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ACADEMIC OPPORTUNITIES FOR TALENTED ATHLETES IN SLOVENIAN SECONDARY SCHOOLS

UČNE MOŽNOSTI PERSPEKTIVNIH ŠPORTNIKOV V SLOVENSКИH SREDNJIH ŠOLAH

Abstract

A sample of 86 potentially successful secondary school athletes was analysed to examine how they co-ordinate their academic and sporting commitments. A questionnaire was constructed for the purposes of the research. The collected data were analysed using discriminant analysis, t-tests for independent samples and relevant correlation coefficients. Results showed that Slovenian secondary school athletes are successful in co-ordinating their academic and sporting obligations. Despite their frequent absence from school the overall final school results of athletes do not vary from those of the general population. The pre-announcement of oral exam dates and the tolerance of frequent absence from the academic process are some of the systematic solutions that are most commonly used in schools. Surprisingly, a high proportion of sample does not use any organised special learning assistance, supplementary learning materials or the distance learning via the Internet to fulfil their academic commitments, even when they are available. However results showed that support is needed because there is a negative correlation between the extent of absence from school and the final results of mathematics exams. The analysis furthermore shows that there is a noticeable, yet statistically insignificant influence of absence from the academic process on the overall final school results. Organisationally speaking, the most efficient ways to co-ordinate academic and sporting obligations are offered in special sports classes in gymnasiums.

Key words: education, elite sport, secondary school, co-ordination of obligations, school results, absence from school

Izvleček

Na vzorcu 86-ih perspektivnih športnikov smo analizirali njihovo usklajevanje učnih in športnih obveznosti v srednji šoli. Za namen raziskave smo pripravili vprašalnik, zbrane podatke pa smo analizirali z diskriminantno analizo, t-testom za neodvisne vzorce in ustreznimi koeficienti korelacije. Ugotavljamo, da slovenski dijaki športniki dobro usklajujejo svoje šolske in športne obveznosti. Čeprav so več kot petino ur pouka v šolskem letu odsotni, njihov splošni učni uspeh na maturi ne odstopa od uspeha populacije. Med sistemskimi oblikami pomoči, ki jo ponujajo šole za usklajevanje njihovih obveznosti, najpogosteje koristijo napovedano spraševanje in možnost večje odsotnosti od pouka. Obstaja velik delež dijakov športnikov, ki jim šole nudijo organizirano učno pomoč, pripravo dodatnih učnih gradiv in možnost opravljanja obveznosti prek spleta, vendar je le-ti ne uporabljajo, kar je presenetljivo. Zaradi izjemne odsotnosti številni med njimi takšno pomoč najbolj potrebujejo, saj pri tej skupini športnikov ugotavljamo negativno povezavo med odsotnostjo od pouka in številom točk pri matematiki na maturi, kakor tudi pomemben, vendar ne statistično značilen vpliv na njihov splošni maturitetni uspeh. Ugotavljamo, da je z organizacijskega vidika najlažje uskladiti obveznosti v gimnazijskih športnih oddelkih. V smernicah za nadaljnje delo predlagamo ugotavljanje vzrokov za slabo koriščenje nekaterih pomoči.

Ključne besede: šolanje, vrhunski šport, srednja šola, usklajevanje obveznosti, učni uspeh, odsotnost od pouka

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Introduction

It is difficult to precisely analyse the complexity of achieving a top sports result. Nevertheless, every international sporting achievement requires co-ordination of the sportsman's physical abilities, knowledge and experience of the coach, adequate conditions, scientific findings and careful planning. In most sports the road to success is long and winding and requires systematic training from an early age. Academic life, which is compulsory between the ages of 6 and 15 in most European countries, and sporting life that is optional and voluntary, are thus closely intertwined. Although there are many examples of special care for talented athletes from all over the world, and although official analyses of such programmes have been conducted, the results are often not available to the public and only scarce scientific analysis of the phenomena has been conducted so far.

One of the key elements of the success of young talented athletes is the understanding of their workload in school and sports (Brettschneider, 1999), which demands an efficient organisation of academic and training processes. School and wider society should protect and acknowledge the autonomy of young athletes by offering them all available support.

Various models for co-ordinating academic and sporting obligations have been introduced in Europe to improve young athletes' educational opportunities, guarantee a vocation and subsistence at the end of one's sports career and consequently reduce some of the anomalies of elite sport (Gullich, 2004; Metsa-Tokila, 2002). Some countries (e.g., Poland, Czech Republic) start taking care of the talented athletes at the beginning of their education (Karwacki & Zysko, 2004; Vinduškova & Rus, 2004), but most of the countries focus on the secondary school and university population (e.g., Espwall, 2004; Leiss, 2004; Matsin, 2004; McKenna & Dunston-Lewis, 2004; Metsa-Tokila, 2002; Musso & Mignon, 2004; Olyslager, 2004; Parker & Earle, 2004; Thees, 2004; Wylleman, 2004).

In Slovenia there are some system solutions: legally defined modifications of academic obligations (already in the primary school), the organisation of gymnasiums sports classes,¹ sports schools of national importance² for individual disciplines, subsidised monitoring of suitable training processes, scholarships for talented athletes and super-standard health insurance. It should be emphasised that the educational system for talented young athletes (except the sports schools of national importance for individual sports) in Slovenia is decentralised. The educational system does allow sports talent identification through the system of school sport competitions, as in other European countries (Kirk & Gorely, 2000; Metsa-Tokila, 2002; Gullich, 2004), but it

¹ Small population of Slovenia does not allow the organization of elite sport schools. Instead there are sports classes in gymnasiums (general studies secondary schools). These are classes that include talented young athletes who are involved in a regular sport training process and achieve good results in elite competitions in their categories. Sports classes include athletes from various sports. The training programmes are adapted to individual needs and are supervised by professional trainers. The criteria for enrolment in sports classes are based on sport results and recommendations of the national sport associations as well as the appropriate academic achievement in the primary school that allows pupils to achieve adequate academic standards in gymnasiums.

² Some gymnasiums organise sports classes that include only talented athletes from certain sport (e.g. young football players, basketball players). Such programmes are referred to as sports schools of national importance. They are based on the expertly planned programme adapted to development level of the individual pupil. Trainers are highly qualified professionals and all required facilities, equipment and material resources are available along with the accommodation and nourishment for the athletes.

does not include special talent search programmes.³ In the main, the educational system strives only to ease talented athletes' co-ordination of academic and sporting commitments. Slovenian educational practice has a considerable experience with such co-ordination (Japelj Novak, 1992; Kapelj Gorenc, 1998; Kline Suzič, 1999; Kovač & Strel, 1998; Paulič, 1999; Škataro Perganc, 1992), but all the researches that have been carried out have so far included only athletes from gymnasiums sports classes and not all talented young athletes in higher education.

The primary aim of the research was to analyse the past and present co-ordination of academic and sporting commitments of those secondary school pupils and university students who are presently capable of achieving elite competitive results.

Method

Participants

The research was carried out in September 2003 in co-operation with the Slovenian Olympic Committee (SOC) as part of a scholarship programme for the talented athletes. The criteria for financing (the Statute for scholarships for sportsmen and sportswomen in the Republic of Slovenia, 2003) set very stringent conditions as far as the sporting results are concerned, whereas the academic result is not a criterion for receiving a scholarship. The scholarship can be awarded to the most successful athletes who are still involved in full-time education. These are mostly athletes ranked among the top eight at the Olympic Games, World and European Championships for juniors or younger seniors and at the European Youth Olympic Days (EYOD). 86 out of the invited 124 athletes agreed to participate in the research. There were 65 males and 21 females. The average age of the measured subjects was 19.68 years (SD=2.01 years). They competed in the following sports: track and field (13), rowing (13), handball (12), judo (10), ski jumping (8), basketball (7), swimming (7), sailing (3), alpine skiing (3), cross-country skiing (3), sport climbing (2), acrobatic rock & roll (2), tennis (1), biathlon (1), wild-water kayak (1). The subjects competed from younger junior to senior international levels. Some of them won medals on World Championships for juniors and at EYOD in the last season. The subject with the poorest results occupied 11th place on World Championships for younger juniors and 6th place at EYOD.

Instruments

The prepared questionnaire contained both closed and open answers, depending on the type of question and the functionality of the required information (see Jurak, Kovač, & Strel, 2003b). The questions were structured in line with the existing model of co-ordinating sporting and academic obligations in Slovenia (Kovač, 1999; Kovač & Strel, 1998) and its functioning (Japelj Novak, 1992; Kapelj Gorenc, 1998; Kline Suzič, 1999; Paulič, 1999; Škataro Perganc, 1992). The questions were divided into the following thematic sets: basic data about sportsperson, academic achievements on different educational levels (absence from classes, school's assistance in co-ordination of sporting and academic obligations, final grades), sporting achievements (the best results, training obligations) and health status. The questions were posed as the example below shows in Table 1.

³ Such programmes are common in some former socialist countries.

Table 1: Example of question

	Unavailable in my school	Not used					Often used
	0	1	2	3	4	5	6
<i>Pre-announced oral examination</i>							
<i>Special exam-style assessment of knowledge</i>							
<i>Advancing without having fulfilled all academic obligations</i>							
<i>Organised special learning assistance</i>							
<i>Arranging supplementary learning materials</i>							
<i>Distant learning via the Internet</i>							
<i>Allowed greater absence from school</i>							
<i>Other (fill in):</i>							

On the scale from 0 to 6 indicate your use of various benefits that your school has offered to help you co-ordinate your sporting and academic obligations. The mark 0 means that your school did not offer you any benefits, 1 means that you have not used the existing benefits and 6 means that you very often used the offered benefits. Add any benefits that have been offered by your school but are not listed.

The variables examined in the research are given in Table 2.

Table 2: Variables and their abbreviations

Abbreviation	Variable
mt	Total amount of points achieved in the final exams
mtm	Amount of points achieved in the mathematics final exam
mts _j	Amount of points achieved in the Slovenian language final exam
mtt _j	Amount of points achieved in the foreign language final exam
s_ods _d	Average absence from academic process in days
s_ss	Elite sports status
s_pog	Contract of fulfilling academic and sporting commitments
s_ods	Allowed greater absence from school in order to co-ordinate academic and sporting commitments
s_spr	Pre-announced oral examination in order to co-ordinate academic and sporting commitments
s_izp	Special exam-style assessment of knowledge in order to co-ordinate academic and sporting commitments
s_bob	Advancing without having fulfilled all academic obligations in order to co-ordinate academic and sporting commitments
s_dup	Organised special learning assistance in order to co-ordinate academic and sporting commitments
s_dug	Arranging supplementary learning materials in order to co-ordinate academic and sporting commitments
s_www	Distant learning via the Internet in order to co-ordinate academic and sporting commitments
s_sum_ug	Total amount of offered benefits used in order to co-ordinate academic and sporting commitments

Procedure

Discriminant analysis was used to establish the differences between subdivisions of subjects in terms of selected variables of school support that had been provided to co-ordinate athletes' academic and sporting commitments.

A t-test for independent samples was used to measure the significance of differences in individual variables between various subdivisions of subjects.

Pearson's χ^2 coefficient, Spearman's coefficient of correlation range and Pearson's correlation coefficient were used to calculate the correlations between individual variables according to their characteristics.

Results

The proportion of subjects in regard to gender and level of education is consistent with the number of categorised elite athletes by the SOC (Olimpijski komite Slovenije – Združenje športnih zvez, 2003). The sample of measured subjects represents approximately 11% of all Slovenian categorised athletes who are holders of world, international or potential category. This is expected due to the strict conditions imposed for obtaining the scholarship. The majority of athletes are not included in full-time education, do not achieve the required sports results or have not been included in the scholarship programme at all, due to the enrolment criteria.

The academic achievements of athletes who have been attending secondary school in the last academic year ($n=47$) are distributed normally. In the Slovenian educational system the academic achievements are graded on the scale from 1 (insufficient knowledge) to 5 (excellent knowledge). The average value of included athletes' academic achievement is exactly an average – good academic result, 3 ($SD=.88$). Former secondary school athletes mainly finished their education by taking general final exams (76.3%), which is to be expected considering that most of the secondary school athletes (65.9%) attend gymnasiums.

Table 3: Comparison of final school results between secondary-school athletes and all pupils in the academic year 2002/03

	Overall result	Mathematics	Slovenian language	English language
All pupils	18.40	3.22	3.04	3.32
Athletes	18.21	4.08	3.46	3.81

(from Jurak, Kovač, & Strel, 2003b; Maturitetno letno poročilo 2003, 2004)

The overall results in the final exams range from 10 to 34 points; while the average final result of secondary school athletes included in this research was 18.21 points ($SD=5.05$). A comparison of the 2003 final results of academic achievements of the Slovenian population (Maturitetno letno poročilo 2003, 2004) reveals that the secondary school athletes achieved the average overall results and even above-average results in the compulsory subjects (see Table 3).

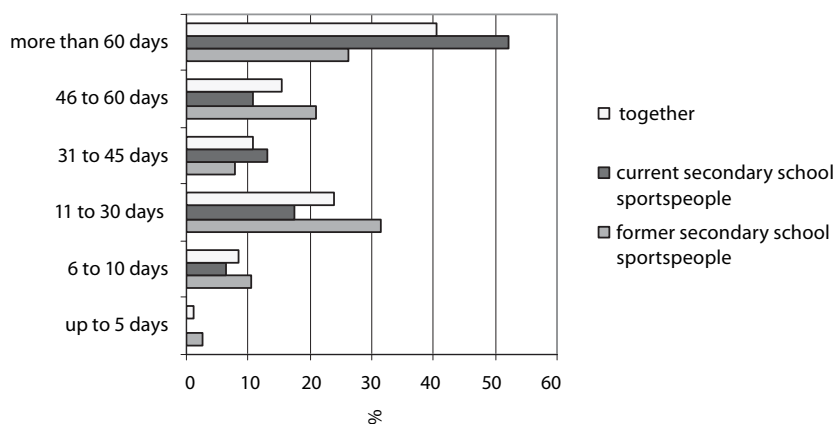


Figure 1: Average absence of secondary school athletes from the academic process (in days) and differences between the former and the current secondary school athletes in terms of absence from academic process

Figure 1 shows that athletes in secondary school tend to be absent from the academic process for more than 60 days per year (see mark *together*). The analysis of correlations between absence from the academic process and final exam results shows a statistically significant correlation only for results in mathematics. The coefficient ($r = -.447$) indicates a negative correlation, meaning that, athletes with a longer absence from the academic process achieve fewer points in the final exam results for mathematics.

Secondary school athletes mainly (89.3%) co-ordinate their academic and sporting commitments by the use of their elite sports status. More than a third ($n=75$ or 38.7%) of athletes with the elite sports status have also signed a contract on fulfilling academic and sporting commitments. Nevertheless, the possession of elite sports status did not have any significant impact on the final results ($p=.203$) in comparison to athletes who were not granted this status.

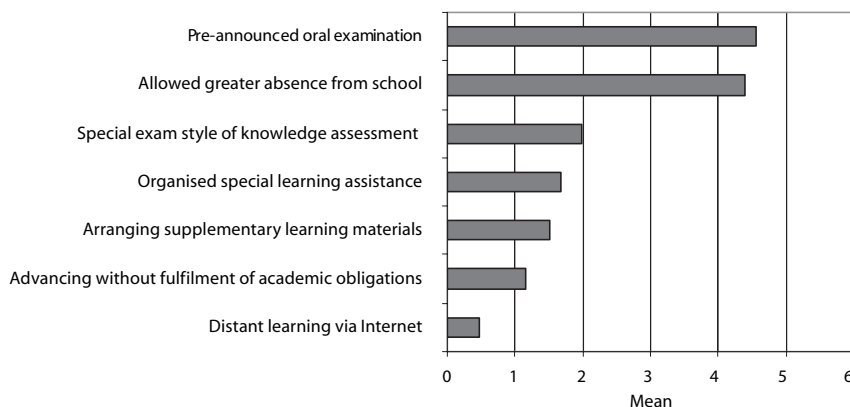


Figure 2: Use of the different types of support offered by schools to athletes in order to co-ordinate their academic and sporting commitments

Athletes were asked to evaluate various types of benefit that had been offered by their schools in order to help them co-ordinate their academic and sporting commitments (see Figure 2). Zero points were given, if a school did not offer a specific benefit, whereas marks 1 to 6 were used to express how often they had used that benefit. One point was given, if they had not used that benefit at all and 6 points, if they had used it very frequently.

A detailed analysis has revealed that a large proportion of schools do not offer certain types of benefit and, furthermore, that many secondary school athletes do not use the benefit offered to them (Jurak, Kovač, & Strel, 2003b). As certain changes in the area of co-ordinating academic and sporting commitments have only happened in the last few years, an analysis of the use of benefit was carried out chronologically in relation to the period of attending secondary school. Subdivisions of current secondary school athletes and former secondary school (i.e. current university) athletes were created.

The results of the discriminant analysis ($\lambda=.281$; can.corr.=.468; Wilks' $\lambda=.781$; $\chi^2=17.186$; $df=7$; $p=.016$) show a difference between the two subdivisions of athletes with reference to the analysed variables of benefit, which help co-ordinate academic and sporting commitments. The discriminant structure matrix shows that formation of the discriminant function is mostly affected by the following variables: *pre-announced oral examination* (.572), *arranging supplementary learning materials* (.538) and *organised special learning assistance* (.511). Values for other variables are: *allowed greater absence from school* (.448), *distant learning via the Internet* (.447), *advancing without having fulfilled all academic obligations* (.352) and *special exam-style assessment of knowledge* (-.050).

Further analysis of individual variables of the types of benefits used to co-ordinate academic and sporting commitments in relation to the period of attending secondary school, revealed that today's secondary school athletes more often use types of benefits which, as a variable, have greater influence on the formation of the discriminant function.

Table 4: Analysis of differences in variables of the types of benefits used to co-ordinate academic and sporting commitments in relation with the period of attending secondary school (current secondary school athletes, former secondary school – current university athletes)

Variable	<i>t</i>	<i>df</i>	<i>Sig. (2-tailed)</i>
<i>S_SPR</i>	-2.536	68.166	0.014
<i>S_Izp</i>	0.096	67.025	0.924
<i>S_BOB</i>	-1.696	75.000	0.094
<i>S_DUP</i>	-2.407	75.000	0.019
<i>S_DUG</i>	-2.436	73.000	0.017
<i>S_WWW</i>	-1.995	75.000	0.050
<i>S_ODS</i>	-2.147	65.833	0.035

Legend:

<i>S_SPR</i>	Pre-announced oral examination in order to co-ordinate academic and sporting commitments
<i>S_Izp</i>	Special exam-style assessment of knowledge in order to co-ordinate academic and sporting commitments
<i>S_BOB</i>	Advancing without having fulfilled all academic obligations in order to co-ordinate academic and sporting commitments
<i>S_DUP</i>	Organised special learning assistance in order to co-ordinate academic and sporting commitments
<i>S_DUG</i>	Arranging supplementary learning materials in order to co-ordinate academic and sporting commitments
<i>S_WWW</i>	Distant learning via the Internet in order to co-ordinate academic and sporting commitments
<i>S_ODS</i>	Allowed greater absence from school in order to co-ordinate academic and sporting commitments

Statistically significant differences can be noticed in the following variables: *pre-announced oral examination*, *supplementary learning materials*, *organised special learning assistance*, *allowed greater absence from school* and *distant learning via the Internet* (see Table 4).

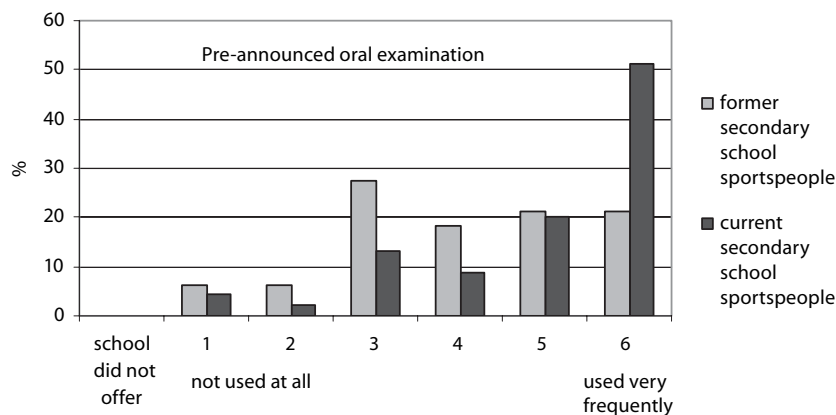


Figure 3: Differences between the former and the current secondary school athletes in the use of pre-announced oral examination as one of the types of benefits used to co-ordinate academic and sporting commitments

Figure 3 shows that schools have for some time offered pre-announced oral examination to all previous secondary school athletes ($M=4.06$; $SD=1.48$). However, the use of this benefit among current secondary school athletes significantly exceeds that of their predecessors ($M=4.91$; $SD=1.44$).

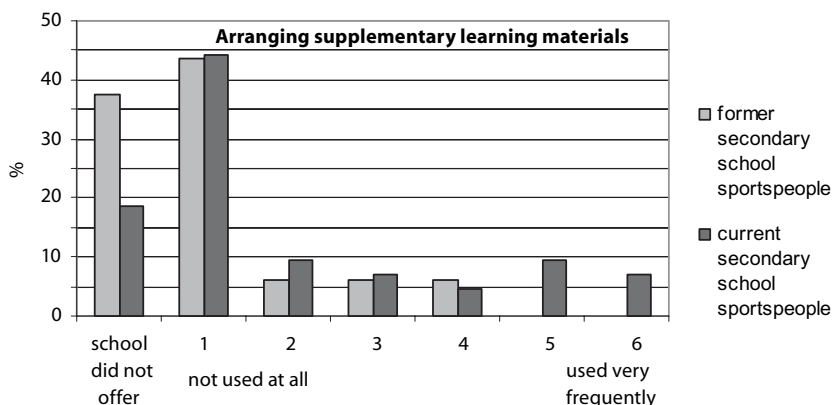


Figure 4: Differences between the former and the current secondary school athletes in the use of supplementary learning materials as one of the types of benefits used to co-ordinate academic and sporting commitments

Figure 4 shows the possibility of using supplementary learning materials as one of the types of benefit offered by secondary schools to athletes in order to co-ordinate their academic and sporting commitments. The biggest difference seen is that currently high schools are offering

athletes this benefit more regularly, however, the proportion of athletes who do not use this benefit, even when it is offered, remains much the same.

Differences in the values of the variable *organised special learning assistance* are very similar to those of the variable *supplementary learning materials*. Nowadays schools more often offer organised special learning assistance, yet a large proportion of secondary school athletes still do not use this type of benefit.

It is noted that more than half of secondary school athletes are absent from the academic process for over two months (see Figure 1). An analysis of the correlation between school support provided to co-ordinate academic and sporting commitments and the absence from academic process reveals a statistically significant correlation with certain variables of school support. The highest correlation is expectedly with *allowed greater absence from school* ($\rho=.639$). At the .01 level of statistical significance there is also a correlation with the variables *total amount of all offered help* ($\rho=.463$) and *organised special learning assistance* ($\rho=.295$). At the .05 level there is a correlation ($\rho=.237$) with the variable *special exam-style assessment of knowledge*.

It can be expected that secondary school athletes with a longer absence from the academic process (more than 60 days a year) also more frequently use other types of benefit offered by their schools. However, testing of the differences between this subdivision of secondary school athletes and other athletes did not in fact reveal any statistically significant differences ($\lambda=.031$; $\text{can.corr.}=.340$; $W\lambda=.884$; $\chi^2=8.604$; $\text{df}=6$; $p=.197$) for the chosen variables (the variable *allowed greater absence from school* was excluded).

It was expected for athletes with the longest absence to have the poorest final exam achievements in secondary school of all. The analysis of differences does not show any statistically significant differences. But it nevertheless shows that athletes, who have been absent from the academic process for more than 60 days have on average 1.839 fewer points (from total 34 points) in their final results. This may present a hindrance when they try to enrol in a university. Foreign languages were the only subjects in which athletes with the longer absences ($M=4.000$ points; $SD=1.309$) achieved more points than other athletes ($M=3.722$ points; $SD=1.018$).

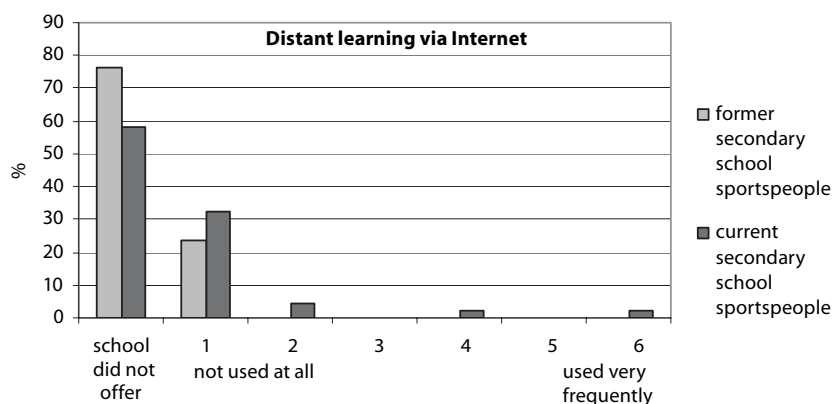


Figure 5: Differences between the former and the current secondary school athletes in the distant learning via the Internet as one of the types of benefits used to co-ordinate academic and sporting commitments

The analysis of differences in the distant learning via the Internet shows that schools today offer this type of benefit more often but the majority of secondary school athletes still do not exploit this advantage.

Discussion

The conclusion that the academic results of secondary school athletes are similar to those of their peers has already been confirmed by other Slovenian authors (Japelj Novak, 1992; Škataro Perganc, 1992). Some researches (Cankar & Žakelj, 1999) showed that the results of the secondary school athletes are slightly below average, but the analysed samples included only special sports classes in gymnasiums and not all athletes who are regularly involved in education.

The above-average results in compulsory subjects of secondary-school final exams can be explained by the characteristics of the secondary school athletes in the academic process. The emphasis in the organised learning help is primarily put on the compulsory subjects that are included in secondary-school final examinations. In addition, the individual approach to work is quite typical for athletes and they also have good working habits compared to regular pupils as a result of their high task or goal orientation (Elbe, Beckmann, & Szymanski 2004; Tušak, 2000). It has been previously established that Slovenian secondary school athletes have better mathematical knowledge than their peers (Japelj Novak, 1992; Kovač, Vintar, & Marčič, 1992; Škataro Perganc, 1992). Better command of foreign languages can also be partly attributed to the fact that athletes tend to use a foreign language more frequently and actively. Additional research could reveal those subjects of the secondary-school final exams in which athletes lag behind other secondary-school pupils.

Figure 1 illustrates the extent of absence from school of the secondary school athletes. Similar values were also obtained from schools' own estimation of their athletes' absence: on average from 78 to 162 academic hours per year, depending on the type of educational programme (Jurak, Kovač, & Strel, 2003a). Similar absence from school – from 20 to 130 days – has also been established in Belgium (Wylleman, 2004). Compared to other Slovenian pupils, athletes exceed them by 10 to 77 academic hours per year (Jurak, Kovač, & Strel, 2003a).

In general, secondary school pupils miss a substantial part of the academic process in ways not authorised by schools. This raises the question whether athletes really need to be absent that much, due to their sporting commitments. The trainers and parents of these athletes could give a more realistic insight into the actual need for such long absences and the underlying reasons. In order to get a more complete insight some other factors that influence the fulfilling of academic commitments and consequently the knowledge of the athletes should also be studied: other obligations that are not linked to school or sport, daily arrangements of obligations, the influence of physical tiredness on learning abilities, the distance of school from home, living in boarding houses during schooling, parents' support etc. According to Elbe and colleagues (2004), athletes living in boarding houses have less sleep and are more physically stressed than athletes living at home.

The negative correlation between absence from the academic process and the results of final exams in mathematics can be explained by a greater need for clarification of this subject compared to the other two compulsory subjects. In comparison to other secondary school athletes, those with the longest absences from the academic process receive less explanation and consequently

show poorer results in mathematics. It can be assumed that athletes who are absent from the academic process for longer periods also achieve poorer results in other subjects that require insight. Schools should in this respect organise learning supports and provide supplementary teaching material specifically for such subjects.

The above assumptions have also been confirmed by findings in practice. Secondary school athletes have greatest problems with natural science subjects (Gajzer, Pišek, & Lenard, 1993; Kline Suzič, 1999) and would thus benefit from additional explanation of the prescribed syllabus. Individual learning hours and organised special learning assistance are most frequently used for these subjects (Kline Suzič, 1999; Paulič, 1999). The above-average final results of secondary school athletes in mathematics, can lead to a conclusion that the majority of athletes exhaustively use this kind of assistance.

Secondary school athletes use the different types of benefits offered by schools to co-ordinate their commitments with varying degrees of regularity, as seen in Figure 2. The five types of benefits that are most frequently used are those benefits that are offered to athletes by schools (Jurak, Kovač, & Strel, 2003a). Similar types of benefits are offered to talented athletes in other European countries as well (Leiss, 2004; Matsin, 2004; Olyslager, 2004; Parker & Earle, 2004; Thees, 2004; Wylleman, 2004) although the educational systems in other European countries organise also other kinds of learning help: dilating curriculum,⁴ lessons at training facilities, lessons shifted to weekends/vacations, fostering family and reduced exam requirements.

Differences in the use of types of benefit by athletes, currently in secondary schools and those who attended them in the past (see Table 3) are to some extent explained by the fact that the majority of schools started to comply with the 1998 Regulation on the Co-ordination of Academic Commitments in the academic year 1999/2000 (Kovač, 1999). Current university athletes had by then already finished secondary school or were well on the way to finishing it. There had been some recommendations prior to the Regulation, but the schools followed them at their own discretion.

The formation of the discriminant function as a result of the influence of the different types of benefit that schools offered in order to co-ordinate their academic and sporting commitments to current and former secondary school athletes can be explained by the increased absences of secondary school athletes compared to previous years (see Figure 1). This should be seen less as a result of change in the demands of training and competition programmes and more as a result of changes in the academic environment which, by offering various benefits, also allow athletes to be absent from the academic process for longer periods. Long absences from the academic process can today be counterbalanced because knowledge can be acquired in many ways: with the use of textbooks and other materials, by distant learning via the Internet, by access to learning materials via the Internet and e-mail. However, two of the most suitable types of benefit – distant learning via the Internet ($p = -.047$) and supplementary learning materials ($p = .222$) – are not among the types of benefit which are significantly correlating with the increased absence. It is noticeable that those secondary school athletes who experience long absences from the academic process often fail to use the available support. According to experience of other European educational

⁴ Prolonging the curriculum; for example from 3 to 4 years. In Norway there is special dilating curriculum for elite sport on national level (Leiss, 2004).

systems (Leiss, 2004; Matsin, 2004) these athletes' academic achievement could benefit from dilating curriculum but lessons at training facilities and lessons shifted to weekends/vacations would be very hard to organise within the Slovenian educational system. All talented athletes are attending public schools together with other pupils which would make the co-ordination of the courses very difficult and expensive.

Some athletes evidently do not experience any difficulties when co-ordinating their sporting commitments and academic life, or they obtain the compulsory studying materials from their friends without any organised help from their school. The findings of the research on attendance at organised special learning assistance by Kline Suzič (1999) lead to the conclusion that this benefit does not reach those pupils who need them the most. This consequently means that this type of benefit is not efficient enough. Today, schools are more active than they were in the past, but their help reaches just a small proportion of secondary school athletes. In order to operate more successfully, schools need to analyse the types and contents of supplementary learning materials according to the learning abilities of athletes and their sporting commitments. It should also be ascertained whether athletes use the out-of-school tuition that demands additional financial resources from either their parents or sports clubs. Schools could prepare individual learning programmes and introduce alternative types of teaching: project work, co-operative learning, empirical learning, learning via the Internet etc.

Similar conclusions can be drawn from the analysis of the distant learning via the Internet. Schools offer this type of assistance more frequently than they did before but the majority of secondary school athletes do not use it despite of the popularity of the medium and their high mobility. Further steps in this area should include the analysis of the different ways in which schools can help their pupils to fulfil commitments via the Internet, and an estimation of how many of these pupils own a computer and have access to the Internet. A previous analysis of the use of such media among the Slovenian pupils indicates that more than 80% of the pupils own a computer and slightly less than half of them also have access to the Internet (Nadoh, 2001). The first steps in this direction were made by the development project of Distance Learning that built the web portal for elite athletes (Mirk, 2005).⁵

As shown by the Slovenian and other European models, all forms of learning assistance and co-ordination of academic and sporting commitments are most conveniently organised in learning groups consisting only of athletes. The comparison between regular classes and classes organised in such way (Brettschneider, 1999) also reveals development of young athletes' positive academic self-concept which may serve as a personal resource in the process of coping with stress that results from the demands of school and training. The growing mobility (also of knowledge transfer) and the possibility to choose various ways of schooling (not only in sport classes) shows the need to develop an open model for co-ordination of academic and sporting commitments that will take into consideration the peculiarities of each individual pupil, involved in sport training.

⁵ Some young elite athletes were granted laptop computers equipped with IPASS software that enables local access to the internet worldwide. Their schools also prepared learning materials for individual programmes, which are available via the Internet.

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