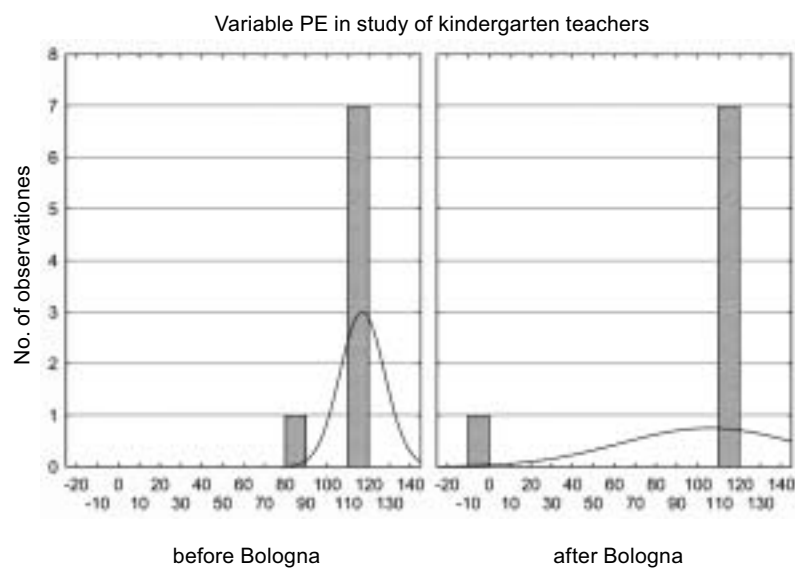


Figure 11. The frequency distribution of the number of lessons of Physical Education at the institutions educating kindergarten teachers in Croatia before and after the introduction of the Bologna process.

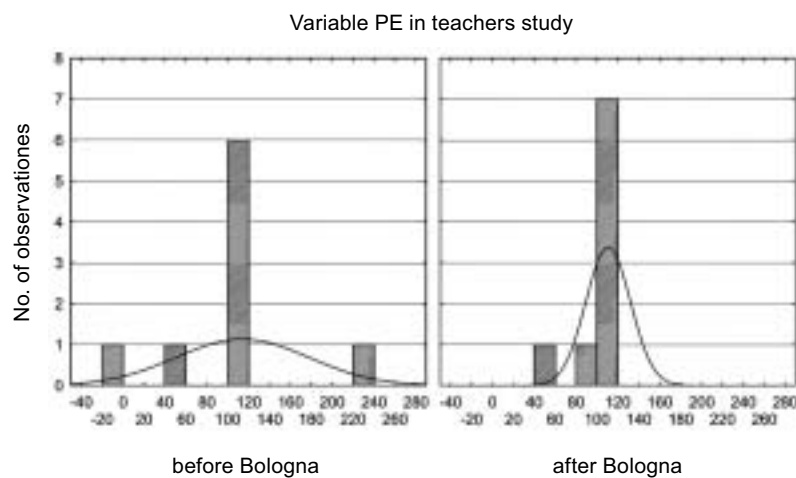


Figure 12. The frequency distribution of the number of lessons of Physical Education at the institutions educating primary school teachers in Croatia before and after the introduction of the Bologna process.

Table 1. Results of the Kolmogorov-Smirnov procedure for testing significant differences in the average values (mean) for absolute and relative values in the number of lessons for Kinesiology (KIN), Kinesiology Teaching Methods (MET) and Physical Education (PE) at the institutions educating kindergarten (KG) and primary school class teachers (T) in the Republic of Croatia

	Max Neg difference	Max Pos difference	p-level	Mean & SD before Bologna (2001)	Mean & SD after Bologna (2005)	Valid N
TPE	-0.11	0.11	$p > .10$	113.33±63.25	110.00±21.21	9
TKIN	-0.22	0.11	$p > .10$	53.33±10.90	63.33±26.81	9
TMET	-0.33	0.00	$p > .10$	125.00±25.98	141.67±25.00	9
KGPE	0.00	0.13	$p > .10$	116.25±10.61	105.00±42.43	8
KGKIN	-0.50	0.00	$p > .10$	9.38±21.12	31.88±28.28	8
KGMET	-0.13	0.13	$p > .10$	136.88±12.52	138.75±17.47	8
kgkinrel	-0.50	0.13	$p > .10$	0.52±1.16	1.33±1.15	8
tkintrel	-0.44	0.22	$p > .10$	1.40±0.40	1.94±0.85	9
kgmetrel	0.00	0.50	$p > .10$	6.77±0.91	5.97±0.93	8
tmetrel	-0.67	0.11	$p < .05$	3.27±0.89	4.41±1.42	9
kgperel	0.00	0.50	$p > .10$	5.80±1.05	4.46±1.87	8
tperel	-0.44	0.11	$p > .10$	2.91±1.65	3.38±0.94	9

Table 2. Asymmetry of distribution for Kinesiology, Kinesiology Teaching Methods and Physical Education at the institutions educating kindergarten and primary school class teachers in the Republic of Croatia

Kindergarten teacher's study	Year 2001	Year 2005
Kinesiology	2.53	-0.24
Kinesiology Teaching Methods	-0.28	0.09
Physical Education	-2.83	-2.83
Primary School Teacher's study	Year 2001	Year 2005
Kinesiology	1.01	1.26
Kinesiology Teaching Methods	1.38	0.12
Physical Education	0.27	-2.12

Discussion and conclusions

Kinesiology in the kindergarten and primary school teacher education curricula

The aim of this course is to teach the general principles for conducting exercise and training, as well as the effects of exercise on humans - especially amongst kindergarten and schoolchildren. Students should also acquire the knowledge of basic research methods in kinesiology, dealing with the problems connected with conducting training, the possibilities of inducing changes in anthropological characteristics, motor skills, physical fitness and health when applying the appropriate exercises. Students should also be introduced to the contemporary findings in the basic disciplines of fundamental kinesiology and applied kinesiology (esp. kinesiology in education) and sub-disciplines and should gain theoretical foundations for applying pedagogical and didactical intervention strate-

gies in kindergarten and primary school teaching. (Teacher Academy University of Zagreb, 2005; Teacher Training College Petrinja, 2005b). This has to be emphasised because the influence that kindergarten and primary school class teachers have on the transformation of the anthropological status of a child is so great that it can confidently be said that there are no, or rarely so, human activities in which so many characteristics can be simultaneously affected to such an extent as they can be through skilful and professional physical exercise or working out (Ernst & Byra, 1998; McKenzie et al., 1996; Findak et al., 1996). In order for this to take place, the educators' knowledge of the complexity of the growth and development of a child is important, and if we consider the fact that a person's most dynamic period of development is the kindergarten period (Karpļuk, Videmšek, Kondrič, Štihes, & Karpļuk, 2000; Neljak, 2003), then the responsibility of the professionals becomes even greater. For teachers to be up to this task, especially in the field of physical education, which we know

has a fundamental importance in the harmonious development of the psycho-somatic characteristics of kindergarten children, it is necessary to be very cautious when creating curricula for teacher training and education (Findak, Novosel, & Prskalo, 2003). The study subject Kinesiology, as the basis for Kinesiology Teaching Methods, has to have an appropriate status at teacher education institutions (Findak, Mraković, & Prskalo, 2002). As there are still contradictory attitudes towards this course, as seen in the teacher education institutions' curricula, and there are great discrepancies in the required number of lessons, it is necessary to create the minimum provision for this course at the kindergarten teacher colleges. This can be achieved especially since this type of college course is currently professional but is on its way to becoming a university level course over the next few years.

A relative and absolute increase in the number of lessons is visible in the primary school teacher education curricula in Croatia. The greater dispersion of the number of Kinesiology lessons since the reform can be ascribed to the unacceptable differences that existed in teacher education – namely, four teacher education institutions were at a university level, while five were at a professional level. Fortunately, in the academic year 2006/2007, this was changed in the way that teacher education institutions have been grouped around greater university centres and they are now introducing university courses for all teacher training programmes.

Kinesiology Teaching Methods in the kindergarten and primary school class teacher education curricula

The aim of the course is to equip the students with the essential knowledge of how to deliver instructions, which is a basis for satisfying children's bio-psycho-social motives for movement and play. The second aim is to provide students with theoretical and professional knowledge of successful planning and organising everyday and occasional forms of activities (Findak, 1992, 1999; Sinibaldi, 2002; Scantling et al., 1998) in which the content of physical education will be successfully applied.

Students should:

- gain a contemporary view of modern PE through acquiring the theoretical knowledge of the fundamentals of kinesiology;
- gain an understanding of the basic and specific aims and objectives of PE;
- learn about the implications and the benefits derived from involvement in physical activities and learn how to value physical activity and its contributions to a healthy lifestyle;
- acquire the didactical intervention strategies, work methodology and adopt the professional and scientific attitudes to theoretical and operational PE data;

- become equipped to engage independently in the theoretical aspects of the teaching methods and to develop a creative and critical approach to the theory and practice of PE;
- demonstrate effectively all the organisational forms of teaching PE - become interested in active and creative involvement in PE;
- acquire the knowledge and skills necessary for using modern teaching aids in PE;
- acquire the necessary motor skills needed to actualise teaching programmes (Findak, 1999).

The results show an increase in the number of Kinesiology Teaching Methods lessons, but the duration of the studies has been extended from two years (as in 2001) to three years. However, a greater dispersion of the number of lessons is noticeable since the adjustment to the Bologna process, as can be seen in the standard deviation. The range of the number of lessons is 120 to 165 lessons. In the year 2001, it was 120-150. In relating the experience of some European countries, Kovačević and Žarnić (2003) mention Ireland, where the percentage proportion of pedagogical and teaching methods courses is 40%; they also mention that the difference in percentage between Maribor (Slovenia) and Split (Croatia) is 14%. It is obvious that, as in this example, there is room in Croatian universities for a greater number of Teaching Methods lessons generally, Kinesiology Teaching Methods in particular.

Physical Education in the kindergarten and primary school class teacher education curricula

The aim of the course is to create an environment for acquiring the knowledge and competence in fundamental motor skills, physical fitness, athletics, swimming and other water sports, sports and games, leisure activities, dance, rhythmic gymnastics, and outdoor activities. With regard to the concept and the principles of the profession, it acquaints the students with the principles and applications of various didactical intervention strategies and techniques. It is also important to enable the students to acquire competence in the basic assistance/support procedures (i.e. "safety and assistance"), and safety and first aid. Furthermore, students should become acquainted with the basic terminology, proper communication and stimulative rhetoric in learning and exercising. They should be exposed to interdisciplinary learning; further, they should appreciate and promote positive health behaviours, use motivating surroundings for acquiring and maintaining a healthy lifestyle. Students' attitudes should be influenced in a way that they may later act as role-models to children for healthy living, developing beliefs that participation in regular physical activity and physical fitness is essential to health preservation and enhancement and the well-being of individuals,

beliefs in the importance of modelling health-enhancing behaviours and beliefs that physical activity can foster learning, self-expression, self confidence and personal development (Teacher Training College, Petrinja, 2005a). "The curriculum for physical education at the teacher education institutions should be as close as possible to the physical education curriculum in lower grades of primary school and kindergartens to be functionally supportive to the students' future profession. Instructional strategies and techniques should also match those applicable in class teaching." This elaboration of the aim of the course is in accordance with the Conclusions of the teachers of Physical Education, Basics of Kinesiology and Kinesiology Teaching Methods at Teacher Education institutions and Teacher Academy (2001).

Notably, the percentage proportion of hours (lessons) is less in the kindergarten teacher education curricula, primarily because of only one institution, which has reduced the status of the course to an elective one. In contrast, all the other institutions have 120 lessons for this course. It is important to harmonise all the kindergarten teacher education curricula within Croatia and with the ones in Europe.

A reduction in the number of average lessons from 113 to 110 per year can be seen in primary school teacher education curricula, as well as the fact that two institutions together did not have 120 lessons, and that one institution had 240 lessons in the year 2001. The percentage of the total number of lessons for this course has been increased. It is a widely held opinion that the number of lessons for this course should be 120 compulsory lessons and as an elective programme it could be studied from the first to the final year of the teacher's education. Past experience from Hungary demonstrated that a majority of schoolchildren knew little of the values and practice of physical education and that Hungarian males suffer from poor general health "because they... received no physical fitness instruction during their formative years" (Andersen, 1996). However, Horgan's research (2005) indicates that 39% of boys and 58% of girls aged 7-18 do not achieve the recommended levels of exercise, e.g. spending at least one hour each day in a physical activity of at least moderate intensity (2005). A teacher is the person who has to be the first to realise and accept the importance of physical education in order to be able to help children build a positive attitude towards exercise and physical activities.

The results confirmed the hypothesis about the significant relative change in the number of lessons for Kinesiology Teaching Methods at the institutions educating primary school teachers. None of the other differences are significant, although they do exist and have been confirmed for all 9 teacher education institutions in the Republic of Croatia.

This partly challenges the second hypothesis:

H02 The Bologna Declaration has not affected either any absolute or relative change in the number of lessons for Kinesiology Teaching Methods at the institutions educating primary school class teachers. An acceptable version of H2 would be that the Bologna Declaration has not significantly affected any absolute change in the number of lessons for Kinesiology Teaching Methods at the institutions educating primary school class teachers, but has significantly affected a relative change in the number of lessons for Kinesiology Teaching Methods. The other hypothesis has not been challenged at a statistically significant level, but a change in the number of lessons since the Bologna process can also be observed.

These reforms are in accordance with a general trend, which can also be seen in the British educational system (Donovan, Jones, & Hardman, 2006). Physical education in England has made significant progress since the late 19th century, when in the early years the concern was for the immediate health and fitness of the nation and the emphasis was on physical training in state elementary schools and the cult of 'Athleticism' for the privately educated rich elite. From the early decades of the 20th century, when most of the initiatives were discipline and short-term fitness-related, physical education in English schools has developed from a narrowly defined teacher directed subject to its current position of orientation to pupil-centred learning, with an accent on learning 'how to learn', health-focused physical education, links with other subjects, development of assessment procedures and partnership schemes with the local community. The lifestyle conditions of the 21st century demand an adjustment of educational institutions, both the ones educating children and youngsters and those educating future teachers. The implementation of a standardised curriculum and staff development programme has increased children's more moderate-to-vigorous physical activity in existing school PE classes in four geographic and ethnically diverse communities. The Child and Adolescent Trial for Cardiovascular Health PE provides a tested model for improving physical education in American schools (McKenzie et al., 1996). Modernising higher education needs to consider the needs imposed by a modern society.

Based on the present research, it can be concluded that under the influence of the Bologna process, there have been both quantitative and qualitative changes in the presence of the subjects that prepare students to teach physical education – a field that is unique in its opportunities and particularities in contributing to the balanced development of children's anthropological characteristics, abilities and skills. In view of the hypotheses, it can be concluded that the Bologna process has ef-

fects positive absolute and relative changes in the number of Kinesiology lessons at the institutions educating future primary school and kindergarten educators. The relative change of the Kinesiology Teaching Methods for primary school educators has been statistically proven. Since the Bologna process, the course Kinesiology Teaching Methods has been allocated more contact hours in both syllabi (for education of primary school and kindergarten teachers), but there has been a slightly smaller number of lessons in the studies for kindergarten educators since 2005, which can be explained by the total number of lessons after changing from a two-year to a three-year-study programme. The number of PE lessons for kindergarten educators has been reduced, whereas the number of PE lessons for primary school educators has been increased, although the total number of lessons has been reduced.

With the introduction of the Bologna process, four out of nine institutions for primary school class educators educated primary school teachers at the university level in 2005/2006. Since the academic year 2006/2007 primary school teachers throughout the Republic of Croatia have been educated at a university level. All eight institutions providing kindergarten training are still professional three-year-study programmes. The kindergarten education institutions need to be transformed into university level institutions by the year 2010.

It is the case that the Bologna process is constantly revised and refined, so it can be expected that, because of the importance of the study subjects Kinesiology, Kinesiology Teaching Methods and PE in the education of teachers, the number of allotted instruction hours should be increased for each of them in the future.

References

- Andersen, D. (1996). Health and physical education in Hungary: a status report. *ICHPER•SD Journal*, 32(2), 40-42.
- Byra, M., & Jenkins, J. (1998). The thoughts and behaviors of learners in the inclusion style of teaching. *Journal of Teaching in Physical Education*, 18, 26-42.
- Coker, C.A. (1999). Time management: Strategies for increasing student engagement. *Journal of Physical Education, Recreation & Dance*, 70(5), 15.
- CRE/Confederation of EU Rectors (1999). *The European Higher Education Area*. Ministers of Education of 29 European countries. Bologna: CRE/Confederation of EU Rectors' Conference.
- Dollman, J., Olds, T., Norton, K., & Stuart, D. (1999). The evolution of fitness and fatness in 10-11-year-old Australian schoolchildren: Changes in distributional characteristics between 1985 and 1997. *Paediatric Exercise Science*, 11, 108-121.
- Donovan, M., Jones, G., & Hardman, K. (2006). Physical education and sport in England: Dualism, partnership and delivery provision. *Kinesiology*, 38(1), 16-27.
- Ernst, M., & Byra, M. (1998). Pairing learners in the reciprocal style of teaching: Influence on student skills, knowledge, and socialization. *The Physical Educator*, 55, 22-37.
- Findak, V. (1992). *Metodički organizacijski oblici rada u edukaciji, športu i športskoj rekreaciji*. [Methodical organisational work forms in education, sports and sports recreation.] Zagreb: Hrvatski savez za športsku rekreaciju, Mentorex.
- Findak, V. (1999). *Metodika tjelesne i zdravstvene kulture*. [Teaching methods in physical education.] Zagreb: Školska knjiga.
- Findak, V., Delija, K., Mraković, M., & Metikoš, D. (1996). Time rationalization during physical education kindergarten class – younger age. *Kinesiology*, 28(1), 20-24.
- Findak, V., Mraković, M., & Prskalo, I. (2002). Stanje i perspektiva kolegija "Metodika tjelesne i zdravstvene kulture", "Osnove kineziologije" i "Tjelesna i zdravstvena kultura" na učiteljskim i odgojiteljskim studijima u Republici Hrvatskoj. [State-of-the-art and perspectives of the study subjects Physical Education Teaching Methods, Fundamentals of Kinesiology and Physical Education at the Croatian kindergarten and primary school teacher education institutions.] *Metodika*, 3(4), 113-122.
- Findak, V., Novosel, I., & Prskalo, I. (2003). Solidna priprema učitelja i odgojitelja uvjet vrsnoće u tjelesnom i zdravstvenom odgojno-obrazovnom području. [Proper quality preparation of preschool and primary school class teachers as a precondition of excellence in the physical and health education field.] *Proceedings, Petrinjski zbornik za povijest i obnovu zavičaja*, V & VI(5-6), 230-239.
- Findak, V., & Prskalo, I. (2004). *Kineziološki leksikon za učitelje*. [Lexicon of kinesiology for primary school class teachers.] Petrinja: Visoka učiteljska škola.
- Findak, V., Prskalo, I., & Pejčić, A. (2003). Additional exercise as an efficiency factor in physical education lessons. *Kinesiology*, 35(2), 143-154.
- Harrison, J.M., Preece, L.A., Blakemore, C.L., Richards, R.P., Wilkinson, C., & Fellingham, G.W. (1999). Effects of two instructional models – skill teaching and mastery learning – on skill development, knowledge, self-efficacy, and game play in volleyball. *Journal of Teaching in Physical Education*, 19, 34-57.

- Hastie, P.A., Sanders, S.W., & Rowland, R.S. (1999). Where good intentions meet harsh realities: Teaching large classes in physical education. *Journal of Teaching in Physical Education*, 18, 277-289.
- Horgan G. (2005). Healthier lifestyles series: 1. Exercise for children. *Journal of Family Health Care*, 15(1), 15-17.
- Karpljuk, D., Videmšek, M., Kondrič, M., Štihec, J., & Karpljuk, K. (2000). Heart rate dynamics in 5.5-year-old children during relay races. *Kinesiology*, 31(2), 75-83.
- Kovačević, A., & Žarnić, B. (2003). Model obrazovanja učitelja i odgojitelja u Irskoj, Sloveniji i Hrvatskoj. [Models of preschool and primary school class teachers' education in Ireland, Slovenia and Croatia.] *Školski vjesnik*, 52(1/2).
- Kretschmer, J. (2001). Changes in childhood and children's motor development. *International Journal of Physical Education*, 38, 114-126.
- McKenzie, T.L., Nader, P.R., Strikmiller, P.K., Yang M., Stone, E.J., Perry, C.L., Taylor, W.C., Epping, J.N., Feldman, H.A., Luepker, R.V., & Kelder, S.H. (1996). School Physical Education: Effect on the child and adolescent. *Trial for Cardiovascular Health*, 25(9), 423-431.
- Nagyová, L., & Ramacsay, L. (1999). The occurrence of the risk factors and health problems of people. In D. Milanović (Ed.), *Proceedings Book of the 2nd International Scientific Conference "Kinesiology for the 21st Century"* (pp. 349-351). Zagreb: Faculty of PE, University of Zagreb.
- Neljak, B. (1993). Motorička znanja u funkciji dobi. [Motor skills in the function of life age.] *Kineziologija*, 25(1-2), 141-143.
- Neljak, B. (2002). Pregled zastupljenosti nastavnih tema u tjelesnom i zdravstvenom odgojno-obrazovnom području osnovnih i srednjih škola. [Overview of representation ratio of teaching topics in the field of physical and health education in primary and secondary schools.] In V. Findak (Ed.), *Proceedings, 11th Summer School of Kinesiologists "Programming work in the areas of education, sport, sports recreation and kinesitherapy"*, Rovinj (pp. 43-46). Zagreb: Hrvatski kineziološki savez.
- Prskalo, I. (2001). Dopunsko vježbanje čimbenik opterećenja na satu tjelesne i zdravstvene kulture. [Additional exercise as a workload factor of the PE lesson.] In V. Findak & K. Delija (Eds.), *Proceedings of the 10th Summer School of Croatian PE Educators* (pp. 69-70). Zagreb: Hrvatski savez pedagoga fizičke kulture.
- Prskalo, I. (2002). Physiological workload and additional exercising in physical education lessons. In D. Milanović & F. Prot (Eds.), *Proceedings Book of the 3rd International Scientific Conference "Kinesiology - New Perspectives"* (pp. 102 - 104). Zagreb: Faculty of Kinesiology, University of Zagreb.
- Scantling, E., Dugdale, H., Bishop, P., Lackey, D., & Strand, B. (1998). The effects of two instructional formats on the heart rate intensity and skill development of physical education students. *The Physical Educator*, 55, 138-144.
- Silverman, S., Woods, A.M., & Subramaniam, P.R. (1999). Feedback and practice in physical education: Interrelationships with task structures and student skill level. *Journal of Human Movement Studies*, 36, 203-224.
- Sinibaldi, R. (2002). The alternating station line: Reducing transition time during station work. *Teaching Elementary Physical Education*, 13(4), 30.
- Teacher Academy, University of Zagreb (2005) *Draft of the undergraduate studies for primary school class teachers*. Zagreb: Teacher Academy, University of Zagreb.
- Teacher Training College Petrinja (2005a). *Draft of the undergraduate studies for primary school class teachers*. Petrinja: Teacher Training College.
- Teacher Training College Petrinja (2005b). *Draft of the undergraduate professional studies for kindergarten teachers*. Petrinja: Teacher Training College.
- Vizek Vidović, V., & Pavin, T. (2005). Komparativna studija obrazovanja učitelja i nastavnika i percepcija sustava inicijalnog obrazovanja učitelja i nastavnika u Hrvatskoj. [Comparative study of class and subject teachers' education and the perception of the initial teacher education system in Croatia.] In A. Murm., D. Nenadić, Bilan., R. Bacalja & M. Klarin (Eds.), *Prema novom kurikulumu u odgoju i obrazovanju* (pp. 59-69). Zadar: Sveučilište u Zadru, Odjel za izobrazbu učitelja i odgojitelja predškolske djece.

Submitted: April 15, 2007

Accepted: November 26, 2007

Correspondence to:
Prof. Ivan Prskalo, PhD
Faculty of Teacher Education
University of Zagreb
Gajeva Str. 109a, 44250 Petrinja, Croatia
E-mail: ivan.prskalo@sk.t-com.hr

Acknowledgment:

The presented paper is a part of the scientific project "Kinesiological Education in Preschool and Primary School Education", granted by the Ministry of Science, Education and Sports of the Republic of Croatia.

OBRAZOVANJE BUDUĆIH ODGOJITELJA I UČITELJA RAZREDNE NASTAVE ZA POUČAVANJE TJELESNE I ZDRAVSTVENE KULTURE – BOLONJSKI PROCES U HRVATSKOJ

Sažetak

Uvod

Učitelj i odgojitelj su prve osobe koje dijete susreće pri prelasku na organizirani rad u tjelesnom i zdravstvenom odgojno-obrazovnom području. Oni su nosioci, organizatori i rukovodioci odgojno-obrazovnog procesa. Stoga u središtu njihove edukacije treba biti kvaliteta rada usmjerena kako na teorijska i praktična znanja supstratne znanosti kineziologije tako i na njenu primijenjenu disciplinu - kineziološku metodiku, kroz primjenu odgovarajućih metoda i organizaciju rada koja afirmira vezu između postavljenih zahtjeva predmeta i razine umijeća učenika. Osposobljenosti u ovom području doprinosi i predmet Kineziološka kultura, koja studentima daje neophodne motoričke, ali i teorijske informacije istodobno transformirajući njihove osobine i sposobnosti.

Cilj je rada, na empirijskim podacima, ustanoviti apsolutne i relativne promjene u broju sati kolegija koji osposobljavaju buduće odgojitelje i učitelje za rad u tjelesnom i zdravstvenom odgojno-obrazovnom području nakon prilagodbe hrvatskih nastavnih planova i programa Bolonjskoj deklaraciji.

Metode

Metoda sustavne opservacije svih učiteljskih učilišta provedena je 2001. i 2005. godine. Praćena je vrsta studija (sveučilišni ili stručni) te satnica kolegija Kineziologija, Kineziološka metodika i Kineziološka kultura te izbornih kolegija koji osposobljavaju studente za rad u tjelesnom i zdravstvenom odgojno-obrazovnom području.

Izračunata je deskriptivna statistika, normalnost distribucija i značajnost razlika provjerena je Kolmogorov-Smirnovljevim testom. Rezultati su grafički prikazani pomoću statističkog programskog paketa Statistica 7.1.

Rezultati, rasprava i zaključak

Temeljem uvida u planove i programe odgojiteljskih studija, koji su se 2001. godine provodili na 8 učiteljskih učilišta u Republici Hrvatskoj kao stručni dvogodišnji studiji, kolegij Kineziologija bio je zastupljen u planu 2 učilišta (25%), dok u planu odgojiteljskih studija 6 učiteljskih učilišta (75%) nije bio prisutan. Nakon prilagodbe planova i programa bolonjskom procesu, tri učiteljska učilišta (37,5%) u planu i programu odgojiteljskih studija nemaju Kineziologiju, dok 5 učiteljskih učilišta (62,5) uvodi Kineziologiju u trogodišnje planove i programe stručnih odgojiteljskih studija. Temeljem uvida u planove i programe učiteljskih studija koji su se 2001. godine provodili na svih 9 učiteljskih učilišta u Republici Hrvatskoj kao stručni četverogodišnji studiji, kolegij

Kineziologija bio je u svima zastupljen, a takvo je stanje zadržano i nakon prilagodbe planova i programa bolonjskom procesu. Uočljivo je apsolutno i relativno povećanje satnice u programu učiteljskih studija Republike Hrvatske.

Cilj kolegija Kineziološka metodika je osposobiti studente da usvoje bitna znanja i zakonitosti na kojima se zasniva podmirenje dječjih biopsihosocijalnih potreba i motiva za kretanjem i igrom te da steknu teorijska i stručno-metodička znanja o organiziranju svakodnevnih i povremenih oblika rada, u kojima će uspješno primjenjivati sadržaje tjelesno-zdravstvenog odgojno-obrazovnog područja. Prije utjecaja bolonjskog procesa na odgojiteljske studije u Republici Hrvatskoj, na svih osam učilišta, koja su ih organizirala, bio je zastupljen kolegij Kineziološka metodika, istina u to vrijeme pod drugim nazivom – Metodika tjelesne i zdravstvene kulture. U 2005. godini to stanje se zadržalo, što govori o postojanju svijesti koliko je ovaj kolegij važan za osposobljenost odgojitelja predškolske djece. Vidljiv je porast satnice kolegija Kineziološka metodika, ali relativni pokazatelj su manji. Kineziološka metodika je u programu učiteljskog studija 2001. godine, dakle, prije bolonjskog procesa u Republici Hrvatskoj, bila zastupljena s fondom od 105 do 180 sati i taj fond je sačuvan i poslije prilagodbe programa učiteljskih studija, od kojih su 4 sveučilišni a 5 još uvijek stručni studiji. Kurikularna prilagodba je prepoznala potrebu metodičkog osposobljavanja budućih učitelja kao prioritet osuvremenjivanja njihove osposobljenosti

Cilj kolegija Kineziološka kultura na učiteljskim i odgojiteljskim studijima je omogućiti studentima stjecanje motoričkih znanja, kompetencija i temeljnih motoričkih vještina. Predmet Kineziološka kultura, pod nazivom Tjelesna i zdravstvena kultura, provodio se na svim odgojiteljskim dvogodišnjim stručnim studijima u 2001. godini s time da je na 7 učilišta (87,5%) imao fond sati od 120, a na jednom učilištu (12,5%) 90 sati. Nakon prilagodbe plana i programa odgojiteljskog studija, 7 učilišta (87,5%) ima predmet Kineziološka kultura, a jedno učilište (12,5%) ga organizira kao fakultativni program. Učiteljski studij je na 8 učilišta (88,89%) imao predmet Tjelesnu kulturu u svom planu. Na jednom učilištu taj predmet nije bio organiziran (11,11%). Uočljivo je smanjenje prosječne satnice sa 113 na 110 sati godišnje, što je rezultat činjenice da dva učilišta nemaju satnicu od ukupno 120 sati te što je jedno učilište 2001. imalo satnicu od 240 sati ovog predmeta. I pored toga postotak ukupnog opterećenja studenta koji otpada na ovaj kolegij je povećan. Smatra se da bi ovaj predmet trebao biti zastupljen sa ukupno 120 sati u obveznom dijelu programa, a da se fakultativno može pohađati cijelo vrijeme studiranja.

Potvrđena je hipotezu o značajnoj relativnoj promjeni satnice Kineziološka metodika na učiteljskom studiju. Ostale razlike nisu signifikantne, premda su evidentne i dokazane su na ukupnom mogućem uzorku od svih 9 učiteljskih učilišta u Republici Hrvatskoj. Ovim se djelomično prihvaća nulta hipoteza HO1 jer promjena programa u skladu s bolonjskim procesom nije značajno utjecala na apsolutnu promjenu satnice kolegija Kineziološka metodika na učiteljskim studijima, ali je značajno utjecala na relativnu promjenu satnice kolegija Kineziološka metodika na učiteljskim studijima. U većini varijabli bolonjski proces je utjecao na grupiranje vrijednosti u višim zonama apscise na učiteljskom studiju i to za Kineziološku metodiku i Kineziološku kulturu, a na odgojiteljskom studiju za kolegij Kineziologija.

Temeljem provedenog istraživanja može se zaključiti kako je prilagodba programa u skladu s bolonjskim procesom utjecala na kvantitativne i kvalitativne promjene u zastupljenosti predmeta koji osposobljavaju studente za rad u tjelesnom i zdravstvenom odgojno-obrazovnom području. Može se

ustvrditi da je bolonjski proces utjecao na pozitivnu apsolutnu i relativnu promjenu satnice kolegija Kineziologija na učiteljskim i odgojiteljskim studijima. Statistički je dokazana relativna promjena Kineziološke metodike na učiteljskom studiju. Kolegij Kineziološka metodika je više zastupljen i u odgojiteljskom i učiteljskom studiju nakon prilagodbe plana studija, ali je relativno manje zastupljenosti u odgojiteljskom studiju nakon 2005. godine, što se objašnjava povećanom ukupnom satnicom pri prelasku odgojiteljskog studija s dvogodišnjeg na trogodišnji studij. Satnica predmet Kineziološka kultura je smanjena u planu odgojiteljskog studija, dok je na učiteljskom studiju postotak njene zastupljenosti veći, iako je ukupna satnica manja. Na zamahu bolonjskog procesa, četiri od 9 učiteljskih učilišta od 2005./06. akademske godine provode sveučilišni učiteljski studij. Već u 2006./07. godini, na području cijele Republike Hrvatske, učiteljski studij je organiziran kao sveučilišni studij. Svih 8 učilišta koji organiziraju odgojiteljski studij za sad ga organiziraju kao stručni trogodišnji studij, no trebali bi se transformirati u sveučilišni studij do 2010. godine.