Innovative Kinesiology Education as a Criterion and Predictor of Innovative Education

Abstract: Agreement with living conditions also implies compliance with the increasingly dramatic changes to which the civilization, society, and the people are exposed. The imperative response of society and civilization to changes that are inevitable but evident, with even clearer and more predictable consequences, must be the best in order to be good enough. It should be said that progress improves the quality of life and life expectancy, but there is also the fact that cardiovascular diseases, which can be associated with modern living conditions, are the main cause of death in most of the population. Kinesiology education can have a long-term historical effect only if it is the best because it must be innovative and vital, and it has to question the alignment between scientific theory and practice with new scientific achievements every day. It should be viewed in the light of the lifelong impact that is initiated by the education system with its mandatory stages, as the optimal, well-prepared, and scientifically and professionally based response. All reforms should focus on the affirmation of that response, providing it with the necessary time, optimum staff training and the necessary material conditions. Investing in educational sciences in general and applied kinesiology disciplines in particular cannot be in vain. These professionals should inform themselves about the scientific achievements that constantly affirm the benefits of physical exercise in general, and physical and health culture in particular.

Keywords: kinesiology education, educational reform, kinesiology, innovation, education.
Introduction

Agreement with living conditions also implies compliance with the increasingly dramatic changes to which the civilization, society, and the people are exposed. These changes are so dramatic and powerful that they have become their own driver and precondition for their own survival, and their absence marks the cataclysmic end of the cycle (Prskalo, 2018), be it educational, life or production-related. This only constant - the constant of change (Findak, 2016) is very often associated with the optimization of living conditions, but it also becomes a negation of humanity only when man is unable to adapt to them properly. Namely, there are no good or bad living conditions, there are only those which are there and on which an individual can have very little or no influence.

Human civilization is too complex to be regulated by even the best cybernetic models and solutions, and the influences of individuals are the smallest ray of light that can illuminate even the greatest darkness, the light of the world in the true sense of the word (Stari i Novi zavjet, 2007 [Old and New Testament]). If some things cannot or can be very little affected, it does not mean that they cannot be adapted by minimizing the damage caused by bad conditions and taking the best of good conditions, both of which are the result of the desired or unwanted civilizational changes. Although kinesiology scientific thought has recognized the prominent and obvious role of physical exercise in the broadest sense of the word on a wide range of positive human characteristics, traits, and abilities (Findak, Mraković i Metikoš, 1995; Findak, 2016), special emphasis should justifiably be placed on kinesiology education because of its abundant effect (Prskalo i Babin, 2006) and to the fact that it is responsible for the state of the population (Prskalo i Babin, 2010).

A rigid boundary cannot and must not be set between the applied kinesiology fields because this positive effect is also present in recreation, sports, kinesitherapy, and kinesiology education is a precondition and a natural way of “transferring” children, students and youth into other not so massive and no less significant applied fields. In order to fulfill this historical responsibility and role in the best possible way, and everything that is done with the most vulnerable part of the population - young people, kinesiology education in the narrow sense, and education in a wider sense, is good enough only if it is the best, because it must be innovative and viable, and it has to question the alignment of scientific theory and practice with new scientific achievements every day. This will ensure its position in the very core of the educational process and this never happens by itself, but solely on the basis of the effect it makes which, thanks to modern and objective kinesiometric systems can be objectively measurable, obvious, and understandable to all participants. As we are living in the time of outstanding innovations in the educational system, curriculum reforms, which should happen on a daily basis at the individual level and then transferred to the level of the entire system, this paper addresses the questions about the effect of the innovative kinesiology education on the overall innovation of the educational system.

Therefore, the aim of this paper is to analyze the innovative approach to kinesiology education and investigate the criteria and predictors of innovative education.

Humanity in changing living conditions

Humanity is becoming increasingly aware of the dynamics of the changes in the living conditions that have become the only constant (Findak, 2016). These changes very often benefit the humanity, but changes sometimes come at a cost and they are universal, affecting the entire world equally, therefore it is no coincidence that the General Assembly of the United Nations (2000) intervened with the Millennium Declaration, emphasizing the need for a global partnership, promoting healthy life and sustain-
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able environment, and then updating these global goals for the period until 2030, emphasizing as well the struggle for the environment and quality education (Pavić-Rogošić, 2016). According to the European Environment Agency (2017), the causes of pollution fall into several categories - from burning fossil fuels, industrial processes, agriculture, waste treatment to volcanic eruptions. Accordingly, it was decided that Europe had to do more than what was prescribed by the law. Progress certainly impacts the quality of life and life expectancy because many diseases have been eradicated. However, it is also true that many hitherto unknown diseases have taken their toll in terms of human lives, while cardiovascular diseases remain the main cause of death (Buršić, 2013), and the best way to prevent them is to become more physically active. Namely, one cannot escape the impression that life is becoming more complex day by day, and this is also reflected in the daily obligations of the youngest ones. In the reform of the educational system the focus is still on knowledge, whether theoretical or applied, regardless of the cost. Depression is indeed less common in children, though it is not typical of adults only (Ledić et al., 2019). Unfortunately, the price of national intellectual progress is linked to motor and functional degradation, including motor activity in the broadest sense of the word, the activity to which a person is adapted by his/her body constitution, and it is replaced by virtual hypercognitive reality which has infiltrated itself into basic play activities as well as the real life. The need for an enormous acquisition of knowledge encourages a shift from individualism to egoism by violating health and physical integrity, as well as the moral one. Furthermore, a “better” standard of living carries another risk. The reduction of the amount of work is an axiom and a reader that is familiar with this topic does not need to be convinced about it. Replacing manual work with mechanical one, as well as providing horizontal and vertical transport, which for students implies transport from the doorstep to the classroom, and for employees from the doorstep to their workplace, have become the cause of health risk and a reason for endangering humanity instead of benefiting it (Findak i Prskalo, 2003), given that muscle activity is indisputably associated with the optimum functioning of the human body (Heimer i Sporiš, 2016). If we add to that the reduced exercise time, which according to Hardman (2008) coincides with the decline in physical ability, it is clear that all the preconditions for health degradation are met. Inactivity at a young age becomes a serious risk for mature age (Mišigoj-Duraković i Sorić, 2015), and, as research shows, obesity as the immediate consequence of inactivity and inappropriate diet, becomes an unpleasant lifelong companion (Burke, Milligan, Beilin, Dunbar, Spencer, Balde & Gracey, 1997; Pelemiš, Džinović-Kojić & Živanović, 2018) because blood cholesterol levels, high blood pressure and being overweight in childhood and adolescence continue into adulthood (Heimer, & Sporiš, 2016). For this reason, the World Health Organization (2000) included physical inactivity in the risk factors, apart from hypertension and obesity (Mandić et al., 2019). It can be accepted that “Basic biotic needs, such as the need for clean air, good-quality water, natural food and, of course, adequate muscle activity, are endangered today to such an extent that in recent years we can speak of a serious threat to humans” (Findak i Prskalo, 2003, p. 144). True hypokinesia has occurred. Therefore, the biggest disease of today is the lack of movement and spending time in the open space and in nature (Mandić, Martinović & Pelemiš, 2017).

Kinesiology education as the answer of society

Qualifying education as the most responsible human activity (Rosić, 1999), and kinesiology education as its integral part, should be viewed in the light of the lifelong impact started by the educational system with its obligatory stages. “The foundation of kinesiology education is based on the achievements of its applied discipline and its power to influence the development of society, to influence
health, the systematic development of anthropological characteristics in the broadest sense, the acquisition of kinesiology knowledge and optimized improvement of motor skills” (Prskalo i Babin, 2016, str. 38). Given the risks that modern society imposes on modern man, the social response is only possible through educational institutions and the education system, while institutions and the system must provide the best possible response because when working with the most valuable part of the population - children and youth - only the best answer is actually satisfactory. This social lever must be able to give valid responses today and in future, and very often compensate for, most often bad, former solutions. This response should be aimed primarily at innovating the quantity of movement in the curriculum of the compulsory course Physical and Health Education. The Croatian Association of Kinesiology Methodologists persistently insists on the timetable for this subject as shown in Figure 1 (Prskalo i Babin 2008, str. 36) because the situation is different in other countries of the European Union, especially in the countries outside of it. This opinion is based on the fact that compulsory education is irreplaceable, primarily due to the fact that all students are required to attend compulsory schooling, which currently lasts eight years with a tendency to increase its duration as is the case in some other countries. This would compensate for the reduced amount of movement associated with the modern sedentary lifestyle and all the issues associated with such a lifestyle, very often associated with excessive and poor nutrition (Pavlović et al., 2020). In this way, the previously mentioned obesity conditions associated with the development of other illnesses, especially in later life, would be prevented. In addition, making exercise a daily habit is part of a desirable lifestyle that ensures a happy childhood as well as healthy and productive maturity and active old age.

The reforms taking place in the field of education are a reality, but this reality should be based on scientific achievements that politics should ad-

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**Figure 1.** “Number of kinesiology education lessons per week at all levels of education in Croatia and an estimated minimum number of lessons to meet the education standard in this field” (Prskalo i Babin, 2008, str. 36.)
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here to and implement in the best interest of the citizens through public institutions responsible for the implementation and application of these reforms. These steps certainly include curriculum reform which will begin to yield results only when it becomes a scientific and professional issue, rather than a politically interesting issue. Educational goals in the current curriculum document adopted in the Republic of Croatia in 2019 (Ministarstvo znanosti i obrazovanja, 2019) are as follows: Acquisition of kinesiology theoretical and motor knowledge with the aim of their application in daily physical exercise; Ability to monitor morphological characteristics, motor and functional skills and characteristics of proper posture in order to control, maintain, and improve personal fitness, as well as to independently implement programs aimed at improving motor skills and achievements with an emphasis on physical exercise in nature and other appropriate open and closed premises; Developing a positive attitude towards kinesiology activities, adopting the habit of regular physical exercise in order to improve health and the quality of life, and one more thing that is necessary to emphasize nowadays - Adoption of educational values during physical exercise and their application in everyday life.

In this version of the curriculum, the inadequate term “domain” was abandoned and four educational fields were singled out: Kinesiology theoretical and motor knowledge; Morphological features, motor and functional skills, with an emphasis on the totality of anthropological features which physical exercise has a direct effect on and which a kinesiologist can monitor directly; Motor achievements, and health and education effects of physical exercise” (Prskalo, Badrić & Lorger, 2019, p. 15).

At this point, it is necessary to align the National Curriculum Framework with the National Framework of the Curriculum adopted in 2011 (Ministarstvo, znanosti obrazovanja i športa, 2011), which became the basis for the above-mentioned course curriculum. However, the scientific achievements of the fundamental science of kinesiology and its applied disciplines, especially kinesiology methodology, and the sciences related to kinesiology, are the starting point for the curriculum design, curricular reform, education of the lower elementary school, preschool teachers, and subject teachers. Today there are no, so-called, “pure sciences” because as scientific thought gradually differentiated from philosophy, so today the development of science depends on interdisciplinary and multidisciplinary synergy, and this is manifested in modern kinesiology and its applied disciplines in the best possible way. Ignoring scientific facts, especially related to reforms driven by political rather than realistic motives, could lead, according to Šoljan (2003, str. 24), to the return to the prevailing pattern of the practice from the past in which the system turned pedagogy into its servant.

An effective initial teacher education relying on such foundations implies the acquisition of knowledge from basic education sciences, fundamental science fields, and methodology. Neglecting one of these three essential components prevents the good quality of initial education and the previously mentioned response of society to the challenges of the future. Since a teacher is a person who is able to integrate education fields with a broad initial education and significant versatility, it is difficult to compare him/her with other professionals. On the other hand, teachers should have the opportunity to use vertical teaching and research scientific phenomena in their field of activity. The Bologna framework has ensured the education of elementary and preschool teachers at the highest level, from integrated teacher education, undergraduate and graduate study, to doctoral studies. Similar models of education are present in other European countries and elsewhere in the world, through the system of undergraduate, master’s, and doctoral studies.
Investing in kinesiology education brings multiple benefits

Kinesiology education of a good quality, based on science and adapted to the needs of modern man, has immeasurable benefits, with health certainly being the most important one. An individual’s health is a direct indicator of the physical and mental health of the entire nation and the foundation of the overall social progress. At the time of writing this review, the mankind is facing a major upheaval primarily in terms of basic survival in day-to-day life, and then in the economy of one of the most populous and very promising countries in the world caused by a viral infection. This best shows that all progress means nothing without the health and life of people who that progress should serve and not the other way around, which very often is the case. Moreover, the challenges of the modern society and the environment become the cause of the insufficient physical activity in general, which directly threatens life and health (Findak & Prskalo, 2004). The same source emphasizes the impact of the direct contact with nature on the awareness of space in which the biotic needs for movement are met, resulting in a small step towards specific positive actions. The topics contained in the United Nations Millennium and Global Goals must also include kinesiology and all its applied fields, especially the part related to environmental awareness and exercise-related health (Prskalo, 2018). The biological, economic, cultural, and pedagogical benefits of physical and health education should not be neglected either (Findak, 1999). For all the above-mentioned, investing in education sciences, including applied kinesiology, cannot be viewed as social expense, in the same manner in which scientific and professional papers in this field cannot be viewed as excessive. Science must guide the profession in overcoming problems that are specific to each stage of social development and each stage of civilization.

Conclusion

The imperative response of the society and civilization to changes that are inevitable yet evident, with even clearer and more predictable consequences, must be the best possible one in order to be good enough. Though progress positively impacts the quality of life and longevity, but there is also the fact that cardiovascular diseases, which can be linked to modern living conditions, are the main cause of death in most of the population. Kinesiology education should be viewed in the light of the lifelong impact initiated by the education system with its mandatory stages, as the optimal, well-prepared, scientifically and professionally based response. All reforms should focus on the affirmation of that response, providing it with the necessary time, optimum staff training, and the necessary material conditions. Investing in educational sciences in general and especially in applied kinesiology disciplines cannot be in vain. Educators should be informed about scientific achievements that constantly confirm the benefits of physical exercise in general, and physical and health education in particular.

References

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ИНОВАТИВНА КИНЕЗИОЛОШКА ЕДУКАЦИЈА ‒ КРИТЕРИЈУМ И ПРЕДИКТОР ИНОВАТИВНОГ ВАСПИТАЊА И ОБРАЗОВАЊА

Усклађеност са животним условима јохразумева и усклађивање са све драматичнијим ироменама којима су цивилизација, друштво и народ изложен. Импрерисани одговор друштва и цивилизације на иромене које су неизбежне али очигледне, са још јаснијим и прецизнијим ислегцицима, мора бићи најбољи да би био довољно добар. Треба наймогући да најпредак доноси квалификацију и дуговечност, али је чиненица да се кардиоваскуларне болести могу јохвазити у једном са савременим животним условима, иако је узрок моргалификације који се у интервенионирању не смештавају у свима разумљиви, будући како живимо у времену налаза са уникатним прецизними ислимањима. Тије најпредак би обезбедио да се кинезиолошко образовање налази у свима разумљиви, а јохтак само да би било довољно добар. Треба напоменути да напредак доноси квалитет и дуговечност, али је чиненица да се кардиоваскуларне болести могу повезати управо са савременим животним условима, иако је узрок моргалификације који се у интервенионирању не смештавају у свима разумљив.

Кинезиолошко образовање може осигурати своју историјску одговорност само ако је најбоље, јер мора бићи иновативно, витално и да доводи у питање усклађеност научне теорије и праксе са новим научним достигнућима. Треба ја јохмашерати у светлу целиновој учитељи, заједничкој у образовном сисијему, а њеновим обавезним фасзама, као општим општим и научним, што је прописано одговора. Све реформске иштези јобело би да аку у реформи образовања јохди фамилиарали јохди одговора, пружајући му потребно време, општимо обуку особља и потребне материјале на основу ефекти који, захвалујући савременим и објективним кинезиометријским сисијама, може бићи иновативно упитан и очигледан и свима разумљив. Будући да живимо у време налаза са уникатними нововинама у образовном сисијему, као и реформе наставног плана и програма, које би требало да буду свакогодневне на нивоу јохеденица, а јохом усклађене на нивоу чињеници, овој чланак може осигурати јохицин за ефекти јоховима нововиновом кинезиолошком образовању на комитета нововинови образовни сисијем.

Кинезиолошко образовање може осигурати своју историјску одговорност само ако је најбоље, јер мора бићи иновативно, витално и да доводи у питање усклађеност научне теорије и праксе са новим научним достигнућима. Треба ја јохмашерати у светлу целиновој учитељи, заједничкој у образовном сисијему, а њеновим обавезним фасзама, као општим општим и научним, што је прописано одговора. Све реформске иштези јобело би да аку у реформи образовања јохди фамилиарали јохди одговора, пружајући му потребно време, општимо обуку особља и потребне материјале на основу ефекти који, захвалујући савременим и објективним кинезиометријским сисијама, може бићи иновативно упитан и очигледан и свима разумљив.

У реформи образовног сисијема и даље је акценти на знању, било теоријском или примењеном, без обзира на цену. Према Зденковићу (Zdenković, 2014), од 3% до 5% деце и адолесценција је подложно депресије. Нажалост, цена интелектуалног усавршавања узгајана је у савременом сисијему, а морални интегритет, као и морални интегритет. С обзиром на ризик који савремено друштво ифакт прихвати, друштво вечи одговор могућ је само кроз образовне иновације и образовне сисије, а иновације и сисијем морају
да Јрђе најбољи могући одговор, јер када се ради са највреднијим делом популације – децом и младцем – само најбољи одговор је завршно задовољавајући. Ова друмаштвена Јолуа мора бити у стању да Јрђе важне одговоре данас и сутра, а врло често да компензује Јреходна, као и уштеде лоша, решења. Тада одговор јрђе да има за циљ јрвенсково иновирати квантитативна кретања кроз одговора јрђу паре за обавезни јрёмесеј Физичко и здравствено васпитање у насућном плану и јројаму. Овакво решење ће допринело да се насоку наци смањен удео кретања, који је Јовезан са савременим седентарним начином живота и свим Јрђебима који су Јовезани са њиме, укључујући Јрђерану и неквалификацислу исхрану (Павловић и са., 2020). Тако би се суправила Јреходна наведена стања јојситети Јовезана са развојем болести, јосебе у кастијим периодима живота. Осим Јрђе, сијарање јоизнавне навике – свакодневно вежбање – део је јојелно јачина живота, који однедеђује срећно де- жасије, али и здраву и јроукантивну зрелост и активну јајроност.

Улагање у образовне науке уопште, а јосебе истицање јримењених кинезиолошких дисциплина, не може бити јудићак. Струка јрђе да јрђе научна досвиднућа која сића јако кретања физичкој вежбања генерална, а јосебе физичкој васпитању. Науконе мора бити водич струци у превазилажењу јрђбом који су специфични за сваку фазу друмаштене развоја и сваки корак нареј у цивилизацији.

Кључне речи: кинезиолошки образовање, образовна реформа, кинезиологија, иновације, васпитање и образовање