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THE ROLE OF LEADERS IN MANAGING STRATEGIC CHANGE IN WOMEN'S SPORTS IN THE REPUBLIC OF SERBIA

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ABSTRACT

Sense for the strategy is an important element in management. Under this concept it is understood that the top management agrees with the direction in which their organization is trying to go. The basis of the necessity of leadership management lies in the dynamic development of human society today. The leader is one who can lead the organization in today's turbulent environment, because he is the one who can successfully cope with changes. Leadership is based on a vision of how to survive and win in the period of changes. The recent discoveries in the area of development of human values, development of consciousness and functioning of human brain give us valuable insights and tools that can help us get through to the most important drivers of human activities and to use them in a positive way. Innovative leadership is from the crucial importance. Reliable communication and a strong sense of belonging among employees is the basis of sports center prosperity.
It takes knowledge to effectively manage human capital, to attract, develop, keep and reward the right people who will achieve set goals and follow the center strategy. To achieve the best results, it is necessary to attain good level of organization and management of human resources.

Keywords: *management, leadership, change, women's sports, productivity.*

Introduction

Sense for the strategy is an important element in the management. Under this concept it is understood that the top management agrees with the direction in which their organization is trying to go. In a business environment, the basic resources of any organization are the people and their abilities, which contribute to the achievement of organizational goals. Their creativity, innovation, motivation and awareness are the characteristics that make them different from other resources in the company. Because of that, women athletes are the most important resource in the process of creation of additional women's sport values in RS. People acquire gradually more knowledge and information and because of that the human resource management becomes gradually more difficult.

It takes knowledge to effectively manage human capital, to attract, develop, keep and reward the right people who will achieve set goals and follow the strategy of women's sports development in the RS. Personnel management is the most important business activity of each organization. Good organization and management of human resources are necessary to achieve better business results. Definitions of management of human resources are usually based on its function of successful achievement of organizational goals. The basis of the necessity of leadership management lies in the dynamic development of human society today. The whole human knowledge doubles within 2.5 years nowadays. The leader is one who can lead the organization in today's turbulent environment, because he is the one who can successfully cope with changes.

So, leadership and changes are synonyms when we think about business leadership. The key of a good leadership is in the leader's relationship with people wherein his emotional role is primary. While management achieves their plans through organizing, the equivalent of leadership is communication between those who are on their way to achieve their vision. Determination of the direction, management, can be a static feature, because after a direction is determined, it is not necessary for one who has determined the direction, also to be the one who is moving toward the goal. The movement toward a goal, leading, necessarily has a dynamic form, as one that leads toward the goal must be at the forefront of such changes Everyday turbulent changes in environment are a synonym of the need for greater influence of leadership in management.

Theoretical considerations

Human resource management is positioned in the area of leadership and directing people within the organization, and is based on the key categories of organizational behavior such as: motivation, the relationship between individuals and groups, organizational socialization, organizational culture. For the effective management of this resource is necessary to have certain theoretical knowledge as well as specific methods, processes and procedures in order to make use of human capital, i.e. to focus its development. The use and development of human resources should be directed towards the realization of ultimate organization goals, i.e. its development policy and business policy. Human resource is an entity that always exists at the beginning and ending of each business story, because it certainly has long-term consequences for an organization. It is therefore very important, almost essential, to devote enough quality time to the process of selecting the right staff. It is very important to pay enough attention to this process although, as dr. Isak Adizes says: "The selection of people depends on the people themselves, it will never be perfect." The management revolution lunched on the surface of the business world managers who must have power supported by knowledge, abilities and personal characteristics.

The process of multiplying of the new multidisciplinary management knowledge and skills is a dynamic process that provides an autonomous development of each organization. Managers, as the representatives of management and the company, must be able (or trained) to sovereignly manage processes and changes with authority of personality. The changes have become so complex and dynamic that the fate of world order depends largely on their knowledge and skills and their influence on economy and society. Today, ideas are necessary in order to survive on the sports market. The leader is the one who sell an idea. Today, new concepts are needed to bring organization closer to the consumers and strongly connect it with them. The manager's job is to conserve a given concept and to "push out" maximum efficiency within its own framework. Leader destroys current concepts and offer new, often untested, concepts and ideas. There is a need today for an organizational model that can cope with all these changes. This is a high performance organization, with leaders throughout its structure, who think as "winners" and translate attacks from the environment into opportunities and long-term growth and development on the sports market.

Problem, subject and purpose

The aim of human resource management is the creation of scientific assumptions, methods and procedures for realizing and synchronization of individual and organizational goals. Human resource management, in the age we live in, will be the imperative of survival of an organization. Today, many people, if they have enough money, can buy certain technology and start producing, but a market advantage over competition and long-term survival on the market, could be achieved only if organization has qualified people, capable to quickly, easily and effectively solve problems. One of the most important factors of successful businesses is human resources, i.e. high-quality and professional staff. This fact, of course, implies the need for constant improvement of the overall system of knowledge. Improvement is reflected in the implementation of internal and external staff training, professional development, funding of further education or informing employees about development in various professional areas, by providing a presence at seminars in the field of sport management. This encourages employees to follow the innovations in the profession, as well as the ongoing changes and developments in the field, which reflects positively on the quality of work.

In order to achieve certain goals in the organization, human resource management must meet certain requirements, which will improve the work of employees and their greater productivity in the organization. By the satisfaction and fulfillment of all requirements of basic and most valuable resource in a company, we achieve objectives we pursue. If the human resources management is unable to manage the human resources, that might affect business, profit and - in the worst scenario

- survival of the organization.

The main objective of human resource management is to achieve the following objectives:

• ***Functional purpose*** - human resource management function is to contribute to the organization as long as it takes to achieve its goals and carry out its strategy. This would mean that resources should be used as rational and efficient as possible in achieving organizational goals.

• ***The organizational goal*** - as already noted, the most important factor for the organization is human resource, therefore, there is a need for improvement of efficiency and employees motivation, in the best way possible, by which the objectives of the organization will be achieved.

• ***The social goal*** - in everyday human relations social norms and values are important in achieving good communication. Being ethical and socially responsible to the needs and challenges of society and minimize the negative impacts of these demands on the business organization is also one of the important goals, not only for human resources management, but management as a whole.

• ***Personal goal*** - employees' satisfaction is of the most importance for any organization, but it is not enough to satisfy employees only in the business sense, it's necessary to assist them in achieving their personal goals. Only in this way it may be possible to gain their trust, and staff will be happy and motivated to develop themselves and to give personal contribution to the organization.

Each of these goals has a significant impact on human resources management, improving the effectiveness of the organization.

Creativity and innovation have become indispensable components of business management, and they contributed to the increasingly important role of research and development. Human resources management strategy should also contribute to creativity of employees and innovation tactics should enable the implementation of the new ideas. A key feature is that the modernization of business requires new kind of knowledge and new professions that involve a high level of education and training. Individuals have to be ready for training in order to adapt to the changes and keep their jobs.

When we think about motivation and reward systems, there is a question to be asked: if everything is unique and specific, is there anything that could be taken as a starting point, as a reference point in relation to which a model could be set? The answers to these questions are, fortunately, positive.

Leadership style is the way to establish relations between leaders and staff, or the manner in which leader directs the behavior of their subordinates and the means used to attract them or induce desired behavior. The basic criteria to distinguish the styles are: leaders' approach to the motivation of subordinates - compulsion or encouragement, the manner in which the leader makes decisions, sources of power used to influence subordinates, the leader's ability to adapt his/her behavior to different situations. Using these criteria, we can distinguish classical and contemporary styles of leadership. Iowa and Hawthorne studies are the pioneering leadership studies.

These studies have examined the impact of three leadership styles - autocratic, democratic and liberal - on the behavior and performance. Ohio studies are the first interdisciplinary leadership studies based on the psychologists', sociologists' and economists' team work. The concept of "network management" is based on the conclusion of these studies. This network has two dimensions: concern for people and concern for production. With higher score on the horizontal axis, that represents concern for production, leaders demonstrate that they are task-oriented, while with progress on the vertical axis, that represents concern for people, leaders demonstrate a higher degree of concern for staff.

Managerial Grid has proven in practice as a good way to test leaders, because they show that employee satisfaction is as important as the achieved productivity.

Hypothetical tasks

Based on the subject, objective and task of research, as well as the usage of appropriate literature, the following hypothetical tasks were defined:

H1 - There are significant differences between female athletes, regarding the socio-psychological factors

H2 - There is a statistically significant difference between female athletes, regarding the emotional competence

H3 - There is a statistically significant difference among female athletes regarding the achievement motive

H4 - The readiness of female athletes to further education after the end of their careers.

The applied methodology

We know that there is a kernel of common human traits that, in a free interpretation, can be called "human nature". If you violate the essence of human nature by making models and systems that rely on the artificial rather than the natural human needs, it will not be possible to achieve successful long-term management, because sooner or later, the conscious or unconscious "rebellion" will emerge from within - from the very essence of the human nature. Human values and meaning of human life are connected with that kernel. The recent discoveries in the area of development of human values, development of consciousness and functioning of human brain give us valuable insights and tools that can help us get through to the most important drivers of human activities and to use them in a positive way.

As a result of that, we can analyze with great certainty the requirements for specific positions and characteristics of the individuals who work on these positions.

Four polls included:

1) Poll, which is labeled A is:

Emotional competence in establishing relationships with other people;

2) Poll, which is labeled P is:

The achievement motive;

3) Poll, which is called the UP:

The scale for testing the general attitude toward the changes;

4) Poll, which is labeled ED is:

The scale for testing attitude toward the practice of education.

Interpretation of research results or research results and discussion

A key factor in business success of any organization is motivated, competent and flexible staff who are satisfied with the direction of business activities realization, company business culture and manner of management.

5.1 Results and Discussion

5.2 The number (n) and percentage (%) of tested women regarding emotional competence in establishing relationships with other people

	not competent	**moderately competent**	**competent**
n	**49.**	**200.**	**63.**
%	**15.71**	**64.10**	**20.19**

5.3 The number (n) and percentage (%),of tested women regarding the achievement motive

	without motive	**moderately motivated**	**motivated**
n	**27.**	**195.**	**90.**
%	**8.65**	**62.50**	**28.85**

Conclusion

The process of multiplying of the new multidisciplinary management knowledge and skills is a dynamic process that provides an autonomous development of each individual. Leadership is important not only because of our personal careers and the organizations in which we work, but also because of the further progress of society, and further development of the sport. We need leaders who will unite us with their energy and lead us toward the progress of the human society. The changes have become so complex and dynamic than that the fate of the world order depends largely on their knowledge and skills and their acting in the economy and society. Human resource is an entity that always exists at the beginning and ending of each business story, because it certainly has long-term consequences for an organization. It is therefore very important, almost essential, to devote enough quality time to the process of selecting the right staff. The recent discoveries in the area of development of human values, development of consciousness and functioning of human brain give us valuable insights and tools that can help us get through to the most important drivers of human activities and to use them in a positive way. People are different and each of their personality and character type should be regarded as constant. There is no reason for a leader to change people, on the contrary: these differences are the advantages for them, not disadvantages. The leader is the one who builds a team atmosphere on advantages, not on the weaknesses of people. He will thus use talents of people, especially those that he doesn't have. The concept of teamwork is becoming gradually more popular because it dramatically increases the productivity of the organization by achieving synergy and integrating knowledge of all individuals involved in the team. But, successful teamwork is feasible only in those organizations with the democratic atmosphere, respect for diversity, esteem, solidarity, flexibility, delegation of responsibilities and competency of employees. These performances heavily depend on management style, although the employees and their ability to co-operate and function in the team also have influence in this matter. The golden rule of leadership is that a leader should treat people the way he wants to be treated and with this concept this rule is fully respected. As a result of that, we can analyze with great certainty the requirements for specific positions and characteristics of the individuals who work on these positions. Women in sport in RS should get, as much as possible, educated, encouraged and motivated for the work.

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ULOGA LIDERA U UPRAVLJANJU STRATEŠKIM PROMENAMA U ŽENSKOM SPORTU REPUBLIKE SRBIJE

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APSTRAKT

Osećaj za strategiju je vazan element u rukovođenju. Pod tim osećajem podrazumeva se da se top menadzment slaže sa pravcem kojim njihova organizacija pokušava da se usmeri.

Osnova neophodnosti liderskog upravljanja leži u dinamičkom razvoju današnjeg ljudskog društva. Lider je onaj koji može da vodi organizaciju u današnjem turbulentnom okruženju, jer je on onaj koji može da se uspešno nosi sa promenama. Liderstvo počiva na viziji kako preživeti i pobediti u promenama. Najnovija saznanja u oblasti razvoja ljudskih vrednosti, razvoja svesti i funkcionisanja ljudskog mozga nam pružaju dragocene uvide i alate pomoću kojih možemo da proniknemo u najvažnije pokretače ljudskih aktivnosti i da ih upotrebimo u pozitivnom smislu. Inovativnost rukovodstva je od ključnog značaja. Pouzdane komunikacije i čvrst osećaj pripadanja među zaposlenima predstavljaju osnov prosperiteta sportskog centra.

Potrebno je znanje kako uspešno upravljati ljudskim kapitalom, kako pridobiti, razviti, zadržati i nagraditi prave ljude koji će ostvariti postavljene ciljeve i slediti strategiju centra. Da bi postigli najbolje rezultate poslovanja, neophodno je dobro organizovanje i upravljanje ljudskim resursima.

Ključne reči: *menadžment, liderstvo, promena,ženski sport,produktivnost.*

UVOD

Osećaj za strategiju je važan element u rukovođenju, pod tim osećajem podrazumeva se da se top menadžment slaže sa pravcem kojim njihova organizacija pokušava da se usmeri. U poslovnom okruženju osnovni resurs svake organizacije čine ljudi i njihove sposobnosti, kojima doprinose ostvarenju organizacionih ciljeva. Njihova kreativnost, inovativnost, motivisanost, informisanost, osobine su koje ih čine drugačijim od ostalih resursa u preduzeću. Prema tome, spotistkinje predstavljaju najvažniji resurs u kreiranju dodatnih vredosti ženskog sporta RS. Ljudi poseduju sve više znanja i informacija pa je i upravljanje ljudkim resursima sve teže. Potrebno je znanje kako uspešno upravljati ljudskim kapitalom, kako pridobiti, razviti, zadržati i nagraditi prave ljude koji će postići postavljene ciljeve i slediti strategiju razvoja ženskog sporta u RS. Kvalitetno upravljanje ljudskim resursima je najznačajnija poslovna aktivnost svake oragnizacije.Da bi postigli što bolje rezultate poslovanja, neophodno je dobro organizovanje i upravljanje ljudskim resursima.Konkretne definicije se uglavnom baziraju na njegovoj funkciji upravljanja ljudskim resursima radi uspešnijeg ostvarenja organizacionih ciljeva. Osnova neophodnosti liderskog upravljanja leži u dinamičkom razvoju današnjeg ljudskog društva. Celokupno ljudsko saznanje danas se duplira u roku od 2,5 godine. Lider je onaj koji može da vodi organizaciju u današnjem turbulentom okruženju, jer je on onaj koji može da se uspešno nosi sa promenama.

Znači, liderstvo i promene su sinonimi kada razmišljamo o poslovnom liderstvu. Kjuč dobrog lidera je u odnosu prema ljudima, emocionalna uloga lidera je primarna. Dok menadžment ostvaruje planove organizovanjem, ekvivalent u liderstvu je komunikacija između onih koji se nalaze na putu ostvarivanja svoje vizije. Određivanje pravca, upravljanje, može da bude statička osobina, jer po određivanju pravca nije neophodno da onaj koji je odredio pravac nužno bude u pokretu ka cilju. Kretanje ka cilju, vođenje, nužno ima dinamičku formu, jer onaj koji vodi ka cilju mora da bude na čelu takve promene. Današnje svakodnevne turbulentne promene u okruženju su sinonim neophodnosti većeg upliva liderstva u upravljanju.

Teorijska razmatranja

Upravljanje ljudskim resursima se pozicionira u sferi vođenja, odnosno usmeravanja ljudi u organizaciji, a zasniva se na ključnim kategorijama organizacionog ponašanja kao što su: motivisanje, odnosi pojedinaca i grupa, organizaciona socijalizacija, organizaciona kultura. Za efikasno upravljanje ovim resursom neophodna su određena teorijska znanja, kao i specifične metode, procesi i postupci da bi se ljudski potencijal iskoristio, odnosno, da bi se usmerio njegov razvoj. Upotreba i razvoj ljudskih resursa treba da budu usmereni ka realizaciji krajnjih ciljeva organizacije, tj. njegove razvojne i poslovne politike. Ljudski resurs je entitet koji se nalazi uvek na početku i na kraju svake poslovne priče, jer on svakako ima najdugoročnije posledice po jednu organizaciju. Stoga je vrlo važno, gotovo esencijalno, odabiru pravih saradnika posvetiti dovoljno i kvalitetno vreme. Vrlo je važno samom procesu izbora posvetiti dovoljno pažnje iako, kako dr. Isak Adižes kaže: "Izbor ljudi zavisi od samih ljudi, on nikada neće biti savršen". Menadžment revolucija je na površinu poslovnog sveta izbacila menadžere koji moraju imati moć podržanu znanjima, sposobnostima i ličnim osobinama. Proces umnožavanja novih multidisciplinarnih menadžment znanja i sposobnosti dinamičan je proces koji obezbeđuje autonoman razvitak svake organizacije. Menadžeri kao reprezenti menadžmenta i kompanije, moraju biti sposobni (ili osposobljeni) da bi suvereno i autoritetom ličnosti upravljali promenama i procesima. Promene su postale toliko složene i dinamične da od njihovih znanja i sposobnosti i njihovog dejstva u privredi i društvu uveliko zavisi sudbina svetskog poretka. Danas su potrebne ideje da bi se opstalo na sportskom tržištu. Lider je taj koji prodaje ideju. Danas su potrebni novi koncepti da bi se organizacija približila i čvršće povezala sa potrošačima. Menadžerov zadatak je da konzervira zadati koncept i da u njegovim okvirima "isteruje" maksimalnu efikasnost, lider ruši važeće koncepte i nudi nove, često i neproverene, koncepte i ideje. Danas je potreban organizacioni model koji može da se nosi sa svim tim promenama. To je organizacija visokih performansi, sa liderima u celoj njenoj strukturi koji razmišljaju pobednički i koji napade iz okruženja prevode u šanse i dugoročan rast i razvoj na sportskom tržištu.

Problem, predmet i cilj

Cilj upravljanja ljudskim resursima je stvaranje naučnih pretpostavki, metoda i postupaka u realizovanju i usaglašavanju induvidualnih i organizacionih ciljeva. Upravljanje ljudskim resursima, u veku u kom živimo, predstavljaće, imperativ opstanka jedne organizacije. Danas, veliki broj ljudi, ukoliko ima dovoljno novca, može da kupi tehnologiju i otpočne proizvodnju, ali tržišnu prednost u odnosu na konkurentske organizacije i dugoročni opstanak na tržištu, moći će da ostvari samo ukoliko bude imao kvalitetne ljude, sposobne da brzo, lako i efikasno reše probleme. Jedan od najznačajnijih faktora uspešnog poslovanja su svakako ljudski resursi, odnosno, kvalitetan i stručan kadar. Ova činjenica, naravno, implicira potrebu za stalnim unapređenjem celokupnog sistema znanja. Unapređenje se ogleda kroz sprovođenje internih i ekstrenih obuka zaposlenih, stručno usavršavanje, finansiranje daljeg obrazovanja ili informisanje zaposlenih na polju struke, obezbeđivanjem prisustva na seminarima iz oblasti menadžmenta u sportu. Time se zaposleni podstiču da prate inovacije u struci, kao i aktuelne promene i dešavanja u istoj, što se pozitivno odražava na kvalitet rada.

Kako bi postigli određene ciljeve u organizaciji, menadžment ljudskih resursa mora da ispuni određene zahteve, koji će uticati na poboljšanje rada zaposlenih a samim tim i njihovu veću produktivnost u organizaciji. Kroz to zadovoljenje i ispunjenje zahteva osnovnog i najvrednijeg resursa u preduzeću, dolazimo do ispunjenja ciljeva, kojima se teži. Ukoliko menadžment ljudskih resursa nije u stanju da upravlja ljudskim resursima to može da utiče na poslovanje, kao i profit i u najgorem slučaju opstanak te organizacije.

Osnovni cilj upravljanja ljudskim resursima je ostvarivanje sledećih ciljeva:

Funkcionalni cilj - funkcija upravljanja ljudskim resursima jeste da doprinosi organizaciji onoliko koliko je potrebno da bi ona ostvarila svoje ciljeve i realizovala organizacionu strategiju. To bi značilo da resursi treba što racionalnije i efikasnije da se koriste, u ostvarenju organizacionih ciljeva.

Organizacioni cilj - kao što smo već istakli, za organizaciju najbitniji faktor je ljudski resurs, prema tome treba da poboljšamo efikasnost i da motivišemo zaposlene na što bolji način i time ćemo ispuniti ciljeve organizacije.

Društveni cilj - u svakodnevnim ljudskim odnosima društvene norme i sistemi vrednosti su veoma važni u ostvarivanju dobre komunikacije. Biti etički i društveno odgovoran prema potrebama i izazovima društva i minimizirati negativne uticaje tih zahteva na poslovne organizacije je takođe jedan od značajnih ciljeva, ne samo za upravljanja ljudskim resursima, već menadžmenta u celini.

Lični cilj - zadovoljenje zaposlenih je najznačajnije za svaku organizaciju, ali nije dovoljno zadovoljiti zaposlene samo u poslovnom smislu, neophodno je pomagati im u ostvarenju njihovih ličnih ciljeva. Samo na taj način može se zadobiti njihovo poverenje, a zaposleni će biti zadovoljni i motivisani za napredak i lični doprinos organizaciji.

Svaki od navedenih ciljeva bitno utiče na upravljanje ljudskim resursima čime se poboljšava uspešnost organizacije.

Kreativnost i inovativnost su postale nezaobilazne komponente upravljanja preduzećem, i doprinele su povećanju uloge istraživanja i razvoja. Strategije menadžmenta ljudskih resursa takođe treba da doprinesu kreativnosti zaposlenih, a taktike za inovacije da omoguće primenu novih ideja. Ključna karakteristika je da modernizacija poslovanja zahteva nova znanja i nove profesije koje podrazumevaju visok nivo obrazovanja i obuke. Individualci moraju biti spremni na usavršavanja kako bi se prilagodili promenama i zadržali svoja radna mesta.

Kada razmišljamo o motivaciji i sistemima nagrađivanja postavlja se jedno uobičajeno pitanje: ako je sve jedinstveno i specifično ima li ičega što je slično ? Da li možemo nešto da uzmemo kao polaznu osnovu, kao reper u odnosu na koji postavljamo neki model ? Odgovori na ova pitanja su, na sreću potvrdni.

Stil liderstva je način na koji se uspostavljaju odnosi između lidera i saradnika, odnosno način na koji lider usmerava ponašanje podređenih i sredstva koja koristi da ih pridobije ili privoli na željeno ponašanje. Bazični kriterijumi po kojima razlikujemo stilove su: pristup lidera motivisanju podređenih - prinuda ili podsticaj, način na koji lider donosi odluke, izvori moći koje koristi da ostvari uticaj na podređene, sposobnost lidera da prilagodi svoje ponašanje različitim situacijama. Na osnovu ovih kriterijuma razlikujemo: klasične stilove i savremene stilove liderstva. Pionirske studije o liderstvu su Hotorn i Ajova studije. Ove studije su ispitivale uticaj tri stila liderstva na ponašanje i performanse, i to: autokratsko,demokratsko i liberalno. Ohajo studije su prve interdisciplinarne studije liderstva zasnovane na timskom radu psihologa, sociologa i ekonomista. Na zaključcima ovih studija bazira se koncept "menadžerske mreže". Mreža ima dve dimenzije: briga za ljude i briga za proizvodnju. Sa napredovanjem na horizontalnoj osi, gde je predstavljena briga za proizvodnju, lideri pokazuju da su orijentisani na zadatak, dok napredovanjem na vertikalnoj osi, gde je predstavljena briga za ljude, lideri pokazuju da poseduju veći stepen brige za ljudstvo.

Menadžerska mreža se dokazala u praksi kao dobar način testiranja lidera, jer im pokazuje da je zadovoljstvo zaposlenih isto toliko važno kao i postignuta produktivnost.

Hipotetski zadaci

Na osnovu predmeta, cilja i zadatka istraživanja, kao i korišćenja adekvatne literature definisani su sledeće hipotetski zadaci:

H1 - Postoji statistički značajna razlika između ispitanica po sociopsihološkim faktorima

H2 - Postoji statistički značajna razlika po emocionalnoj kompetentnosti sportistkinja

H3 - Po motivu postignuća postoji statistički značajna razlika među sportistkinjama

H4 - Spremnost sportistkinja na dalju edukaciju nakon završetka karijere

Primenjena metodologija

Kada su u pitanju ljudi, znamo da postoji jezgro zajedničkih ljudskih osobina koje u slobodnijoj interpretaciji možemo nazvati "ljudska priroda". Ako se ogrešimo o suštinu ljudske prirode praveći modele i sisteme koji se oslanjaju na veštačke, a ne na prirodne ljudske potrebe, nećemo moći uspešno da upravljamo na dugi rok, jer pre ili kasnije dolazi do svesne ili nesvesne "pobune" iznutra - iz same biti naše prirode. Ljudske vrednosti i smisao ljudskog života povezani su sa tim jezgrom. Isto tako, najnovija saznanja u oblasti razvoja ljudskih vrednosti, razvoja svesti i funkcionisanja ljudskog mozga nam pružaju dragocene uvide i alate pomoću kojih možemo da proniknemo u najvažnije pokretače ljudskih aktivnosti i da ih upotrebimo u pozitivnom smislu. Zahvaljujući tome možemo sa dosta velikom pouzdanošću da analiziramo specifične zahteve radnih mesta i karakteristike pojedinaca koji na njima rade.

Četiri ankete su obuhvaćene:

1)Anketa koja nosi oznaku A je:

Emocionalna kompetentnost kod uspostavljanja odnosa sa drugim ljudima

2)Anketa koja nosi oznaku P je :

Motiv postignuća

3)Anketa koja nosi naziv UP je:

Skala za ispitivanje opšteg stava prema promenama

4) Anketa koja nosi oznaku ED je:

Skala za ispitivanje stava o praksi edukacije

Interpretacija rezultata istraživanja ili rezultati istraživanja i diskusija

Ključni faktor poslovnog uspeha svake organizacije je motivisano, kompetentno i fleksibilno osoblje koje je zadovoljno pravcem kojim se realizuju poslovne aktivnosti, poslovnom kulturom u organizaciji i načinom upravljanja.

5.1 Rezultati i diskusija

5.2 Brojčana (n) i procentualna (%), zastupljenost ispitanica u emocionalnoj kompetentnosti kod uspostavljanja odnosa sa drugim ljudima

	nije kompetentan	**umereno kompetentan**	**kompetentan**
n	**49.**	**200.**	**63.**
%	**15.71**	**64.10**	**20.19**

5.3 Brojčana (n) i procentualna (%), zastupljenosti ispitanica kod motiva postignuća

	bez motiva	**umeren motiva**	**motivisan**
n	**27.**	**195.**	**90.**
%	**8.65**	**62.50**	**28.85**

ZAKLJUČAK

Proces umnožavanja novih multidisciplinarnih menadžment znanja i sposobnosti dinamičan je proces koji obezbeđuje autonoman razvitak svakog pojedinca. Liderstvo je važno ne samo zbog naših ličnih karijera i organizacija u kojima radimo nego zbog daljeg napretka društva pa i daljeg razvoja sporta. Potrebni su nam lideri koji će nas svojom energijom ujediniti na putu progresa ljudskog društva. Promene su postale toliko složene i dinamične da od njihovih znanja i sposobnosti i njihovog dejstva u privredi i društvu uveliko zavisi sudbina svetskog poretka. Ljudski resurs je entitet koji se nalazi uvek na početku i na kraju svake poslovne priče, jer on svakako ima najdugoročnije posledice po jednu organizaciju. Stoga je vrlo važno, gotovo esencijalno, odabiru pravih saradnika posvetiti dovoljno i kvalitetno vreme. Najnovija saznanja u oblasti razvoja ljudskih vrednosti, razvoja svesti i funkcionisanja ljudskog mozga nam pružaju dragocene uvide i alate pomoću kojih možemo da proniknemo u najvažnije pokretače ljudskih aktivnosti i da ih upotrebimo u pozitivnom smislu. Ljudi su međusobno drugačiji i njihov tip ličnosti i karakter treba da se posmatra kao konstanta. Za lidere ne postoji razlog da žele da menjaju ljude, naprotiv, ove razlike su za njih prednosti, ne mane. Lider je taj koji gradi klimu u timu na prednostima, a ne na slabostima ljudi. On će na taj način koristititi talente ljudi u potpunosti, posebno one koje on nema. Sve aktuelniji pojam timskog rada koji drastično dovodi do povećanja produktivnosti organizacije postižući sinergetski efekat i integrisući znanja svih pojedinaca angažovanih u timu.Ali uspešan timski rad je izvodljiv samo u onim organizacijama u kojima vlada demokratska klima, poštovanje različitosti, uvažavanje, solidarnost, fleksibilnost, veoma zastupljeno delegiranje odgovornosti i kompetencija zaposlenih. Navedene performanse u ogromnoj meri zavise od stila rukovođenja, mada i od zaposlenih i njihove sposobnosti saradnje i funkcionisanja u timu. Zlatno pravilo liderstva je da lider treba da tretira ljude onako kako oni žele da budu tretirani i ono se ovim konceptom u potpunosti poštuje. Zahvaljujući tome možemo sa dosta velikom pouzdanošću da analiziramo specifične zahteve i karakteristike pojedinaca koji na njima rade. Treba u što vecem broju žene u sportu RS edukovati, podsticati i motivisati za rad.

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CHAMPION BASED ON COMPARISON OF A HANDBALL PLAYER AND A TENNIS PLAYER

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ABSTRACT

Similarity between handball goalkeeper and tennis player is that training starts rather early, and the process of creation lasts for about 10 years. Essentially, similarity lies in individual training. The highest similarity occurs in a competition where the highest prospects of success are governed by individual performances. Accordingly, sports science is directed towards training methods. In sports sciences all champions are presented according to a champion model for a particular discipline, whereas all talents are presented according to the talent model for that discipline. Statistically speaking, champions and talents all have the same structural factor, but it is gradually developed in a champion and that it is still is not developed in a talent.

Key words: sports habit, tennis, handball keeper.

1. Basic ball handling abilities

1.1. Speed

Speed is the ability to, based on cognitive processes, maximum determination and functionality of muscularity, achieve the highest possible speed of reaction or movement, at the given time. Even though the maximum speeds are rarely achieved in sports, the correct techniques of running and speed-trainings will enhance every kind of speed, necessary in sports.

Some authors believe that an athlete's speed cannot be improved, but instead the reserves for achieving higher speeds, exist already. To improve the maximum speed, a lot of effort is required. It's the running technique which by its own improvement, results in a higher speed. Under the technique of running, we assume the biomechanics of the motion, correct running mechanics, the pace length and frequency, correct position of hips, shoulders and legs.

1.2. Agility

Agility can be defined as the ability to quickly and effectively move the body, in terms of sudden stopping and changing the direction of movement. Some authors quote different definitions of agility, such as Pearson (2001.) - defines agility as the ability to change the direction of movement without losing balance, speed, power or movement control. According to Verstegen and Marcello (2001.) these are the factors that influence agility: speed, power, coordination, joints' mobility, dynamic balance, development of according energy resources, stability of the locomotion system, and biomechanical optimum structure of movement.

When exercising agility, its very important to understand the patterns of movement common for each sport. Then we come up with exercises which enhance these abilities. That includes the given movements executed in sport, dissolutioning the given movement into different sections and the basic movement which emphasizes the skill. Key words, regarding exercising agility, are body awareness and control, preparation for execution of exercise, reaction, change of direction and leg work. An example of these exercises, includes the usage of agility ladders which are used to develop faster leg work with exercises for changing direction.

Mastering agility requires a combination of balance, speed, coordination and power. Balance positions in yoga, are also a good way to improve this ability.

All exercises require good general physical condition. Without the adequate strength of leg muscles, the quality of any movement is quite limited. Executing power-exercises 2-3 times per week is recommended for the development and maintenance of muscle mass. Agility can be divided into frontal, horizontal, vertical, and lateral.

1.3. Explosiveness

An athlete's success is largely dependant on the speed of his reactions. It's said about this trait also, that it is genetically assumed and that it cannot be affected. That is completely wrong. Exercise brings closer to the perfect performance of a task. The sooner the task is learned, the sooner we're able to concentrate on improving the performance while doing it. The genetics factor is largely of matter, however many biomechanical skills are dependant on explosiveness which can be improved. When discussing explosiveness, we should mention speed, acceleration or agility. One of the definitions of explosiveness is "to quickly react to stimulation". So, explosiveness is tied to speed, time and reaction. Time of reaction, to simpler or complex situations, is ever present in sports. Sometimes it is the judging factor, and can certainly be improved by training.

It's important to state that improving explosiveness has the most affect on improvement of speed, acceleration and the time of reaction.

Tennis is classified under acyclic group of sports (gymnastics, wrestling, boxing, ball sports) because each movement is followed by another which is different to the previous one, unlike cyclic sports (running, cycling, rowing) where certain movements are repetitive, and mixed (long jump, high jump) where a cyclic part is present (running) and acyclic (the jump). In tennis, the mixture of components is also present, but to a lesser extent: for example running to meet a short shot (cyclic), and the hit (acyclic).

The type of competition (individual, group): tennis is an individual sport (boxing, fencing) because the match is held between two contestants unlike group sports (football, handball) where opposite teams of players compete. By the amount and kind of contact: different kinds of contact, no contact.

In tennis, there is no contact between the competitors (table tennis, volleyball) unlike sports where contact does occur (water polo, handball) and in some sports the contact is essential to the sport itself (wrestling, boxing, judo).

Tennis is played with a racquet, which means additional equipment is used for the game (table tennis, baseball), unlike sports where no equipment is required but the body is used instead (basketball, handball, and football).

By the level of movement standards: standard and non-standard. Tennis is a non-standard discipline because the game is played under constantly changing circumstances (all ball sports), unlike the standard (running, gymnastics, figure skating, weight lifting) where there is a specific routine of movements.

By the more distinguished physical trait (speed bursts, stamina). Tennis is in the group of sports where the sudden bursts of speed is required (short running disciplines, jumps, throws, weight lifting) unlike sports where stamina is required (running middle and long races, cycling).

Methods of comparing score (points, points at a specific time, time, weight, height, length). Tennis is a sport where the score is calculated by points comparison (volleyball) without a time limit, unlike sports where there Is a time limit (handball, football), where the score is calculated

using time (running, cycling), weight (weight lifting), height (high jump, high pole jump), and distance (long jump, triple jump).

That way tennis could be qualified as: acyclic (mixed), individual, no contact, utilizes additional equipment, non-standard, speed burst sport, that is played for points, and without a time limit.

When comparing the complexity of different sports by these criteria of classification:

1. Structure of movement - acyclic and mixed sports are more complex than the cyclic kinds of competition - individual ones are more complex compared to the group ones

2. The amount and kind of contact - sports without contact are simpler than those which do feature contact; in other words the more the contact, the more complex it is, by these criteria.

3. Utilization of additional equipment - sports that use additional equipment (racquet, bat) are more complex than those sports which do not utilize equipment instead of the body.

4. The degree of standardization of movements - non standard sports are by this criteria more complex than the standard ones, because the skills are performed under changing circumstances (the tennis ball never flies in completely the same manner), unlike standard ones where regardless of the technical complexity of movements, the quality of their execution is strictly dependant on the athlete himself.

5. The more distinguished physical trait - by this criteria, it Is impossible to say that one or the other is more complex, because except for training, both feature the role of genetic capabilities (sufficient amount of fast/slow muscle fiber)

6. Methods of comparing scores - only those sports which are played for points, with and without the time limit, are valid for comparison. The ones without the time limit are more complex than those which do not feature a time limit.

It is ungrateful to compare the difficulty of sports, but judging by this superficial analysis, one may conclude that tennis is classified as a highly complex sport. It is confirmed by the fact that practicing tennis is required since early age, to have any chance of success, and the time needed to practice is at least 10 years or 10.000 hours (the best illustration of how much 10.000 hours really is, that it is one year and 51 days of exercise 24 hours a day -sounds incredible). Only then one could tell whether it all made sense, or not.

Mainly, tennis is an individual sport compared to group sports (football, basketball, volleyball...). The group part of tennis is displayed at competitions such are the Davis cup, Fed cup, etc. But the actual group component of tennis is present only in couples' game. Seeing it is an individual sport, a tennis player has to master the whole technique and tactics for all phases of the game. There is no specialization, which is featured in group sports (some are better in defense, and some in attack) but instead the individual is only as good as his weakest trait is. There is no help from a teammate, no substitutions. As much effort one puts into the game that much the chances for a good score increase.

2. Two main goals of sports science

A talent is a child with the same pattern - structure, as that of a champion. Sports science can be defined as a pair of maps (/,/ _1) between the patterns of talent and champion: (I) Direct, continual training map /, from the pattern of talent to the pattern of champion, and (II) inverse, selective (well known) map f~] from the pattern of champion to the pattern of talent. So, sports science is directed towards the methods of training (towards the making of a champion) and methods of selection (directed towards seeking out a champion). In sport

sciences all champions are represented by a model champion for a specific discipline (for example tennis) and all talents are shown by the talent model for the same discipline (picture 3.1). Statistically, talents and champions have the same structural factor - however it has completely developed in a champion, and only partially. For example Nadal, Roddick, Federer and Djokovic were all talents. But until now only one of them has became a true champion - Roger Federer, the man who apparently defines all tennis statistics. Today, in our opinion the biggest odds to become the future tennis champions belong to Nadal and Djokovic.

3. Athletics and tennis

Question: how to have a tennis player run faster. Fast running is a direct consequence of athletic speed and length of pace. The question is how to bring these two elements to their maximums, to achieve the highest level of performance during sprint or simply the fastest running on the court. We can't have the highest speed of pace and the longest pace; what is needed is the maximum speed of pace with the optimum length of pace. Maximum speed of pace represents how quickly one makes a step, or around 10 steps in 20m. The speed of the pace depends on several factors including power and mechanics. To have a higher speed of pace, its required to be capable of doing a correct sequence of steps, as quick as possible with the optimum length. The optimal length of pace enables the athlete to make a correct pattern of pacing during the least possible amount of time. On the other hand, the time spent on the ground is of the biggest help to the pace speed. Its known that most athletes spend almost the same amount of time in mid air. The big difference comes from the amount of time spent on the ground. The goal of all sprinters, and tennis players alike, is to spend the least possible amount of time on the ground. To achieve this they require power to go all the way through a correct cycle. Also, during short sprints on the court, in every leg units absorb the force of extension (eccentric) before they contract (concentrate) to create the initial force.

4. Question: how does a tennis player improve his jumping skill?

Jumping is determined by the strength of the legs. Remember that the muscle strength is a consequence of muscular force and speed of movement. In other words it's the ability to quickly produce muscular force. If you take a look at the force - speed graph, the high values of strength appear in the middle ranges of both speed and force. If an athlete develops higher strength, it improves his ability to create both force and speed. This mixture of speed and strength can be more useful for athletic performance than just the strength. So the strength of a leg is a consequence of both force and speed. In the future of tennis, for players of all levels it will be necessary to possess a certain level of leg-strength to ensure success on any level -the higher the level, more strength is needed.

Main leg-strength exercises. These exercises are necessary to develop the force component. The squat exercises, such are complete squats, front, half, separated squats, develop the jumping musculature to a high level. Only several, or maybe none, great athlete has a weak squat capability. Even with beginners, some form of a squat is adequate, with the help of a weight-ball, to develop the jumping musculature. Even though there is a huge benefit of performing general strength building exercises, such are squats and their variations, an athlete has to keep in mind not to use the squats as the only exercise because these exercises are generally slow, and do not repeat the same requests as other events do.

5. Question: How to prevent possible injuries?

It is of great importance to an athlete to be both physically and mentally prepared for a competition, or even just training. An athlete should be able to identify a case of a minor injury, and to distinguish it from simple fatigue.

This is a list of simple ways using which you can recognize an injury:

1. pain is constant and is not fading away

2. the extended period of tension which disables movement

3. feeling exhausted

4. if a minor injury hasn't healed in time

Very motivated athletes, always try to put out more than their capabilities both during training and when competing. Unfortunately if an athlete doesn't rest enough and when required, muscles can become injured and these injuries can only become worse over time. Such injuries include:

1. Cramps. Muscles become too tight during contraction.

2. contusions (internal bleeding, pain caused by serious bruising).

3. ligaments overstress (over-extension, or torsion)

4. sprains (muscles or tendons were overly extended, or distorted)

For example, when lifting a weight, during exercise, the body reacts to the heavy load by creating micro-cracks in the muscle bonding tissues. This explains the pain which occurs after each weight lifting exercise. It is essential for an athlete to rest after every training session...

6. Superior weapons in tennis

Every effective tennis strike, whether it's a serve, backhand or forehand, is a whip like motion, performed by a complex coordination of all segments of the body, which work to set the racquet in the exact position at the right time and apply the maximum available force at the tennis ball. It's already been stated that the best training of power (strength+speed) for both service and forehand (even single-handed backhand) is javelin throwing. Not just that, but all exercises for strength and speed which the most outstanding javelin throwers practice are perfectly suited for future tennis champions.

The superior service, forehand and backhand, are whip-like motions comprised of an array of extended reflexes in all major joints beginning with legs ending in the hand's strike.

What are the main characteristics about Andy Roddick's first serve? The former world's #1, and currently ATP ranked 5th, Andy Roddick, holds the world record of the fastest serve: 153mph (246km/h) served at the Queen's Club, UK 2004. When he first met Patrick McEnroe, his Davis Cup coach, he told him: "Whatever you do, do not talk about my serve. If I start thinking about it, I'm in trouble." Why? Because its all reflexes, to be more exact the reflex of extension. If you think about something which is done by reflex, you simply mess up. Therefore it's the most important that a top class player fully develops his technique, based on reflexes. This will ensure the most optimum relation racquet/head speed, and enhance their performance and effect. However, trainers and sport scientists should analyze the most adequate movements, to be able to teach about the model of techniques. For example professor Bruce Elliot, from the University of West Australia, has, using video and 3D analysis of Roddick's and other successful tennis players' serve, concluded that the input of certain movements varies from player to player but has spotted the significant importance of the shoulder's interaction and wrist flexing during the swing.

7. The tennis champion of the future

How to describe the future tennis champion? The tennis champion of the future is hypothetically "the younger brother of Roger Federer" who knows how to, and is capable of doing everything Federer is. Additionally, he is mentally stronger and physically faster. As a consequence of this addition, he will be quite more efficient in the future tennis, which will be significantly faster tennis game play, compared to today's, because of racquet and players' improvement.

Superior tennis weapons of the future champion will show their general efficiency in all situations:

1. powerful serve, with speeds exceeding 300km/h, directed at the "T point" or the opponent's weaker side; second serve achieving the same speed as the first.

2. a powerful return based on the predictions of the opponent's move, and a quick response.

3. a powerful penetrating forehand, speed exceeding 240km/h, single-handed backhand of speed exceeding 200km/h , and two-handed backhand of speeds around 220km/h directed from any position of the body and any part of the court.

4. as an addition, a direct serving point (ace), additionally adheres to the overall aggressive (powerful) attitude.

The ability to make quick and correct decisions is crucial: for service and return, and also for the most appropriate strike in any situation. It's based on the correct prediction of the ball's trajectory, and the opponent's next move. Shortly, such ability is called "mental speed", which is learned and perfected over the years.

Apart from these superior weapons of tennis, the most obvious trait of the future champion is strong concentration, maintained throughout the entire match. The mentioned ability, the "mental strength" which is developed through so called visualization practices.

In general, high efficiency means: "when the opportunity arrives, point ends, game, set or match". Outstanding ability to learn assumes the change of technique and tactics, in the most adequate way, having the current situation in the court, in mind (for example, if the opponent is placing shots exclusively from the main line, the most efficient tactic would be to score by approaching the net).

Ten main traits of the future tennis champion: talent, commitment (to everyday training/competition), the desire to practice, compete and win, self awareness, confidence, planned approach (clearly set goals), the ability to adapt quickly, to a new situation at the court, the bodymind balance, competitiveness (like Federer, Nadal, Henan), and tenacity.

Three most visible physical traits of the future tennis champion are: speed, agility (ability to quickly change direction, during sprinting and jumping), and athletic skill. The optimum height and body posture, of the future tennis champion, will be around 1.85m-1.87m like Federer, Nadal, Roddick and Djokovic, while the optimal body weight is around 80kg, like Federer and Djokovic. The optimal age of the male champion is 22-27 years of age, (+/- 2). If we wished to create a model of a hypothetical champion, based on current players, such model would be a combination of Federer, with Roddick's powerful serve, and the powerful forehand of Monfils.

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IMPORTANCE OF UNDERSTANDING AND PROPER HANDLING SPORTS TERMINOLOGY IN TEACHING SPORTS ENGLISH

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ABSTRACT

This paper deals with the specific role of a teacher of Sports English in terms of his/her contribution to creating standardised sports terminology in Serbian mostly created by adaptation of the original terms from English through the process of translation and borrowing. Presentation is divided in three sections. The first outlines the role of an ESP teacher in sports, especially in the light of English as a global language of communication, the second proposes a teamwork model of standardising sports terminology in Serbian, whereas the third summarises conclusions.

Key words: *ESP, ESP teacher, sport, standardisation*

Introduction

Using English in professional communication imposes a need to understand terminology in Serbian, not only semantically but also in terms of English-Serbian contact, due to the fact that it is mostly created in Serbian by adaptation of the original terms from English through the process of translation and borrowing. Thus teaching English for Specific Purposes, further referred to as ESP, must be considered within the frame of English as lingua franca in the world's communication nowadays. Natural consequences of such situation are numerous lexical borrowings in the languages getting in contact with English, especially in the field of terminologies. Current predominance of English does not mean that it has always been the sole privilege of English. Before that, Serbian borrowed a lot of words from Greek and Latin, which was followed by lexical borrowings from German and French. The above requires an emphasised ESP teacher's care of English and Serbian language standards alike. This also requires effort of an ESP teacher to initiate preparation of terminology books.

ESP teaching is specific in this region for one more reason. Contrary to other fields of social activities, in which women gradually catch up with men, it may generally be said that language teaching in this region is usually realised by women, and, what is more, those who are not very active in sports. In order to become a good language teacher in professional world, especially at university, these women must first undertake the process of self-training in the field of sports, after which they must incorporate it in teaching English as a foreign language. But this is not all. In order to channel the English-Serbian terminological contacts in a proper direction, they should incorporate EnglishSerbian contact and contrastive aspects in the ESP curriculum, as well as try to initiate the process of elaboration of prescriptive documents, such as bilingual dictionaries.

The following sections deal with current challenges facing an ESP teacher due to increased dependence of non-English languages on English in the field of terminology. Accordingly a model of terminological standardisation in Serbian is proposed, which includes six principles, each of which is defined and exemplified. As most sports terms in Serbian come from English, examples are shown using italics for English and small capitals for Serbian. In between, there is a sign ">", which indicates the direction of lexical borrowing, from English to Serbian.

2. ESP teacher's contribution to creation of standardised sports terminology

In the light of unabated effect of English on all languages getting in contact with it, especially in the field of terminology, anyone dealing with sports is faced with a lot of English borrowings which must be adapted according to the language standard of Serbian, due to the fact that English as a giving language and Serbian as receiving language belong to two different types of languages. The former is analytic, while the latter is inflectional.

Thus the key issue to be dealt with is the question whether an English borrowing is needed or not. If the answer is positive, an English term should be adapted according to the Serbian standard in terms of orthography, phonology, morphosyntax, and semantics. On the other hand, if the answer is negative, it is recommended to use an existing Serbian word with the same meaning, use a general word and add terminological meaning to it, or create a phrasal term composed of domestic words.

In doing so, it is necessary to make effort to apply certain standards, which will be discussed in the following text.

2.1. Standardisation of sports terminology

In order to have a better insight of the field to be standardised, it deems necessary to define the concepts of term, terminology, and standardisation. The term is lexeme whose form is related to a particular concept, and whose meaning is defined in a particular register. Terminology is interdisciplinary scientific field dealing with identification of a term in a particular context, creation and standardization of terms, and compilation of terminological dictionaries. Standardization is the activity of establishing and recording a limited set of solutions to actual or potential matching problems directed at benefits for the party or parties involved, balancing their needs and expecting and intending that these solutions will be repeatedly and continuously used during a certain period by substantial number of the parties for whom they are intended" (Vries, 1997: 79). Standardisation assumes two basic requirements. These are matching various features of an entity (object, event, idea, process, etc.) and normativeness of a set standard. Since the research deals with terminology, the entities in this case are terms, and matching problems are their (a) linguistic, (b) technical and (c) pragmatic characteristics. Normativeness of the proposed standard assumes dictionary making, on one hand, and effort of the language community to accept, expend and cultivate the prescribed standard, on the other. A prescribed standard is not given once and for all, which means that it must be re-evaluated and recapitulated from time to time in accordance with the requirements of the professional field and social requirements in general.

Owing to the fact that the term is a linguistic sign it must be in accordance with linguistic standard of a given language, whereas the fact that it is a part of a particular thematic register sets a prerequisite of its preciseness and transparency. Eventually, pragmatic aspect of the term calls for its acceptability in terms of language economy and frequency of usage in written and oral communication.

2.2 Principles of terminological standardization

Treatment of this subject in literature varies highly with respect to number, definition and hierarchy of selected principles. (see Bugarski, 1996; Dubuc, 1997; Šipka, 1997). The aim of the following discussion is to try to establish an optimum set of principles and to determine the order of importance of each one. According to the previous section, there are three basic aspects of standardization of sporting terminology in Serbian: (a) linguistic, (b) technical, and (c) pragmatic, whose priority is determined in the following way. Firstly, the fact that the term has a limited semantic content as it is related to a specific concept provides solid ground for giving preference to principles related to technical requirements of the term (preciseness and transparency). Secondly, the lexical nature of the term calls for linguistic principles (systematicity and productivity). Thirdly, there are pragmatic principles i.e. concision and frequency of the term in the relevant thematic register, which may not be fulfilled at any cost. In accordance with the above, a hierarchically ordered set of six principles may be singled out for the purpose of standardization of sports terms in Serbian. They are preciseness (2.2.1), transparency (2.2.2), systematicity (2.2.3), productivity (2.2.4), concision (2.2.5), and frequency (2.2.6). In the text that follows, each principle is defined and exemplified. The consequence of the process of standardization is reordering or modification of the existing translation equivalents, provided that the proposed term is always listed first. In the following examples, this term is designated as (1) in front.

2.2.1. Preciseness

This principle is defined as the requirement that the term should represent only one concept in a thematic register (Dubuc 1997: 156). This principle is applied to (i) terms which represent the same concept, and which are thus interchangeable, usually referred to as translation doublets (GortanPremk, 1990: 19), which result from parallel adaptation of a term in Serbian (usually borrowing plus translation), and ellipsis. This principle is also applied to synonymous terms representing different concepts, which are not distinguished at the lexical level (ii).

Examples:

(ii) layin, syn. layup > (1) POLAGANJE U KOŠ, (2) POLAGANJE OD TABLE

(both English terms were formerly translated with the same translation equivalent

- POLAGANJE).

(i) pivot foot > (1) PIVOT-NOGA, (2) STAJNA NOGA (parallel adaptation - different translations)

(i) table clock > (1) SAT, (2) SAT NA STOLU (elided term plus full term)

As exemplified above, with terminological doublets, preference is given to the one which is better adapted according to the proposed six principles, whereas the synonymous terms translated with the same equivalent are distinguished at the lexical level by expansion or modification of the existing term, and by supplying proper gloss for each.

2.2.2. Transparency

This principle is defined as the requirement that the term should reflect characteristics of a concept which it represents (Šipka 1998: 129), and that it should be motivated etymologically, semantically or morphologically (Dubuc 1997: 156). Speaking of etymological motivation, the terms in Serbian originating from Greek, Latin, English, and French are generally transparent. The terms are also motivated morphologically in terms of derivation and composition. However, some terms are not motivated at the level of semantics. This is due to several reasons: (i) loss of a diagnostic feature, (ii) shift of a functional or collocation feature, (iii) use of non-standard language variant or archaic word, and (iv) use of acronyms or initialisms.

Examples:

(iii) diving > (1) BACANJE ZA LOPTOM, (2) SUVANJE (archaic)

(iv) - FINA (Fédération Internationale de Natation Amateur) > (1) FINA, (2)

MEDUNARODNA ORGANIZACIJA ZA PLIVANJE

- CB (central backcourt player) > (1) SREDNJI BEK, (2) CB

(i) 4-meter area (length-width) > (1) POVRSINA CETVERCA (length-width), (2) PROSTOR ČETVERCA (length-width-height)

(ii) substitute goalkeeper (modif. + subj.) > (1) GOLMANOVA ZAMENA (modif. + subj.), (2) ZAMENA GOLMANA (subj. + obj.)

(ii) violation of a rule > (1) PREKRŠAJ (PRAVILA), (2) POVREDA PRAVILA

(collocation)

After the process of standardization (i) extra or missing diagnostic features are omitted or added respectively, (ii) shifted functional or collocation features are adapted to the original term, (iii) archaic terms are replaced by non-archaic ones, and (iv) acronyms are kept unchanged but

initialisms and abbreviations are replaced by full words.

2.2.3. Systematicity

The term is systemic if it is adapted to the linguistic system of Serbian, which implies the levels of: (i) orthography, (ii) phonology, (iii) morpho-syntax, and (iv) lexicography. Possible

deviation might be the following: (i) writing compounds, semi-compounds, anglicisms, numbers and mathematical signs, (ii) phonological adaptation of the anglicisms, which is based on spelling or mixed spelling and pronunciation, (iii) hyphenated inflectional endings of anglicisms, (iv) and nonunified codification of lexical entries in dictionaries and glossaries.

Examples:

(i_d) all-star team > (1) OLSTAR TIM (B) (adapted according to acoustic impression - see Vasić et al., 2001: 174)

(iii) FINA water polo rules > PRAVILA VATERPOLA FINE, (see Book of Orthographic Rules for Serbian, 1995: item 148a)

(i_b) formation 5:1 > (1) RASPORED IGRAČA 5 PREMA 1 (":" is spelt out)

(ii) goalcapable player > (1) TOBDŽIJA (formerly TOPDŽIJA - see A Book of Orthographic Rules for Serbian, 1995: item 76)

(i_a) goal line > (1) GOL-LINIJA (W) (hyphenated - see A Book of Orthographic Rules for Serbian, 1995)

(i_d) play out > (1) PLEJAUT, PLEJAUTA$_{Gen,Accus}$ (inflectional ending is not hyphenated - see Vasić et al., 2001: 111)

(i_c) semicircle 6.25 m > (1) POLUKRUG 6,25 M (tenths are designated by coma in Serbian - see A Book of Orthographic Rules for Serbian 1995)

(i_a) side line > (1) AUT-LINIJA (hyphenated - see A Book of Orthographic Rules for Serbian, 1995)

(iv)

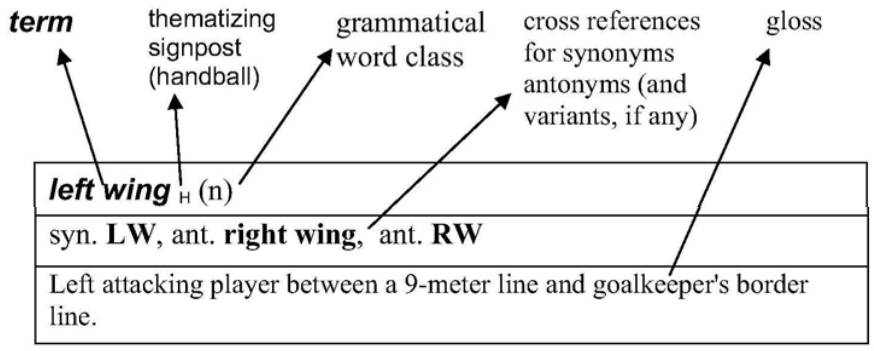

Figure 1. Model of a terminographic entry

As exemplified above, compounds and semi-compounds are written either hyphenated or non-hyphenated as per A Book of Orthographic Rules for Serbian, 1995: item 41, except for the anglicisms of this type which are in accordance with the standard of Vasić et al., 2001:11) (i_a). Numbers are written in figures, while the mathematical signs ":" and "-" are written in words, which is the proposal of this paper (i_b). According to A Book of Orthographic Rules for Serbian, 1995, tenths are designated by coma in Serbian (i_c). Former anglicisms are to be in accordance with the phonological model of Filipović (1986: 72-76), while the recent ones (borrowed during the recent ten years) should follow the model of Prćić (1998: XXIV-XXVII) (i_d). Voiceless consonants in front of the voiced ones get assimilated to the voiced pair consonants as stipulated by A Book of Orthographic Rules, 1995: item 76 (ii). Noun modifiers in a phrase (usually anglicisms) are replaced by inflectional form for oblique cases, and the hyphenated derivational or inflectional endings of anglicisms should not be hyphenated (iii). Lexicographic codification of sports terms (iv) should follow the model given in Figure 1, as realised in English-Serbian dictionary of sports terms (Milić 2006).

2.2.4. Productivity

Productivity of the term is a characteristic of the language system which enables communicators (especially if it is their mother tongue) to encode and decode maximum number of higher-order terminological units). This principle must be viewed at two levels - (i) single lexemes and (ii) phrasal lexemes (see Prćić 1997: 129). At level (i), productivity is viewed in terms of derivation and composition, which is generally established in sports terminology. Level (ii), however, may partially be treated as derivation potential of the headword, but more likely in terms of productivity of a collocation. Generally, the phrases are productive if they contain fewer words in a collocation.

Examples:

(i) exclusion of a player with substitution > (1) ISKLJUČENJE SA PRAVOM ZAMENE, (2)

ISKLJUČENJE IGRAČA SA PRAVOM ZAMENE

(ii) held ball > (1) NOŠENA LOPTA,(2) DRUGI KONTAKT S LOPTOM

(iii) thrower > (1) IZVOĐAČ AUTA ,(2) IZVOĐAČ KOJI UBACUJE LOPTU U IGRU

As exemplified above, the desired collocation is achieved by (i) omission of extra words, (ii) direct translation instead of a functional equivalent, and (iii) phrasal lexeme instead of a relative clause.

2.2.5. Concision

Concision of the term implies that it should not be too long, that it is preferably single-worded or with fewer number of words (see Šipka 1997: 129). In the process of translation, more often than not, extra words are added in the equivalent, thus making it unnecessarily long. The reason may be a lexical gap, insufficient understanding of the lexical meaning of a term, or the need to avoid associating the term with another thematic register. As a consequence the translation equivalents take the form of (i) phrasal lexeme or (ii) relative clauses.

Examples:

(i) assisted hit > (1) ASISTENCIJA, (2) POMOĆ KOD NADIGRAVANJA

(ii_a) tiebreak > (1) TAJBREJK

(ii_b) guilty player > (1) PREKRŠILAC, (2) IGRAČ KOJI JE UČINIO PREKRŠAJ

(iii) w-formation > (1) CIKCAK RASPORED, (2) IGRAČ U CIKCAK FORMACIJI

It is often the case that extra words added in translation equivalents overlap semantically for which reason they can be omitted (i). In cases of lexical gaps, it is advisable to apply the derivation potential of the head word (ii_b), or, else, borrow the term (ii_a).

2.2.6. Frequency

Frequency implies how often a particular term is used in the relevant documents and oral communication of people involved in a thematic register. This principle is applied to terminological doublets, which are a consequence of a direct translation of terminological doublets from English (i_a) and double adaptation of an English term, usually borrowing plus translation or calquing plus direct translation (i_b). This principle is also applied to synonymous terms for which there is only one translation equivalent (ii).

As all translation equivalents of translation doublets occur in sporting documents, it is impossible to eliminate any of the solutions (i_a) and (i_b). Therefore it is proposed to arrange them in the order of frequency, provided the most frequent and most adapted one is at the first place as the proposed term with the designation (1). Accordingly, the gloss is given only for the term which comes first in alphabetical sequence. The terms classified under (ii) must be delimited both at the lexical and gloss levels, which means that there will be two lexical entries and two glosses.

Examples:

(i_a) - attack line, spike line > (1) LINIJA NAPADA, (2) LINIJA SMEČIRANJA (with gloss)

- spike line, attack line > (1) LINIJA SMEČIRANJA, (2) LINIJA NAPADA (without gloss)

(i_b) corner kick > (1) KORNER, (2) UDARAC SA UGLA

(ii) layin syn. layup > (1) POLAGANJE ODOZGO, (2) POLAGANJE OD TABLE

(formerly POLAGANJE for both English synonyms)

(i_b) penalty area > (1) ŠESNAESTERAC, (2) KAZNENI PROSTOR

As exemplified above, translation equivalents of terminological doublets are reordered such that the proposed term for each is the one resulting from direct translation or calquing, and that gloss is given only to the one which is the first in alphabetical sequence (i_a). Translation equivalents of terminological doublets are reordered, preferably applying this principle or a higher-order one (i_b). English synonyms which have only one translation equivalent in Serbian are retranslated to get two entries with proper glosses (ii).

3. Conclusion

Even though belonging to a nonlanguage field, language teachers must familiarise themselves with a particular subject register to a certain level, which is sports on this occassion. By doing so, they can provide a role model for their students and encourage them to make greater progress in learning English as a foreign language. Besides, this also makes them qualified to be an equal team member to sportsmen in elaborating standard documents, such as glossaries, dictionaries, etc. By endeavouring to make contribution to stadardised terminology, they preserve linguistic standard of Serbian, but they also introduce a certain amount of English-Serbian contact and contrastive aspects in ESP teaching at the university, which gets an increasing importance ongoing process of globalisation.

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RECREATIONAL WEIGHT EXERCISE FOR WOMEN

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One gets the impression that the recreational activities moved to the fitness centers where fitness and various types of aerobics have been practiced. There are several important factors that represent great advantage of fitness clubs in relation to other forms of exercise:

1. Time (we can come when we want and stay as much as we want).
2. Social (we can come alone and still have company).
3. Expertise (we can always consult some experts).
4. Comfort (most clubs are well equipped and it is very pleasant to practice there).

There is no single term that would be appropriate for translation of word (concept) "fitness" into Serbian, and therefore we have to use more words and explanations. Following example of the overall explanation is very interesting:
The term FITNESS includes concept of a man with modern lifestyle. This definition has its roots back in Ancient Greece, when a psychophysical union called" kalokagathia" was considered as a lifestyle, which loosely translated means "the unity of body and soul" (Mitić, 2001). [2]

This example shows us the importance of good health. About 80% of the population in the modern world is physically inactive and as such it represents a breeding ground for all kinds of diseases. In fitness, and even more within the broader movement called Wellness (human wellbeing which should be pursued), health comes first. Health should be considered in a broader sense, not merely as the absence of diseases. Health is the ability to adequately respond to the numerous challenges of everyday life and condition for the full-scale realization of potentials in life.

It looks like there has been a division of activities within the fitness centers - men exercise with weights and women practice aerobics. Of course there are a few exceptions, although there are more women who practice with weights than men practice aerobics. It is interesting for us why women don't exercise more with weights. Women prefer to practice aerobics, but it is necessary to have a sense of rhythm, sense for music and coordination, which means that they have to have certain skills in order to practice it, and those that don't have it - fall out at the very beginning. However, space arranged for exercising with weights, called "weightlifting room" or "gym", is usually considered "male territory" by women and space suited for them. They are also afraid that they will lose their femininity and gain increased muscle volume by exercising with weights. In a word, they are afraid of

countering effects of physical training. The reason for this certainly lies in neglecting and insufficient research of this problem. Exercising in the gym is reserved for the male population and all kinds of training programs are adapted to them. It is necessary to avoid "blind" coping of trainings made solely for men to their "women versions".

Weights and simulators can be successfully applied during the women force training in order to achieve satisfactory results, but full attention should certainly be paid to the selection of exercises and exercise equipment.

In physiology, we encounter many studies related to the action of hormones on human body composition. We are particularly interested in sex hormones, the difference between male and female hormones, and especially specificity of sex hormones action on adipose tissue and muscle mass.

Male sex hormone (testosterone) has anabolic effects which is important in sports. Thanks to this hormone men are "stronger sex" as this hormone affects increasing of muscle mass. That means men have increased muscle mass comparing to women thanks to this hormone.

Male sex hormone (testosterone) increases (up to 30%) basal metabolism more than female sex hormone. Women usually have lower basal metabolism because they have a higher percentage of body fat comparing to men. When body mass is reduced to the value measured without body fat, that difference disappears (Nikolić, 1995). Reducing fat and automatically increasing percentage of
muscle mass also increases the basal metabolism which induces effect of "natural fat burners" as a form of increasing muscle mass. [1]

Most quantitative data are related to healthy young men, because almost all measurements were performed on men. However, measurements performed on women suggest that the same basic physiological principles may be applied, as in the case of men, with the difference in quantitative values caused by differences in size and composition of their bodies and the male sex hormone testosterone. Overall, the majority of quantitative values for women, such as muscle strength, pulmonary ventilation and cardiac output, and these are all parameters directly proportional to muscle mass, are positioned between two thirds and three fourths of the men's values. On the other hand, when power/cm ² of cross-sectional area is measured, women muscles can achieve almost the same maximum force of contraction as man muscles - between 3 and 4 kg/cm ². Therefore, most of the difference between the overall properties of the men and women muscles lies in the additional percentage of the male body muscles, caused by endocrine differences. Hormonal differences between men and women are certainly the cause of most, perhaps all, differences in sports ability.

Testosterone, secreted by the testicles, has a strong anabolic effect which means it causes the deposition of protein all around the body. Female sex hormones, estrogens, probably also contribute to the differences between men's and women's sports ability, but not to such extent as testosterone. It is known that estrogens increase deposition of fat in women (Guyton, 1999). [4]

Men develop strength and increase muscle mass more easily and more quickly, but they are greatly assisted by the above-mentioned factors, and thanks to that fact men are more muscular than women. The very nature of female sex hormones has influenced women inclination towards getting extra fat, although they are already likely to have a problem with fat.

We analyzed the effects of weight exercise on a ratio of fat and muscle mass. The assumption was that women subjected to such an intensive treatment would lose more body fat than they would gain muscle mass. The treatment that we applied during this experiment was a progressive weight training model. Weights and simulators were used in this training model as a means of exercise. This is, simply said, the evaluation of the effects of women's training in the gym. After the experimental treatment applied on the measured skinfold variables, there was a significant reduction in adipose tissue. Results of statistical parameters of the measured variables proved that these women did lose a significant amount of body fat during the three-month exercise. Their body weight was also reduced. Influence of the experimental treatment on muscle mass was questionable, and we mentioned in the introduction that women avoid this type of exercise because of the fear of increasing their muscles volume, but it was found that the percentage of muscle mass stayed the same level.

Determining the strength increase directly reflected in the monitoring dynamometry. The way in which power was tested, as we indicated earlier, indicates that the power testing is adapted to the form of physical exercise used in the experiment. There was an increase in endurance and muscle strength, i.e. increase in ability of muscle, respiratory and cardiovascular systems to withstand the mechanical work of relative strength that lasts a while. Arm flexions and legs extensions, as tested power parameters, have shown very good result, and lower extremities had particularly good results in endurance and muscle strength increase. [3]

Weight practicing reduces fat deposits and increases muscle tension. It also has good influence on symmetrically distributed curves and body posture. When it comes to aerobics, it is hard to see results after a short period of time. DIETS: losing weight in a short period of time, but the lost weight quickly returns. Women have a slower metabolism and less muscle than men -deposits of fat settle before fat get burned up in the form of energy. DANGER that comes with diet - we can't reduce the existing amount of body fat by simply reducing fat intake.

Diets can easily lead to reduction in the amount of smooth muscle tissue, which slows down metabolism, which means that diet results are short-lived. MISCONCEPTIONS: Damage to the genitals, difficult childbirth, absence of menstruation. In fact, it is the other way around: weightlifting ensures opposite effect. Childbirth will be even easier because of the strength and tonus of abdominal muscles. Menstrual cycle may be absent during training, but never because of the lifted weights, but because of the lack of body fat that would occur under restrictive diets, if the percentage of fat falls below 10%. With increasing of the fat level, cycle also becomes normal. Although estrogen gives them headaches by causing accumulation of body fat, it also protects women against heart disease in menopause. Testosterone in men works in the opposite direction. Animal studies have shown that large amounts of testosterone often cause chronic illnesses in animals.

This research has shown that women, in the same way as men, can freely exercise at the gym, and thus satisfy their needs for physical activity. Data from the website of the Ministry of Sports are encouraging and prove that this problem is very interesting. The Ministry has announced submitting of projects related to sports leisure activities. Accepted projects will receive considerable sum of money for their realization. The Ministry declared that they will give priority to projects that engage physically inactive population, primarily female population.

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REKREATIVNO VEŽBANJE SA TERETOM ŽENSKE POPULACIJE

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Stiče se utisak da su se rekreativne aktivnosti preselile u fitnes centre, gde se vežbaju fitnes i razne vrste aerobika. Velika prednost fitnes klubova u odnosu na ostale vidove vežbanja je u nekoliko bitnih faktora:

1. vremenski (možemo da dođemo kad hoćemo i ostanemo koliko hoćemo).
2. socijalni (možemo doći sami i imati društvo).
3. stručnost (stručna lica koja uvek možemo konsultovati).
4. konfor (klubovi su većinom kvalitetno opremljeni i prijatno je vežbati u njima).

Za pojam fitnes ne postoji odgovarajući termin koji bi ga preveo na srpski jezik, nego se za prevođenje koristi više reči i objašnjenja. Primer interesantnog i sveukupnog objašnjenja je sledeći:

Termin FITNES sadrži predstavu o čoveku dobro prilagođenom savremenom načinu života. Ovakva definicija ima svoj koren još u Antičkoj Grčkoj, kada je važila predstava o psiho - fizičkom jedinstvu nazvanom "kalokagatija", što u slobodnom prevodu znači jedinstvo duha i tela (Mitić, 2001). [2]

Iz ovog primera vidimo koliko je bitno dobro zdravstveno stanje. U modernom svetu oko 80% populacije je fizički neaktivno i kao takvo predstavlja plodno tlo za sve vrste bolesti. U fitnesu, a pogotovo u još širem pokretu koji se naziva VELNES (ljudsko blagostanje kome treba težiti), zdravlje je na prvom mestu. Zdravlje treba posmatrati u širem smislu, a ne samo kao odsustvo bolesti. Zdravlje predstavlja sposobnost da se na adekvatan način odgovori na mnogobrojne izazove svakodnevnog života i uslov je pune realizacije životnih potencijala.

U fitnes centrima kao da je došlo do podele aktivnosti - muškarci vežbaju sa tegovima, a žene vežbaju aerobik. Tu naravno ima odstupanja, mada je veći broj žena koje vežbaju sa teretom nego muškaraca koji vežbaju aerobik. Za nas je interesantno zašto žene u većoj meri ne koriste vežbanje sa teretom. Za aerobik, za koji se radije odlučuju, potrebno je imati osećaj za ritam, muziku i koordinaciju pokreta, što znači da moraju imati određene sposobnosti da bi vežbale, a one koje nemaju - otpadaju na početku. Međutim, prostor za vežbanje sa teretom, popularno nazvan "teretana", žene doživljavaju kao mušku teritoriju, prostor prilagođen njima. Takođe su u strahu da će vežbanjem izgubiti svoju ženstvenost u vidu dobijanja povećanog obima mišića. Jednom rečju, plaše se kontra efekata od onih koje očekuju fizičkim vežbanjem. Razlog za to je svakako i u nedovoljnoj ispitanosti i zanemarivanju ovog problema. Vežbanje u teretani se rezerviše za mušku populaciju i svi programi i vrste treninga prilagođavaju se njima. Potrebno je izbeći "slepo" kopiranje treninga napravljenih isključivo za muškarce na žene.

Primena tegova i trenažera u treningu sile kod žena može uspešno da se koristi i da se postižu zadovoljavajući rezultati, ali svakako punu pažnju treba posvetiti odabiru vežbi i sprava za vežbanje.

U fiziologiji se susrećemo sa mnogim istraživanjima vezanim za delovanje hormona na telesnu kompoziciju čoveka. Posebno nas interesuju polni hormoni i to razlika između muških i ženskih hormona, a naročito specifičnosti u smislu delovanja polnih hormona na masno tkivo i mišićnu masu.

Muški polni hormon (testosteron) ima anaboličke efekte, a to je važno u sportu. Zahvaljujući tom hormonu muškarci su "jači pol" jer on deluje na povećanje mišićne mase. Znači da muškarci zahvaljujući tom hormonu imaju povećanu mišićnu masu u odnosu na žene.

Muški polni hormon (testosteron) povećava više (čak za 30%) bazalni metabolizam nego ženski polni hormon. Kod žena je i inače manji bazalni metabolizam jer one imaju veći procenat masnog tkiva od muškarca. Kada se telesna masa svede na vrednost bez masnog tkiva ta razlika se gubi (Nikolić, 1995).

Smanjenjem masnog tkiva i automatski povećanjem procenta mišićne mase, povećava se i bazalni metabolizam tako da bi za efekat imali "prirodne sagorevače masti" u vidu povećanja mišićne mase. [1]

Većina kvantitativnih podataka odnosi se na zdravog mladog muškarca, zato što su na muškarcima izvršena gotovo sva merenja. Ipak, merenja izvršena na ženama pokazuju da za njih važe isti osnovni fiziološki principi kao i za muškarce, uz razliku u kvantitativnim vrednostima koje izazivaju razlike u veličini i sastavu tela i muški polni hormon testosteron. Opšte uzevši, većina kvantitativnih vrednosti kod žene, kao što su snaga mišića, plućna ventilacija i minutni volumen srca, a to su sve parametri direktno proporcionalni mišićnoj masi i iznose između dve trećine i tri četvrtine vrednosti izmerene kod muškarca. Sa druge strane, kad se meri u terminima snage/cm² oblasti poprečnog preseka, mišić žene može postići gotovo istu maksimalnu snagu kontrakcije kao mišić muškarca - tj. između 3 i 4 kg/cm². Zbog toga, najveći deo razlike u ukupnim svojstvima mišića leži u dodatnim procentima mišića muškog tela, izazvanih endokrinim razlikama. Hormonske razlike između muškaraca i žena sigurno su uzrok većine, a možda i svih, razlika u sportskoj sposobnosti. Testosteron, koji luče testisi, ima snažno anaboličko dejstvo što znači da izaziva deponovanje proteina svuda u telu. Ženski polni hormoni, estrogeni, verovatno, takođe doprinose razlici između žena i muškaraca u sportskoj sposobnosti, mada ne u tolikoj meri kao što to čini testosteron. Poznato je da estrogeni povećavaju deponovanje masti kod žena (Guyton, 1999). [4]

Muškarci razvijaju snagu i povećavaju mišićnu masu mnogo lakše i brže, ali u tome im umnogome pomažu gore navedeni faktori, pa zahvaljujući tome imamo muškarce prilično muskulozne u odnosu na žene. Priroda ženskih polnih hormona je da ženama, koje i onako imaju problema sa masnim tkivom, dodaju i još sklonosti ka dobijanju ekstra masnog tkiva.

Analizirali smo efekte vežbanja sa teretom na odnos masnog tkiva i mišićne mase. Pretpostavka je bila da će ispitanice podvrgnute ovakom tretmanu izgubiti više masnog tkiva nego što će dobiti mišićne mase. Tretman koji smo koristili tokom eksperimenta, bio je model vežbanja sa progresivnim opterećenjem. Kao sredstvo vežbanja u modelu korišteni su tegovi i trenažeri. Što prosto rečeno predstavlja valorizaciju efekata vežbanja žena u teretani. Posle eksperimentalnog

tretmana na merenim varijablama kožnih nabora došlo je do značajnog smanjenja masnog tkiva. Rezultati statističkih parametara na merenim varijablama pokazali su da su ispitanice tokom tromesečnog vežbanja izgubile značajnu količinu masnog tkiva. Masa tela se takođe smanjila. Postavlja se pitanje o uticaju eksperimentalnog tretmana na mišićnu masu. U uvodu smo naveli da žene izbegavaju ovaj vid vežbanja baš zbog bojazni od povećanih mišićnih obima. Utvrđeno je da se procenat mišićne mase zadržao na istom nivou.

Utvrđivanje povećanja snage ispitanica direktno se ogledalo u praćenju dinamometrije. Način na koji je testirana snaga, kako smo i ranije naveli, ukazuje da je testiranje snage prilagođeno ovakvom vidu fizičkog vežbanja korištenom u eksperimentu. Došlo je do povećanja izdržljivosti u snazi, tj. do povećane sposobnosti mišićnog, respiratornog i kardiovaskularnog sistema da izdrži rad relativne snage koji traje određeno vreme. Fleksija ruku i ekstenzija nogu, kao testirani parametri snage, pokazali su veoma dobar rezultat. Naročito dobar rezultat u povećanju izdržljivosti u snazi dobijen je kod donjih ekstremiteta. [3]

Vežbanje sa teretom smanjuje masne naslage, a povećava mišićni tonus. Pravilno raspoređene obline i držanje tela. Kod aerobika je teško primetiti rezultate nakon kratkog vremenskog perioda. DIJETE: u kratkom periodu se gubi dosta kilograma, ali se brzo vraćaju. Žene imaju sporiji metabolizam i manje mišića od muškaraca - masnoće koje pojedu se pre talože, nego što izgore u obliku energije. OPASNOST od dijete - ne možemo smanjiti postojeću količinu masnog tkiva u organizmu prostim smanjenjem unosa masnog tkiva. Može lako doći i do smanjenja količine glatkog mišićnog tkiva što usporava metabolizam, tako da su rezultati dijete kratkog daha. ZABLUDE: oštećenje polnih organa, teži porođaj, izostanak menstruacije. Upravo je obrnuto, podizanje tereta osigurava obrnut učinak. Porod će biti čak olakšan zbog snage i tonusa trbušnih mišića. Menstrualni ciklus može izostati kod vežbanja, ali nikada zbog podignutog tereta, već zbog pomanjkanja telesne masti u telu pod restriktivnim dijetama, kad je postotak masti ispod 10%. Povećanjem masti ciklus se normalizuje. Iako u toku života zadaje glavobolju ženama sa nagomilavanjem masnog tkiva, estrogen štiti žene od srčanih bolesti u menopauzi. Testosteron kod muškaraca deluje u suprotnom smeru. Istraživanja na životinjama su pokazala da davanjem veće količine testosterona životinje obolevaju od hroničnih bolesti češće od onih bez tog povećanja.

Istraživanjem smo pokazali da žene mogu slobodno vežbati u teretani, i na taj način zadovoljavati svoje potrebe za fizičkom aktivnošću kao i muškarci. Koliko je ova problematika interesantna, pokazuje, a i ohrabruje podatak sa sajta Ministarstva za sport. Ministarstvo je objavilo da prikuplja projekte vezane za sportsko - rekreativne aktivnosti stanovništva. Prihvaćeni projekti su dobili značajnu sumu novca za realizaciju. Objavili su da će prednost imati oni projekti koji angažuju fizički neaktivno stanovništvo, a pre svega žensku populaciju.

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INFORMATION AND COMMUNICATION TECHNOLOGY IN HEALTH CARE

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ABSTRACT

Content: Information and communication technologies (ICT) provide efficient health care and improved access to health resources and information. The first part of this paper defines the basic terms and concepts of telematics and telemedicine. In the second part of this paper technological bases, standardization activities and the reference architecture are being systematized. In the final part an ICT infrastructure for an integrated regional health service network is being described, which is designed on the basis of open, multilayered reference architecture and common components. Keywords: ICT, telematics, telemedicine, e-health.

1. Introduction

Telematics in health care includes activities, services and systems that operate at a distance by applying information and communication technologies. The aim is to promote global health services, disease control and health care, but also education, management and research in health care. The concept of telematics in health care (WHO Group Consultation on Health Telematics, 1997.) includes the following functional areas: tele-education, telemedicine, research in health care and health services management.

Telemedicine enables functioning of health care services when distance is a critical factor. Professionals employed in health care are using information and communication technologies in order to exchange valid information for the purpose of diagnostics, treatment and prevention of diseases and injuries, research and evaluation, and continuous education of people in health care. It is considered that the term Telehealth is politically more correct, but terms on-line health and e-health are also being used. It is important to emphasize that e-health doesn't represent a substitute for existing health services, but additional services meant to improve access to existing resources. In recent years, developed countries have shown great interest in e-health solutions.

Health care system is based on the principles of:

• Equality;

• Effectiveness;

• Quality;

• Consistency;

• Patient satisfaction.

On the basis of global principles, basic requirements of health care are:

• Quality of services;

• Efficient use of limited resources;

• Sharing of knowledge;

• Access to medical / health information;

• Time management;

• Cost management.

Health care requirements and significant technological development in the area of computer science and telecommunications had influence on telemedicine which became a very dynamic and multidisciplinary field [1, 2, 3]. Telemedicine gives opportunity to doctor to provide medical assistance, to set the working diagnosis and patients' therapy and to conduct consultations with his colleagues and medical staff that are located elsewhere. The goal of telemedicine is to provide expert medical care in remote areas and to provide effective emergency assistance using modern information and communication technologies. The basic concept of telemedicine is attractive, given that medical expertise is very expensive and that it is desirable to make its concentration [4, 5]. In large medical centers it improves the quality of medical services and in remote rural areas it enables medical expertise.

Continuous progress of computer technologies, along with the development of digital signal processing and network protocols, has contributed to the important application of real time transmission of multimedia data in medicine. However, the term "multimedia" is being used quite loosely to refer to any type of new digital media manipulated and displayed on computers. This term should mark the integrated manipulation of discrete media (such as text and graphics) and at least one continuous medium. Continuous media are time-dependent data manipulated in the specified time intervals, in accordance with the standards. Finally, multimedia communications are dealing with transmission, protocols and services with discrete and continuous media within computer networks.

Multimedia applications create an interactive environment for the health care users. When computer requests information from a remote computer or server, these information is being transported

through a computer network. As the amount of data during the transmission of audio and video signals is large, multimedia information must be compressed (elimination of redundant information and reducing of perceptually irrelevant information) before transport, in order to reduce the necessary bandwidth and lag. In addition to that, restrictions (information loss, delay, jitter...) are being placed to ensure the required reception quality of audio-video signal. Therefore, there is constant demand for improving telecommunications network in order to improve the multimedia transport capabilities. Local area networks (LAN) are used to connect local computers and other equipment, while WAN (Wide Area Networks) connect local area networks [6, 7].

The implementation of telemedicine requires the necessary infrastructure:

- computer networks and software,
- medical workstations,
- specialized medical equipment,
- guidelines for telemedicine on clinics.

Telemedicine encompasses many technologies and user applications which is a problem for the specification of standard solutions. Lack of standards affects:

- Quality;
- Reliability;
- Effectiveness;
- Privacy;
- Investments;
- Safety;

2. Technological basis and standardization activities

Development of advanced information and telecommunication techniques has enabled the design of sophisticated systems in health care. Unfortunately, most of these solutions were developed on an adhoc basis, as closed systems, which make the integration of infrastructure and procedures harder, as well as sharing resources on a wider geographic area. Standard is a document established by consensus and approved by appropriate organizations. It contains rules, guidelines or characteristics of the long-term common activities. The goal is to achieve an optimal level of regulation in the context of medical application (Figure 1).

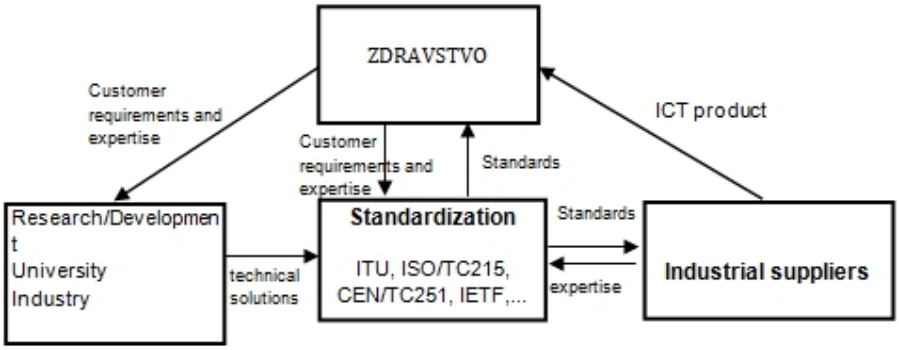

Figure 1 Development of a standardized ICT solutions in health care.

International Telecommunication Union Development Sector ITU-D (March 1994) has formed a unique study group (Question on Telemedicine for developing countries) which deals with application of telemedicine in developing countries. World Health Organization WHO actively participates in meetings organized by the ITU-D, ITU-T, ISO, IEC ... committed to defining the basic problems and the role of these organizations in developing standards in the field of modern health care.

International Organization for Standardization ISO has established a technical committee TC215 (Health Informatics, 1998) with five working groups (WG1 Health records and modeling coordination, WG2 Messaging and Communications, WG3 Health concept representation, WG4 Security, WG5 Health cards). WG2 working group defines the functionality and implementation of medical devices communication, and the exchange of clinical and financial messages (WG2.1 Medical devices interface X73 standard, WG2.2 Architecture, WG2.3 Methodology, WG2.4 DICOM persistent object). The European Committee for Standardization CEN has established a technical committee TC251 (Health Informatics) with four working groups (WG1 Information models, WG2 Terminology and knowledge bases, WG3 Security, safety and quality, WG4 Technology for interoperability). ISO and CEN have joint programs and cooperation with the IEEE (ISO/IEEE 11073).

European Health Telematics Association EHTEL has organized the work (Actor Working Groups: A1 Healthcare authorities, A2 Healthcare professionals, A3 Patients/ consumers/ citiziens association) in the thematic working groups (T1 Standards & interoperability, T2 eHealth, T3 Law/ethics). Industrial association Mobile Healthcare Alliance MoHA has formed a working groups (WG1 Definition and strategies, WG2 EMC, WG3 Security with wireless devices, WG4 Application Standards, WG5 Systems integration, WG6 User issues) in the field of mobile communications and health care. In Japan was founded industrial association JAHIS (Japanese Association of Healthcare Information Systems Industry) in 1994, which has developed nine model of hospital information.

The basic technologies and standards in telemedicine and e-health are:

- Patients Electronic Health Record (ENV13606, GEHR, ...) and data exchange (HL7/CDA, ...)
- Patient Identification Service (OMG PIDS)
- Digital signatures (W3C/IETF XML signatures)
- Medical devices (IEEE1073, DICOM SCP-ECG, POCT, ...)
- Communication of medical devices (IrDA, USB, Fireware, Bluetooth, ...)
- Multimedia Communications (DICOM, CIAS, ...)
- Videoconferencing (SIP, H.323, H.264, MPEG-4, ...)
- External communication media (cable, xDSL, ...)
- Distributed software components (CORBA,. NET, ...)
- User interfaces
- Security
- Terminology

Patients Electronic Health Record

Information and communication technologies allow the contents of medical records to be as complete as possible (including biomedical signals, diagnostic imaging) and facilitates data retrieval and transfer. DICOM Standard (ACR / NEMA Digital Imaging and Communications in Medicine) coordinates the mutual performance of diagnostic and information systems and increases their efficiency. Standard HL7 (Health Level 7) specifies the structure of clinical documents and electronic data exchange between different information systems (HL7 Version 3.0 supports the trigger-events). Legal and ethical issues regarding patient data and safety are complex and therefore subjected to special activities.

Multimedia communication in healthcare

Communication systems in health care are complex: diagnostic images are digital, there are various data acquisition devices, communication between users is complex, multimedia data are archived on a variety of media in different formats and with different access protocols. Multimedia communication in health care is a combination of interfaces and end-users who use multimedia database linked with communication networks. The most important application of broadband communication networks is a linking of diagnostic systems in radiology. PACS (Picture Archiving and Communication Systems) is a closed system that includes data acquisition, archiving, communication and display of diagnostic images of different modalities. Users require an interface that allows direct selection of functions that are necessary in a particular situation [8].

Medical multimedia communication place extreme demands on concepts of multimedia environment developed for a single user. Cohesive design procedures were developed that consider all elements of the system (interface, database, interconnection and management). The procedures are based on understanding of medical procedures and their integration into system design. Procedures for system analysis were developed to evaluate performance, cost-effectiveness and safety. It is estimated that user requirements can be met with existing technology. However, there is a tendency that the proposed solutions tend to meet only the current requirements and ignore future development. As a result we have closed solutions of individual companies that place additional burden on users in the form of high development and maintenance costs. Therefore, standardization process in this area is continuous in so that it could offer a new and better standards for building distributed systems in medicine.

JPEG ISO / MPEG coding standards for still images and videos are dominant compression techniques aimed at reducing the amount of data for archiving or transfer, while maintaining diagnostic quality. IS15444 JPEG2000 (Joint Photographic Expert Group) is standard for compressing and decompressing monochrome and multispectral images. IS13812 MPEG-2 is used to compress video signals to digital television and archiving to DVD media. IS14496 MPEG-4 is standard used for interactive multimedia communications on the Internet. IS15938 MPEG-7 standardizes the interface for searching multimedia content [6].

ITU-T has defined a complete set of standards for video conferencing on all types of networks: H.320 is used for ISDN, H.323 for Internet and H.324 is standard for dial-up telephone network and mobile cellular radio network. The concept of Quality of Service (QoS) is important on multiservice networks. The requirements of medical applications vary in a wide range. If we analyze only one service, QoS requirements can also vary additionally because different service users may have different QoS requirements (which may be changing over time). The quality of service that user actually sees in the communication from end to end, can be described by subjective and objective parameters. On the other hand, for network service provider is important to translate user requirements into technical parameters of network performance, and also the relation between the offered and actual QoS for each user. All these facts indicate the importance of the QoS concept and the difficulties in its definition and implementation. A number of ITU-T working groups work on the standardization of QoS (SG16 QoS mechanisms for H.323 multimedia systems. Quality of speech and video coders, SG12 End-to-end quality, SG13 Network performance, SG4 Management of QoS, SG11 QoS signaling) [7].

The reference architecture

Implementation of the integrated telematics services in health care requires solutions for complex problems: the data are fragmented, services are heterogeneous, safety procedures are complex and there are many standards of interoperability and data exchange. The solution is open and scalable health information infrastructure that is based on the reference architecture. European Committee for Standardization CEN/TC251 specified reference architecture of information systems in health care (ENV12967 Healthcare information system architecture). International Organization for Standardization ISO has defined a reference model of distributed processing (Open Distributed Processing - Reference Model). The organization IEEE has specified the efficient description of complex systems (IEEE1471 Recommended practice for architectural description of software intensive systems).

A common features of the reference model are multi-layer architecture and identifying of the common components that are used for designing of different applications (Figure 2). It is necessary that these components could remain functional even after they are implemented by variety of informational and communication technologies.

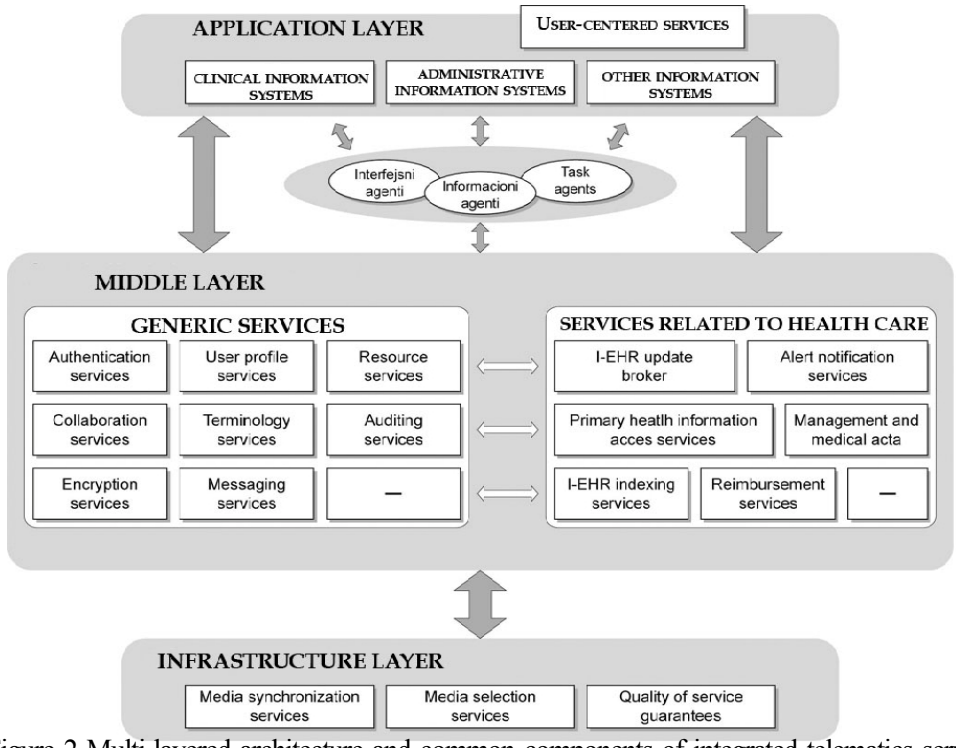

Figure 2 Multi-layered architecture and common components of integrated telematics services in health care [12].

It is possible to identify basic components of integrated services in health care:

• The public interface for efficient data exchange (HL7, DICOM), which supports the functional integration of processes in healthcare.

• Collaborative components that allow medical experts to exchange information about patients during tele-consultations.

• Components for the identification of patients based on demographic data.

• Components for the authentication and authorization of users and services (or applications).

• Components for the encryption of the communication when using sensitive personal information.

• Components for the interaction registration of all components and/or end-user applications and services. Registered data are used for charging for services or data mining.

• Components for the resources location regarding identifying of resource availability and possibility of access.

• Components for user profiling and monitoring of long-term user interest and maintenance of personalized preferences.

• Terminology components for the association of existing coding schemes and information transformation from one form or representation to another.

3. Regional network of integrated health services

HYGEIAnet is the reference regional health network of integrated services on the island of Crete (Greece). It is the result of systematic efforts in providing health care and health monitoring to a relatively isolated community, as well as medical training and education on the island [9]. There were developed systems and services for basic applications:

• Home care (most of the services are associated with children who suffer from asthma)

• Emergency service (developed an integrated system that is currently operational)

• Primary health care (all primary health care centers are equipped with integrated information systems, including electronic patient medical records, laboratory information systems and multimedia communication)

• Health care in hospitals (administrative, financial, clinical and laboratory information systems were developed and installed in regional hospitals on the island)

• I-EHR (system for decentralized review of patient medical records was developed and it enables dynamic composition of information that are archived in heterogeneous clinical information systems)

• Telemedicine (WebOnCOLL is developed, a portal that is used in cardiology and radiology)

• Supervision and monitoring in health care (information system for monitoring, analysis and reporting in primary health care was developed).

Developed applications and services use a common health information infrastructure and components for the localization of the available resources, identification of patients, data exchange... All applications and services use common components that are integrated in different ways, based on the reference architecture and technology infrastructure.

HYGEIAnet is pilot project and model for the development of integrated regional health care networks in Europe [9, 10,11, 12]:

• The reference architecture and a framework for integrating heterogeneous, autonomous and decentralized systems are defined.

• Middle-class multi-layer architecture services are specified.

• Public and stable interfaces and protocols are adopted and/or defined.

• Medical-legal issues are reviewed.

WebOnCOLL uses infrastructure of regional healthcare network on Crete for integrated services of virtual workspace and on-line collaboration. A virtual collaborative workspace supports concepts such as web portal, discussion lists, shared workspace and medical studies. User profiles allow customization of the workspace in regard to the user status, tasks and preferences. Workspaces can be public, private or shared. Virtual workspace saves session information, services results and multimedia objects that were selected or created by user during the session. In addition to session management, reliable collaboration, data availability and persistence are supported [9].
The basic components of any collaboration system are content, communication and management. Content marks objects on which users work, and these could be shared documents, hyperlinks and pointers. During cooperative work users interact with objects, manage their behavior and change their states. Feedback, notification, and perceptions of other users are important aspects of

management.Communication can be synchronous and asynchronous.
Services for Web-based collaboration on the Internet include application sharing, whiteboards, audio / video conferencing, expert directory, e-mail, voice mail, instant messaging, file transfer, webcast, interactive multicast, e-health protocols and digital signatures of clinical documents. WebOnCOLL system architecture is open and based on virtual workspaces and user profiles. The basic components of the architecture are workspace and user profile manager, web server and file system. WebOnCOLL is implemented within the framework of several projects relevant to health monitoring, education and teleworking [9]. Integrated patient health record service EHR-I (Integrated Electronic Health Record) has been developed on the principles of multi-layer architecture (CEN ENV12967) that contains generic services at lower layers (concurrency control, directories, event handling and notification, licensing, security), while services specific to health are located in the middle layer

(patient identification, communication and health data indexing, resource location, authorization, terminology). Programming interface of I-EHR allows user to move through the information space at different abstract levels and to review patient demographics and medical history and to clinically examine diagnostic data [11].

E-health workstations are designed and located in primary health centers or patients' homes. These workstations can be connected with various medical devices, as well as with remote reference medical center. Clinical findings (electrocardiogram, spirometer, diagnostic scanner images...) can be prepared and archived on the workstation and after that an experts at a reference center could be contacted and clinical search could be continued on-line (real-time vital signs, cardiac monitoring...) or video conference consultation could be started. Medical expert selects the form of diagnostic reports, fills it out and signs it with a digital signature [12].

4. Conclusion

Information and communication technologies provide a unique opportunity to improve quality of health care and access to health resources and information. However, heterogeneous information systems and the slow adoption of open standards are the main obstacles in the functional integration of processes in health care. Multi-layered reference architecture and developing applications based on common components are recommended.

Implementation of integrated telematics services in health care is associated with numerous medical and infrastructural limitations: data are fragmented, services are heterogeneous, safety procedures are complex and there are many standards of interoperability and data exchange. Distributed data processing requires the integrity of network data (trigger-events, instant messaging) as well as synchronization protocols. Multimedia communication requires efficient coding and representation of data as well as guaranteed service quality (Quality of Experience?).

HYGEIAnet is a regional network (Crete, Greece) of integrated services in health care that can serve as a pilot project and model for health care networks at national and European level. The base of the infrastructure is an integrated electronic patient medical records and medical workstation linked with diagnostic devices and visible on the Internet as a service portal.

Common research activities are focused on developing innovative methods and tools in the area of medical informatics, e-health, medical imaging and bioinformatics.

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INFORMACIONE I KOMUNIKACIONE TEHNOLOGIJE U ZDRAVSTVU

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APSTRAKT

Informacione i komunikacione tehnologije (ICT) omogućavaju efikasnu zdravstvenu negu i poboljšan pristup zdravstvenim resursima i informacijama. U prvom delu rada definišu se osnovni pojmovi i koncepti telematike i telemedicine. U drugom delu rada sistematizuju se tehnološke osnove, standardizacione aktivnosti i referentne arhitekture. U završnom delu rada opisuje se jedna ICT infrastruktura za integrisane servise regionalne zdravstvene mreže projektovane na osnovu otvorene, višeslojne referentne arhitekture i zajedničkih komponenti.

Ključne reči: *ICT, telematika, telemedicina, e-zdravstvo*.

UVOD

Telematika u zdravstvu obuhvata aktivnosti, servise i sisteme koji funkcionišu na daljinu primenom informacionih i komunikacionih tehnologija. Cilj je globalna promocija zdravstva, kontrola bolesti i zdravstvene nege, a takođe edukacija, upravljanje i istraživanje u zdravstvu. Koncept telematike u zdravstvu (WHO Group consultation on health telematics, 1997.) obuhvata sledeće funkcionalne oblasti: tele-edukacija, telemedicina, istraživanje u zdravstvu i upravljanje zdravstvenim servisima.

Telemedicina omogućava zdravstvene servise kada je prostorna udaljenost kritičan faktor. Profesionalci u zdravstvu koriste informacione i komunikacione tehnologije za razmenu validnih informacija za dijagnozu, terapiju i prevenciju bolesti i povreda, istraživanje i evaluaciju, kao i kontinualnu edukaciju ljudi u zdravstvu. Smatra se da je termin telehealth "politički korektniji" ali koriste se i termini on-line health ili e-health. Bitno je naglasiti da e-health nije zamena postojećih zdravstvenih servisa već označava dodatne servise koji treba da poboljšaju pristup postojećim resursima. Poslednjih godina, razvijene zemlje su pokazale ogromno interesovanje za e-health rešenja.

Sistem zdravstva se zasniva na principima:

- jednakosti,
- efikasnosti,
- kvaliteta,
- postojanosti,
- zadovoljenja pacijenta.

Na osnovu globalnih principa, osnovni zahtevi zdravstva su:

- kvalitet servisa,
- efikasno korišćenje ograničenih resursa,
- deljenje znanja,
- pristup medicinskim/zdravstvenim informacijama,
- upravljanje vremenom,
- upravljanje troškovima.

Zahtevi zdravstva i značajan tehnološki razvoj u oblasti računarstva i telekomunikacija uticao je na formiranje telemedicine kao veoma dinamične multidisciplinarne oblasti [1, 2, 3]. Telemedicina omogućava lekaru da sa jednog mesta pruža medicinsku pomoć, postavlja radne dijagnoze, sprovodi terapiju pacijenata i obavlja konsultacije sa svojim kolegama ili medicinskim osobljem koji se nalaze na drugom mestu. Cilj telemedicine je da omogući ekspertsku zdravstvenu zaštitu na udaljenim mestima gde nedostaje i da pruži efikasnu urgentnu pomoć koristeći savremenu informacionu i komunikacionu tehnologiju. Osnovni koncept telemedicine je atraktivan, imajući u vidu da je medicinska ekspertiza veoma skupa i da je poželjno izvršiti njenu koncentraciju [4, 5]. U okviru velikih zdravstvenih centara podiže se kvalitet medicinskih usluga a udaljenim ruralnim krajevima omogućava se medicinska ekspertiza.

Kontinualni napredak računarskih tehnologija, zajedno sa razvojem digitalne obrade signala i mrežnih protokola, doprineo je da prenos multimedijalnih podataka u realnom vremenu pronađe značajnu primenu u medicini. Međutim, pojam multimedija se dosta neprecizno koristi da označi svaku vrstu novih digitalnih medija kojima se manipuliše i prikazuje na računarima. Multimedija bi trebala da označi integrisanu manipulaciju diskretnim medijima (kao što su tekst i grafika) i bar jednim kontinualnim medijumom. Kontinualni mediji su vremenski zavisni podaci kojima se manipuliše u specificiranim vremenskim intervalima, saglasno standardima. Konačno, multimedijalne komunikacije se bave prenosom, protokolima, servisima sa diskretnim i kontinualnim medijima u računarskim mrežama.

Multimedijalni aplikacije formiraju interaktivno okruženje za korisnika u zdravstvu. Kada računar zahteva informacije od udaljenog računara ili servera, informacije se transportuju kroz računarsku mrežu. Kako je količina podataka pri prenosu audio i video signala velika, multimedija informacije se moraju komprimovati (eleminacija redundantnih informacija i redukovanje perceptualno

irelevantnih informacija) pre transporta, kako bi se smanjio neophodni propusni opseg i kašnjenje. Pri tome se postavljaju ograničenja (gubitak informacija, kašnjenje, džiter, …) kako bi se osigurao zahtevani kvalitet audio-video signala na prijemu. Zbog toga postoji konstantni zahtev za poboljšanjem telekomunikacione mreže kako bi se poboljšale mogućnosti za multimedijalni transport. Lokalne računarske mreže LAN (Local area networks) se koriste za povezivanje lokalnih računara i druge opreme, dok WAN (Wide area networks) povezuju lokalne mreže [6, 7].

Implementacija telemedicine zahteva neophodnu infrastrukturu:

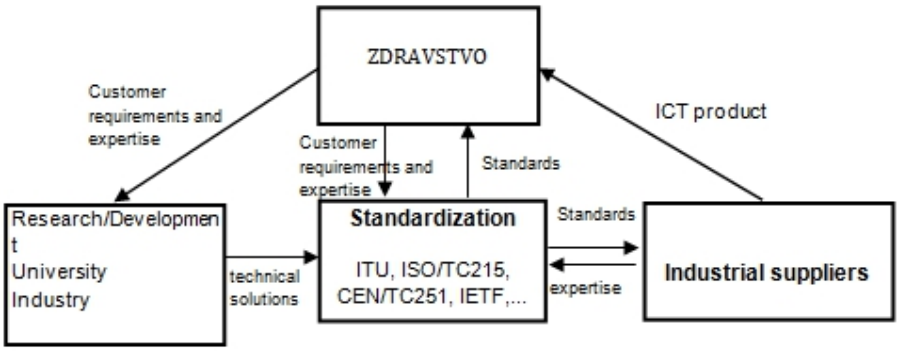
- komunikacione mreže i programi za računare,
- medicinske radne stanice,
- specijalizovana medicinska oprema,
- upustva za telemedicinu na klinikama.

Telemedicina obuhvata veliki broj tehnologija i aplikacija a što predstavlja problem za specifikaciju standardnih rešenja. Nedostatak standarda utiče na:

- kvalitet,
- pouzdanost,
- efikasnost,
- privatnost,
- investiranje,
- sigurnost.

2. Tehnološke osnove i standardizacione aktivnosti

Razvoj naprednih informacionih i telekomunikacionih tehnika omogućio je projektovanje sofisticiranih sistema u zdravstvu. Nažalost, najveći broj rešenja je razvijeno na ad-hoc osnovi kao zatvoreni sistem a što otežava integraciju infrastrukture i procedura kao i deljenje resursa na široj geografskoj oblasti. Standard je dokument ustanovljen konsenzusom i potvrđen od odgovarajućih organizacija. Sadrži pravila, upustva ili karakteristike aktivnosti koja su zajednička i koriste se u dužem vremenskom periodu. Cilj je postizanje optimalnog stepena uređenosti u kontekstu primene u medicini (Slika 1).



Slika 1. Razvoj standardizovanog ICT rešenja u zdravstvu.

Međunarodna telekomunikaciona unija za razvoj ITU-D (March 1994.) je formirala jedinstvenu studijsku grupu (Question on Telemedicine for developing countries) koja se bavi telemedicinom u zemljama u razvoju. Svetska zdravstvena organizacija WHO aktivno učestvuje na skupovima koje organizuju ITU-D, ITU-T, ISO, IEC … a koji su posvećeni definisanju osnovnih problema i uloge ovih organizacija u razvoju standarda u oblasti savremenog zdravstva.

Svetska organizacija za standardizaciju ISO je formirala tehnički komitet TC215 (Health informatic, 1998.) sa pet radnih grupa (WG1 Health records and modelling coordination, WG2 Messaging and communications, WG3 Health concept representation, WG4 Security, WG5 Health cards). Radna grupa WG2 definiše funkcionalnost i implementaciju komunikacije medicinskih uređaja, kao i razmenu kliničkih i finansijskih poruka (WG2.1 Medical devices interface X73 standard, WG2.2 Architecture, WG2.3 Methodology, WG2.4 DICOM persistent object). Evropska organizacija za standardizaciju CEN je formirala tehnički komitet TC251 (Health informatics) sa četiri radne grupe (WG1 Information models, WG2 Terminology and knowledge bases, WG3 Security, safety and quality, WG4 Technology for interoperability). ISO i CEN imaju zajedničke programe i saradnju sa IEEE (ISO/IEEE 11073).

Evropska asocijacija EHTEL (European Health Telematics Association) je organizovala rad (Actor Working Groups: A1 Healthcare authorities, A2 Healthcare professionals, A3 Patients/consumers/citiziens association) u tematskim radnim grupama (T1 Standards&interoperability,T2 eHealth, T3 Law/ethics). Industrijska asocijacija MoHA (Mobile Healthcare Alliance) je formirala radne grupe (WG1 Definition and strategies, WG2 EMC, WG3 Security with wireless devices, WG4 Application standards, WG5 Systems integration, WG6 User issues) u oblasti mobilnih komunikacija i zdravstva. U Japanu je 1994. godine formirana industrijska asocijacija JAHIS (Japanese Association of Healthcare Information Systems Industry) koja je razvila devet bolničkih informacionih modela.

Osnovne tehnologije i standardi u telemedicini i e-zdravstvu su:

- Zdravstveni karton pacijenta (ENV13606, GEHR,…) i razmena podataka (HL7/CDA,...)
- Identifikacija pacijenta (OMG PIDS)
- Digitalni potpisi (W3C/IETF XML signatures)
- Medicinski uređaji (IEEE1073, DICOM, SCP-ECG, POCT,…)
- Komunikacija medicinskih uređaja (IrDA, USB, Fireware, Bluetooth, ...)
- Multimedijalne komunikacije (DICOM, CIAS,…)
- Videokonferencije (SIP, H.323, H.264, MPEG-4, …)
- Eksterni komunikacioni medijumi (ISDN, xDSL,…)
- Distribuirane programske komponente (CORBA, .NET,…)
- Korisnički interfejsi
- Sigurnost
- Terminologija.

Zdravstveni karton pacijenta

Informacione i komunikacione tehnologije omogućavaju da sadržaj medicinskog kartona bude što potpuniji (sadrži i biomedicinske signale, dijagnostičke slike) i olakšavaju pretraživanje i prenos podataka. Standard DICOM (ACR/NEMA Digital Imaging and Communications in Medicine) usklađuje međusobni rad i povećava efikasnost dijagnostičkih i informacionih sistema. Standard HL7 (Health Level 7) specificira strukturu kliničkih dokumenata i razmenu elektronskih podataka između različitih informacionih sistema (HL7 Verzija 3.0 podržava trigger-events). Pravna i etička pitanja podataka pacijenata kao i problemi sigurnosti su složena i predmet su posebnih aktivnosti.

Multimedijalne komunikacije u zdravstvu

Komunikacioni sistemi u zdravstvu su složeni: dijagnostičke slike su digitalne, postoje raznovrsni akvizicioni uređaji, komunikacija između korisnika je kompleksna, multimedijalni podaci su arhivirani na različitim medijumima, u različitim formatima i pristupnim protokolima. Multimedijalne komunikacije u zdravstvu su kombinacija interfejsa i krajnjih korisnika koji koriste multimedijalne baze podataka povezane komunikacionim mrežama. Najznačajnija aplikacija komunikacionih mreža širokog propusnog opsega je povezivanje dijagnostičkih sistema u radiologiji. PACS (Picture Archiving and Communication Systems) je kompletan sistem koji obuhvata akviziciju, arhiviranje, komunikaciju i prikazivanje dijagnostičkih slika različitih modaliteta. Korisnici zahtevaju interfejs koji omogućava direktan izbor funkcija koje su neophodne u konkretnoj situaciji [8].

Medicinske multimedijalne komunikacije postavljaju ekstremne zahteve u odnosu na koncepte multimedijalnog okruženja razvijenog za jednog korisnika. Razvijeni su kohezivni postupci projektovanja koji razmatraju sve elemente sistema (interfejsi, baze podataka, interkonekcije i upravljanje). Postupci se zasnivaju na razumevanju medicinskih procedura i njihovim integrisanjem u projektovanje sistema. Razvijeni su postupci sistem analize za procenu performansi, kao i ekonomičnosti i sigurnosti. Procena je da se zahtevi korisnika mogu ispuniti postojećom tehnologijom. Međutim, postoji tendencija da ponuđena rešenja ispunjavaju samo tekuće zahteve a zanemaruju budući razvoj. Rezultat su zatvorena rešenja pojedinačnih kompanija koje dodatno opterećuju korisnika visokim troškovima razvoja i održavanja. Zbog toga je proces standardizacije u ovoj oblasti kontinualan, kako bi se ponudili novi i bolji standardi za izgradnju distribuiranih sistema u medicini.

ISO JPEG/MPEG standardi za kodovanje mirne slike i video signala su dominantne kompresione tehnike čiji je cilj smanjenje količine podataka za arhiviranje ili prenos uz očuvanje dijagnostičkog kvaliteta. IS15444 JPEG2000 (Joint Photographic Expert Group) je standard za komprimovanje i dekomprimovanje monohromatskih ili multispektralnih slika. IS13812 MPEG-2 se koristi za komprimovanje video signala u digitalnoj televiziji arhiviranje na DVD medijume. IS14496 MPEG-4 je standard za interaktivne multimedijalne komunikacije na Internetu. IS15938 MPEG-7 standardizuje opis i interfejs za pretraživanje multimedijalnog sadržaja [6].

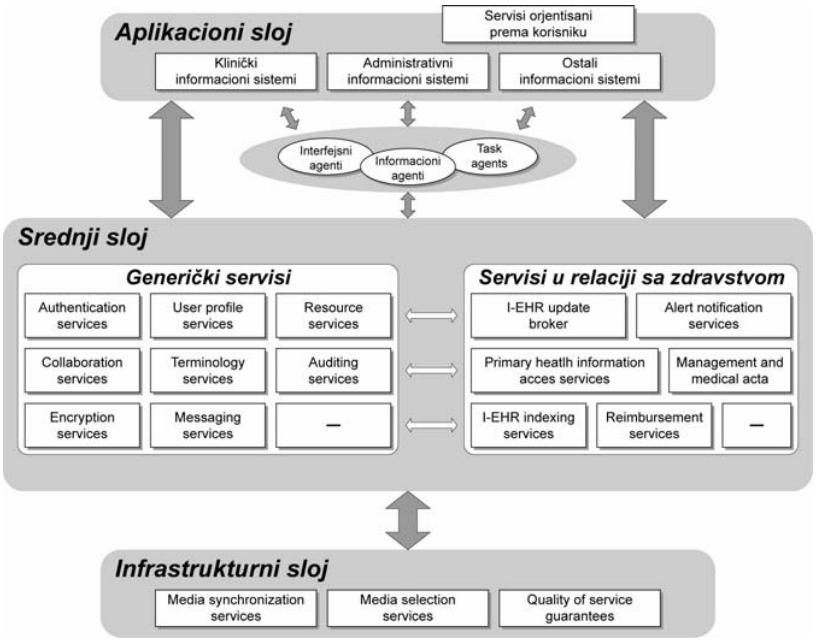
ITU-T je definisao kompletan skup standarda za videokonferencije na svim tipovima mreža: H.320 se koristi za ISDN, H.323 za Internet a H.324 je standard za telefonske komutirane mreže i mobilne celularne radio mreže. Koncept kvaliteta servisa QoS (Quality of Service) je značajan u multiservisnim mrežama. Zahtevi medicinskih aplikacija variraju u širokom opsegu. Ako se analizira samo jedan servis, QoS zahtevi takođe mogu dodatno varirati zato što različiti korisnici servisa mogu

imati različite QoS zahteve (a koji mogu biti promenljivi u toku vremena). Kvalitet servisa koji korisnik realno opaža u komunikaciji sa kraja na kraj može se opisati subjektivnim i objektivnim parametrima. Sa druge strane, za provajdera mrežnog servisa značajna je translacija zahteva korisnika u tehničke parametre performansi mreže, kao i relacija između ponuđenog i ostvarenog QoS za svakog korisnika. Sve ove činjenice ukazuju na značaj koncepta QoS ali i na poteškoće pri njegovom definisanju i implementaciji. Brojne ITU-T radne grupe rade na QoS standardizaciji (SG16 QoS mechanisms for H.323 multimedia systems. Quality of speech and video coders, SG12 End-to-end quality, SG13 Network performance, SG4 Management of QoS, SG11 QoS signaling) [7].

Referentna arhitektura

Implementacija integrisanih servisa telematike u zdravstvu zahteva rešenja složenih problema: podaci su fragmentirani, servisi su heterogeni, zaštitne procedure su složene i postoje brojni standardi interoperabilnosti i razmene podataka. Rešenje je otvorena i skalabilna informaciona infrastruktura zdravstva koja se zasniva na referentnoj arhitekturi. Evropska organizacija za standardizaciju CEN/TC251 je specificirala referentnu arhitekturu informacionih sistema u zdravstvu (ENV12967 Healthcare information system architecture). Međunarodna organizacija za standardizaciju ISO je definisala referentni model distribuiranog procesiranja (Open Distributed Processing - Reference Model). Organizacija IEEE je specificirala efikasan opis složenih sistema (IEEE1471 Recommended practice for architectural description of software intensive systems).

Zajednička osobina referentnih modela je višeslojna arhitektura i identifikovanje zajedničkih komponenti od kojih se projektuju različite aplikacije (Slika 2). Neophodno je i da su komponente funkcionalne i kada su implementirane različitim informacionim i komunikacionim tehnologijama.



Slika 2. Višeslojna arhitektura i zajedničke komponente integrisanih servisa telematike u zdravstvu [12].

Moguće je identifikovati osnovne komponente integrisanih servisa u zdravstvu:

- Javni interfejs za efikasnu razmenu podataka (HL7, DICOM) koji podržava funkcionalnu integraciju procesa u zdravstvu.
- Kolaboracione komponente koje omogućavaju medicinskim ekspertima da razmenjuju podatke o pacijentima u toku tele-konsultacija.
- Komponente za identifikaciju pacijenata na osnovu demografskih podataka.
- Komponente za autentifikaciju uloge i ovlašćenja korisnika i servisa (ili aplikacija).
- Komponente za kriptovanje u komunikacijama kada se koriste osetljive personalne informacije.
- Komponente za registrovanje interakcije svih komponenti i/ili aplikacija i servisa krajnjih korisnika. Registrovani podaci se koriste za naplaćivanje usluga ili data mining.
- Komponente za lokaciju resursa za identifikovanje dostupnosti i pristupa resursima.
- Komponente za profilisanje korisnika i praćenje dugoročnih interesovanja korisnika i održavanje personalizovanih preferenci.
- Terminološke komponente za asocijaciju postojećih kodnih šema i transformaciju informacija iz jedne forme ili reprezanticije u drugu.

3. Regionalna zdravstvena mreža integrisanih servisa

HYGEIAnet je referentna regionalna zdravstvena mreža integrisanih servisa na ostrvu Kritu (Crete, Greece). Predstavlja rezultat sistematskih napora u pružanju zdravstvene nege i praćenju zdravstvenog stanja jedne relativno izolovane zajednice, kao i medicinske obuke i obrazovanja na ostrvu [9]. Razvijeni su sistemi i servisi za osnovne aplikacije:

- Kućna nega (najveći broj servisa su povezani sa decom koja pate od astme)
- Hitna služba (razvijen je integrisani sistem koji je trenutno operativan)
- Primarna zdravstvena nega (svi centri primarne zdravstvene zaštite su opremeljeni integrisanim informacionim sistemima koji obuhvataju elektronski zdravstveni karton pacijenta, laboratorijski informacioni sistem i multimedijalne komunikacije)
- Zdravstvena nega u bolnicama (razvijeni su administrativni, finansijski, laboratorijski i klinički informacioni sistemi i instalirani u regionalnim bolnicama na ostrvu)
- I-EHR (razvijen je sistem za decentralizovani pregled zdravstvenih kartona pacijenata a koji omogućava dinamičku kompoziciju informacija koje su arhivirane u heteregonim kliničkim informacionim sistemima)
- Telemedicina (razvijen je WebOnCOLL portal koji se koristi u kardiologiji i radiologiji)
- Nadgledanje i praćenje stanja u zdravstvu (razvijen je informacioni sistem za nadgledanje, analizu i pravljenje izveštaja u primarnoj zdravstvenoj zaštiti).

Razvijene aplikacije i servisi koriste zajedničku zdravstvenu informacionu infrastrukturu i komponente za lokalizovanje dostupnih resursa, identifikovanje pacijenata, razmenu podataka,... Sve aplikacije i servisi koriste zajedničke komponente koji su integrisani na različite načine a na osnovu referentne arhitekture i tehnološke infrastrukture.

HYGEIAnet je pilot-projekat i model za razvoj integrisanih regionalnih zdravstvenih mreža u Evropi [9, 10,11, 12]:

- definisana je referentna arhitektura i radni okvir za integraciju heterogenih, autonomnih i decentralizovanih sistema
- specificirani su servisi srednjeg sloja višeslojne arhitekture
- usvojeni i/ili definisani su javni i stabilni interfejsi i protokoli
- razmotrena su medicinsko-pravna pitanja.

WebOnCOLL koristi infrastrukturu regionalne zdravstvene mreže na Kritu za integrisane servise virtualnog radnog prostora i on-line kolaboraciju. Virtualni radni prostor podržava kolaborativne koncepte kao što su web portal, diskusione liste, deljeni radni prostor i medicinske studije. Profili korisnika omogućavaju prilagođenje radnog prostora statusu korisnika, zadacima i preferencama. Radni prostori mogu biti javni, privatni ili deljeni. Virtualni radni prostor čuva informacije sesije, rezultate servisa i multimedijalne objekte koje korisnik selektuje ili kreira u toku sesije. Pored upravljanja sesijom, podržana je pouzdana kolaboracija, dostupnost podataka i perzistencija [9].

Osnovne komponente svakog sistema za kolaboraciju su sadržaj, komunikacija i upravljanje. Sadržaj označava objekte na kojima korisnici rade i to su deljeni dokumenti, pointeri i hiperlinkovi. U kooperativnom radu korisnici su u interakciji sa objektima i upravljaju njihovim ponašanjem i menjaju njihova stanja. Povratna sprega, notifikacija i percepcija drugih korisnika su važni aspekti upravljanja. Komunikacija može biti sinhrona i asinhrona.

Servisi za Web-based kolaboraciju na Internetu obuhvataju deljenje aplikacija, whiteboards, audio/video konferencije, exspert directory, e-mail, voice-mail, instant messaging, prenos datoteka, webcast, interaktivni multicast, e-health protocols, digitalni potpisi kliničkih dokumenata. Arhitektura WebOnCOLL sistema je otvorena i zasniva se na virtualnim radnim prostorima i profilima korisnika. Osnovne komponente arhitekture su menadžer radnog prostora i profila korisnika, web server i sistem datoteka. WebOnCOLL je implementiran u okviru više projekata relevantnih za praćenje zdravstvenog stanja, teleworking i edukaciju [9].

Servis integrisanog zdravstvenog kartona pacijenta I-EHR (Integrated Electronic Health record) je razvijen na principima višeslojne arhitekture (CEN ENV12967) koja sadrži generičke servise na nižim slojevima (concurency control, directories, event handling and notification, licensing, security), dok su u srednjem sloju servisi specifični za zdravstvo (patient identification, health data communication and indexing, resource location, authorization, terminology). Programski interfejs prema I-EHR omogućava kretanje kroz informacioni prostor na različitim nivoima apstrakcije i pregled demografskih podataka pacijenata i istorije bolesti kao i klinički pregled dijagnostičkih podataka [11].

Koncipirane su e-health radne stanice koje su smeštene u primarnim zdravstvenim stanicama ili stanovima pacijenata. Radne stanice je moguće povezati sa širokim skupom medicinskih uređaja, kao i sa udaljenim referentnim medicinskim centrom. Na radnoj stanici je moguće pripremiti i arhivirati kliničke nalaze (elektrokardiogram, spirometar, dijagnostičke slike skenera,...). A zatim kontaktirati eksperta u referentnom centru i nastaviti kliničku pretragu on-line (real-time vital signs, cardiac monitoring, ...) ili startovati video konferencijsku konsultaciju. Medicinski ekspert selektuje formu dijagnostičkog izveštaja, popunjava i potpisuje digitalnim potpisom [12].

ZAKLJUČAK

Informacione i komunikacione tehnologije daju jedinstvenu mogućnost poboljšanja kvaliteta zdravstvene nege i pristupa zdravstvenim resursima i informacijama. Međutim, heterogeni informacioni sistemi i sporo usvajanje otvorenih standarda su osnovna prepreka u funkcionalnoj integraciji procesa u zdravstvu. Preporučuje se višeslojna referentna arhitektura i razvoj aplikacija na osnovu zajedničkih komponenti.

Implementacija integrisanih servisa telematike u zdravstvu je povezana sa brojnim medicinskim i infrastrukturnim ograničenjima: podaci su fragmentirani, servisi su heterogeni, zaštitne procedure su složene i postoje brojni standardi interoperabilnosti i razmene podataka. Distribuirano procesiranje podataka zahteva očuvanje integriteta podataka na mreži (trigger-events, instant messaging) kao i sinhronizacione protokole. Multimedijalne komunikacije zahtevaju efikasno kodovanje i prezentaciju podataka kao i garantovani kvalitet servisa (Quality of Experience?).

HYGEIAnet je regionalna mreža (Crete, Greece) integrisanih servisa u zdravstvu koja može poslužiti kao pilot i model zdravstvenih mreža na nacionalnom i Evropskom nivou. Osnovu infrastrukture predstavlja integrisani elektronski zdravstveni karton pacijenta i medicinska radna stanica povezana sa dijagnostičkim uređajima i vidljiva na internetu kao servis portal.

Zajedničke istraživačke aktivnosti su fokusirane na razvoj inovativnih metoda i alata u oblasti medicinske informatike, e-zdravstva, medicinskih slika i bioinformatike.

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THE APPLICATION OF STATIONS IN THE WORK WITH YOUNGER STUDENTS

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ABSTRAKT

During the first term of the academic 2012 / 2012 year, a survey was conducted on a sample of 45 students in the fourth grade of a primary school. The aim was to determine possible differences in motor abilities deriving from the use of stations and the line arrangement in the realization of physical education programme. Basing our conclusions on the values of the univariate analysis of variance, we can deduce that there is a statistically significant difference in seven out of nine researched variables in motor abilities. Statistically significant differences are in favour of the experimental group, in which physical education programme was realized by the application of stations.

Key words: *motor abilities, stations, younger students*

INTRODUCTION

Methodical and organizational forms of work that are used in the first section of a main part of a lesson are: the beginning, pair work, group work (in groups of three), group work (in groups of four), parallel group work, parallel alternating work, alternating group work, work implying additional exercises, polygon, station work, cyclic form of work and track work (Miloševic, 2005:239).

'Start' or 'the line arrangement' has been introduced from a gymnastic practice based on a 'sokolski' system. 'Start' or 'the line arrangement' is a methodical and organizational form of work in the main phase of lesson which can be described as: „while one exerciser, with control and possible help of a group leader, practices on an apparatus, the other exercisers from the same group stand arranged next to each other (line arrangement) and follow the exercise performed by their fellow student. Once the exercise finishes, the student goes to the end of the line (Matić, 1978: 231).

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The advantages of this methodical and organizational form are the following: applicability with students of all ages, suitability for majority of programme demands, applicability in both indoor and outdoor sport facilities, good conditions for teacher monitoring, high level of success in sport and technical improvement of students, etc. (Zdanski, 1967: 67).

The term station used as a technical term in school physical education, signifies a reinforced part of a polygon, which can possibly be equipped with a certain apparatus or a prop, where one or several students perform a set motor exercise simultaneously or alternatively.

When stations are used, all exercises are homogenous i.e. equal in terms of importance for the whole lesson. The main aim of station application is achieving greater volume of activities by setting a higher number of stations, thus reducing passive time when students stand and wait.

On polygon, every student must perform his / her exercise as fast as possible, whereas on a station they must perform as correctly as they can. On polygon, the workload is defined according to the weakest student, whereas at the stations it could be defined at several levels because organization work groups are formed.

Students' age has conditioned all programmes to be planned in a way that all workload in exercises is based on the gravity, student's own body, repulse of partner with similar abilities and props that are adjusted to students' age.

Due to the fact that the number of physical education classes per week is low, physical education methodologists are faced with an everlasting problem is the quest for the most effective methodological and organizational form of work, which will primarely extend active time druting a lesson, as well as ferquency of motor exercising, which will all result in improvement of acquisition of new movement tasks (Marković, Višnjić, 2008a), more adequate development of antrophometric characteristics (Marković, Milanović, and Bogdanović, 2010), motor abilities of primary and secondary school students (Marković, Višnjić, 2008б and Martinović, Marković, Višnjić, 2009) and physical literacy (Markovic, 2007).

The aim of this research was to determine possible differences in motor abilities deriving from the use of stations and the line arrangement in the realization of physical education programme.

METHODOLOGY OF RESEARCH

The research was conducted in a primary school „Jovan Jovanović Zmaj" in the first term of the academic 2011 / 2012 year. The sample of 45 examinees was divided into two specific subsamples in relation to the application of the organizational forms of work in the main part of lesson: experimental group 24 students, when stations were used, and control group of 21 students, when 'start' or 'line arrangement' was used.

Evaluation of motor abilities was conducted through the use of nine standardized movement activities - 'Eurofit' test battery.

Apart from descriptive statistical methods, in the analysis and data processing, univariate analysis of variance (Anova), multivariate analysis of variance (Manova), and discriminant analysis were used in order to test significance of variance for each group.

RESEARCH RESULTS

Minimum and maximum values of researched motor abilities are within the expected range for this age group.

We could note that the results of examinees in the experimental group improved in relation to all researched variables at the final assessment, compared to initial one. The biggest deviation from the mean, which standard deviation points to, was in case of tenacious run (EFIZ) with the value of 47.77 in the initial and 26.45 in the final assessment.

The values of scunis with a negative sign, indicate an extremely positive asymmetric curve. Kurtosis values when hand-tapping is concerned (EFTA) at initial and final assessment, is higher than three, which indicated the existence of heterogeneity of obtained results and plati-curtic curve. Kurtosis is lower than three in other variables, which indicates that the results are homogeneous and that the curve is lepto-curtic.

Table 1 Central and dispersive parameters and asymmetry and flatness measurements of motor abilities of the experimental group of examinees on intial- final measures

Varijable	M	SD	Min	Mah	CV	Iinterv. Pov.		Skew	Kur	Ks-p
EFTA - i	18.86	5.06	14.0	35.0	26.85	16.55	21.16	1.82	3.20	.260
EFFL - i	22.09	5.18	15.0	30.0	23.43	19.74	24.45	.22	-1.34	.605
EFPS - i	18.33	4.89	8.0	27.0	26.68	16.11	20.56	-.38	-.31	.998
EFSK -i	125.29	18.10	92.0	165.0	14.45	117.04	133.53	-.21	-.13	.939
EFLS - i	17.76	3.58	11.0	24.0	20.14	16.13	19.39	-.08	-1.07	.950
EFZG - i	16.33	13.99	1.0	56.0	85.63	9.97	22.70	1.36	1.21	.267
EFAG - i	24.95	1.47	22.0	28.0	5.87	24.28	25.62	.08	-.32	.704
EFDR - i	19.33	4.14	11.0	27.0	21.41	17.45	21.22	-.21	-.55	.992
EFIZ - i	246.57	47.77	190.0	350.0	19.37	224.82	268.32	1.08	.29	.507
EFTA - f	14.86	5.36	10.0	33.0	36.08	12.42	17.30	1.89	4.19	.510
EFFL - f	13.86	5.80	3.0	26.0	41.85	11.22	16.50	.16	-.56	.869
EFPS - f	21.09	4.97	11.0	29.0	23.56	18.83	23.36	-.59	-.46	.998
EFSK - f	144.52	17.82	116.0	185.0	12.33	136.41	152.64	.13	-.22	.946
EFLS - f	22.29	3.69	17.0	29.0	16.56	20.61	23.97	-.01	-1.24	.650
EFZG - f	31.81	25.83	10.0	100.0	81.19	20.05	43.57	1.51	1.09	.071
EFAG - f	22.05	1.36	20.0	26.0	6.16	21.43	22.67	1.01	1.66	.224
EFDR - f	22.57	4.24	14.0	29.0	18.77	20.64	24.50	-.48	-.56	.999
EFIZ - f	202.62	26.45	170.0	259.0	13.06	190.57	214.66	.69	-.68	.659

The values of Kolmogorov-Smirnov test indicate that the distribution of values for the researched variables at initial and final assessment, is placed within the range of normal distribution (Table 1)

Table 2 Central and dispersive parameters and asymmetry and flatness measurements of motor abilities of the control group of examinees on intial- final measures

Varijable	M	SD	Min	Mah	CV	Interv. Pov.		Skew	Kur	Ks-p
EFTA - i	19.33	3.63	14.0	29.0	18.78	17.80	20.87	.86	.90	.438
EFFL - i	24.13	5.48	15.0	30.0	22.71	21.81	26.44	-.42	-1.29	.720
EFPS - i	15.50	5.81	4.0	25.0	37.47	13.05	17.95	-.43	-.41	.847
EFSK - i	121.25	22.42	54.0	154.0	18.49	111.78	130.72	-1.04	1.72	.988
EFLS - i	15.38	4.23	3.0	22.0	27.51	13.59	17.16	-.81	1.26	.888
EFZG - i	19.88	16.81	2.0	77.0	84.59	12.77	26.98	1.72	3.52	.605
EFAG - i	25.50	3.50	14.0	31.0	13.73	24.02	26.98	-1.24	3.02	.842
EFDR - i	19.42	4.10	9.0	26.0	21.09	17.69	21.15	-.45	.01	.772
EFIZ - i	238.75	52.41	168.0	370.0	21.95	216.62	260.89	1.36	1.16	.120
EFTA - f	18.00	3.85	12.0	27.0	21.36	16.38	19.62	.66	.04	.358
EFFL - f	19.63	5.78	10.0	30.0	29.44	17.18	22.07	-.03	-.98	.909
EFPS - f	16.54	6.07	4.0	27.0	36.66	13.98	19.10	-.33	-.38	.999
EFSK - f	127.42	22.03	58.0	160.0	17.29	118.11	136.72	-1.26	2.39	.993
EFLS - f	17.00	4.35	3.0	25.0	25.61	15.16	18.84	-1.14	2.76	.877
EFZG - f	23.75	17.71	3.0	80.0	74.57	16.27	31.23	1.44	2.29	.460
EFAG - f	24.46	3.23	15.0	30.0	13.21	23.09	25.82	-.60	1.53	.941
EFDR - f	20.67	4.34	10.0	27.0	21.00	18.83	22.50	-.51	-.06	.943
EFIZ - f	231.33	52.54	167.0	365.0	22.71	209.14	253.52	1.38	1.10	.172

Studying Table 2, we can note that the results of examinees in the control group improved in every researched variable at final assessment, compared to the initial, except in dynamometric values of the dominant hand (EFDR). The biggest deviation from the mean, which standard deviation points to, is holding pull-ups (EFZG) with values being 52.14 at initial and 52.54 at final assessment.

Minimum and maximum values of researched motor abilities are within the expected range for this age group.

The values of scunis with a negative sign, indicate an extremely positive asymmetric curve. Kurtosis values of all researched variables at both assessments is lower than three, except when vis u zgibu (EFZG) and shuttle run 10x5 m (EFAG) are concerned.

The values of Kolmogorov-Smirnov test indicate that the distribution of values for the researched variables at initial and final assessment, is placed within the range of normal distribution (Table 2)

Table 3The significance of differences between experimental and control group of examinees on initial and final measure in relation to motor abilities

Analysis	N	F	p
Manova	9	3.021	.009
Discriminant	9	2.893	.012

Basing our deductions on the values of multivariate analysis of variance - p = .009 and discriminant analysis - p= .012, we could conclude that there is a statistically significant difference and clearly defined border between experimental and control group of examinees at final assessment.

Statistically significant difference is in favour of the experimental group of examinees.

Table 4The significance of differences between experimental and control group of examinees on final measure in relation to motor abilities

Variable	F	p
Taping - EFTA (sec)	5.201	.027
Flamingo - EFFL (no. of reps.)	11.125	.002
Sit and reach - EFPS (cm)	7.454	.009
Standing long jump - EFSK (cm)	8.046	.007
Sit-ups f30 s - EFLS (no. of reps.)	18.997	.000
Holding pull-ups - EFZG (sec)	1.522	.224
Shuttle run 10h5 m - EFAG (1/10 sec)	10.107	.003
Dynamometrics of the dominant hand - EFDR (kg)	2.205	.145
Endurance run 600 m - EFIZ (sec)	5.125	.044

Judging by the values of the univariate analysis of variance, we can deduce that there is a statistically significant difference in seven out of nine researched variables in motor abilities. Statistically significant difference is not present when holding pull-ups (EFZG) with the level of statistical significance p=.224 and dynamometrics of the dominant hand (EFDR) with the level of statistical significance p=.145 are concerned.

Table 5 Discrimination coefficients of experimental and control group of examinees at final assessment according to variables

Variable	Discrimination coefficients
Taping - EFTA (sec)	.025
Flamingo - EFFL (no. of reps.)	.123
Sit and reach - EFPS (cm)	.093
Standing long jump - EFSK (cm)	.047
Sit-ups 30 s - EFLS (no. of reps.)	.250
Holding pull-ups - EFZG (sec)	.000
Shuttle run 10h5 m - EFAG (1/10 sec)	.047
Dynamometrics of the dominant hand - EFDR (kg)	.010
Endurance run 600 m - EFIZ (sec)	.044

Discrimination coefficients indicate that the biggest differences between experimental and control group of examinees at the final assessment in relation to motor abilities at the variables: down - sit up for 30 s (EFLS) with value of .250,while the smallest is when holding pull-ups (EFZG) is concerned,with value of .000.

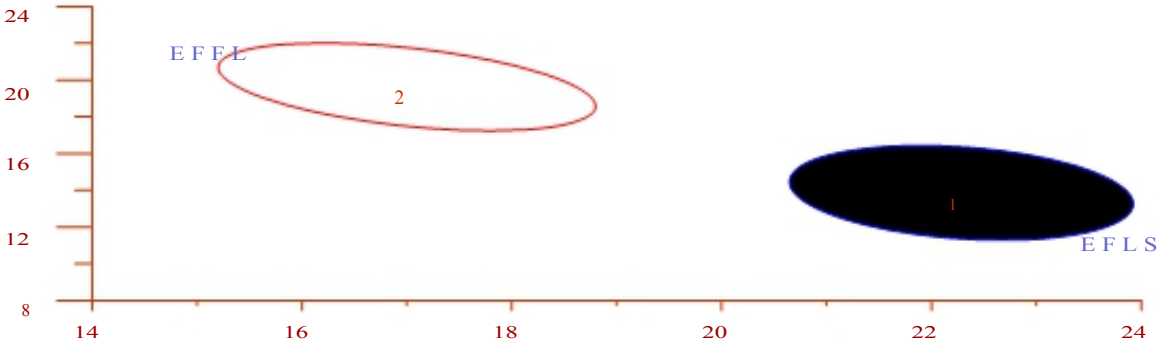
Table 6Homogeneity of experimental and control group of examinees at final assessment

Group	**n/m**	**%**
Experimental	16/21	76.20
Control	20/24	83.30

Basing our conclusions on the above mentioned, we could deduce that at the final assessment of 21 examinees, 16 of them have characteristics typical for their group, with homogeneity of 76.20% (higher), which also means that five examinees have different characteristics, which are not typical for their group. In the control group, 20 examinees out of 24 have characteristics typical for their group, with homogeneity of 83.30% (higher), while four examinees have different characteristics.

Studying the graphical representations of ellipses (interval of trust), we could deduce the mutual positions and characteristics of the experimental and control group in relation to three most discriminative conditions of motor abilities: lie down - sit up for 30 s (EFLS), flamingo (EFFL) and sit and reach (EEPS).

Graph 1 Ellipses (interval of trust) of experimental and control group of examinees in relation to two most discriminative conditions: lie down - sit up for 30 s (EFLS) and flamingo (EFFL)



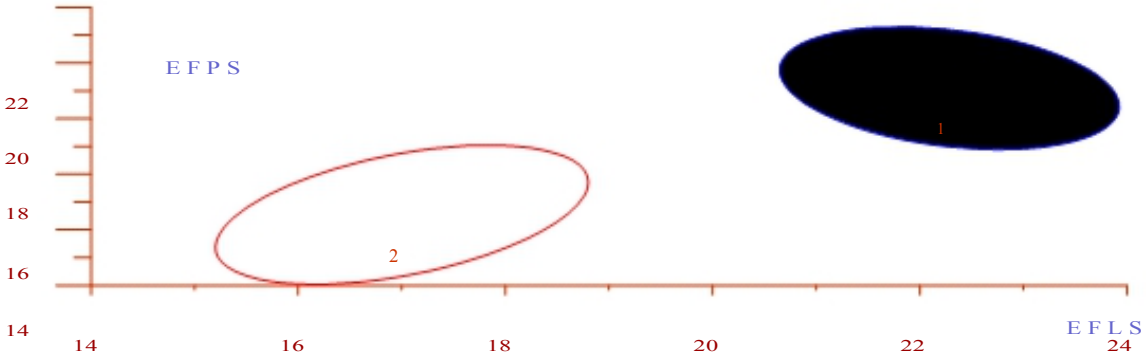
Legend: experimental group (1); control group (2); lie down - sit up for 30 s (EFLS); flamingo (EFFL)

On Graph 1, the apcis (horisontal axis) represents lie down - sit up for 30 s (EFLS), and ordinate (vertical axis) is flamingo (EFFL).

It could be noted that in relation to lie down - sit up for 30 s, control group (2) has the lowest value, whereas experimental group (1) has the highest value. In relation to flamingo, experimental group has the lowest and control group has the highest value.

Graph 2

Ellipses (interval of trust) of experimental and control group of examinees in relation to two most discriminative conditions: lie down - sit up for 30 s (EFLS) and sit and reach (EFPS)



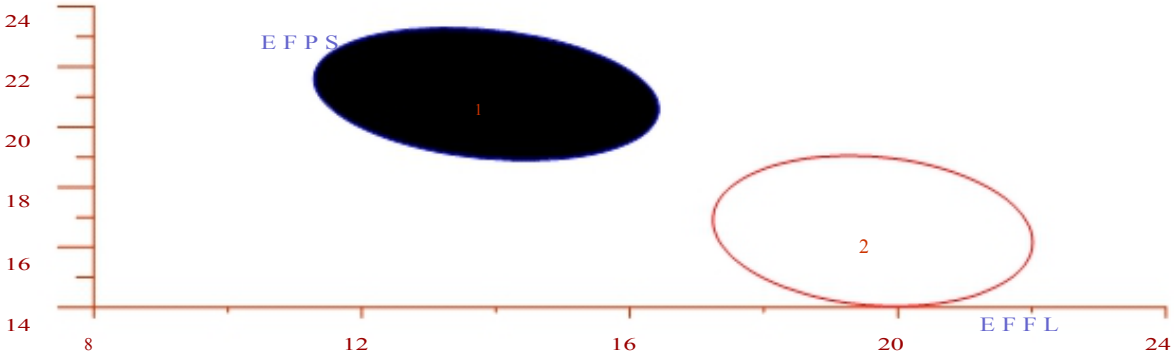
Legend:

experimental group (1); control group (2); lie down - sit up for 30 s (EFLS); sit and reach (EFPS)

On Graph 2, the apcis (horisontal axis) represents lie down - sit up for 30 s (EFLS), and ordinate (vertical axis) is sit and reach (EFPS).

It could be noted that in relation to the variable lie down - sit up for 30 s, control group of examinees has the lowest value of motor abilities, whereas experimental group has the highest value. In relation to sit and reach control group has the lowest and experimental group has the highest value.

Graph 3 Ellipses (interval of trust) of experimental and control group of examinees in relation to two most discriminative conditions: flamingo (EFFL) and sit and reach (EFPS)



Legend: experimental group (1); control group (2); flamingo (EFFL); sit and reach (EFPS)

On Graph 3, the apcis (horisontal axis) represents flamingo (EFFL), and ordinate (vertical axis) is sit and reach (EFPS).

It could be noted that in relation to the variable flamingp, experimental group of examinees has the lowest value of motor abilities, whereas control group has the highest value.

UTICAJ KONTINUIRANE I KONCENTRISANE NASTAVE NA FORMIRANJE STAVOVA UČENICA SREDNJOŠKOLSKOG UZRASTA PREMA FIZIČKOM VASPITANJU

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APSTRAKT

Cilj istraživanja je bio da se utvrdi uticaj kontinuirane i koncentrisane nastave na formiranje stavova učenica srednjoškolskog uzrasta prema fizičkom vaspitanju. Uzorak je obuhvatio 92 ispitanice, podeljene u dva subuzorka - prema kriterijumu planiranja nastave fizičkog vaspitanja: subuzorak od 50 ispitanica sa kontinuiranom i 42 ispitanice sa koncentrisanom nastavom fizičkog vaspitanja. Postupcima multivarijantne analize varijanse i diskriminativne analize konstatovane su statistički značajne razlike i jasno definisane granice između dve grupe ispitanica. Rojevim testom, utvrđena je statistički značajna razlika između grupa u odnosu na Mercerovu sumu. Statistički značajna razlika je u korist grupe ispitanica sa kontinuiranom nastavom fizičkog vaspitanja.

Ključne reči: *Stavovi, kontinuirana nastava, koncentrisana nastava, fizičko vaspitanje, srednja škola*

UVOD

Pojam stava, danas se veoma mnogo koristi u radovima socijalne psihologije i naglo se proširio i u radovima iz oblasti drugih društvenih nauka.

Istraživanje stavova je aktuelni problem, ne samo za naučnike, već i za političare, zdravstvo, proizvođače robe i druge segmente društva. Tri najbitnija razloga za tako široko korišćenje pojma stava su: složenost pojma stava, omogućava da se prevaziđe jednostranost i sociologističkog i psihologističkog objašnjavanja ljudskog ponašanja i što se njime još uvek nesigurno i nepotpuno, može predviđati ponašanje ljudi (Rot, 1994).

Stav (Kreč i Kračfild, 1980) definišu kao „trajnu organizaciju motivacionih, perceptivnih i spoznajnih procesa s' obzirom na određene vidove individualnog sveta".

Jedan od često primenjivanih inventara u oblasti fizičkog vaspitanja je Mercerov inventar stava. Ovaj inventar je adaptacija koju je razradio Gallowey u nameri da proceni stav studentkinja. Revizija ima tačnost od 0.92, a vrednost koeficijenta je 0.74 i izračunata je prema kriterijumu lične skale ocenjivača (Barou, H. M. i Mec Gi, R, 1975).

Cilj Mercerovog inventara stava je da proceni stav gimnazijalki prema psihološkim, društvenim, moralnim i duhovnim vrednostima i iskustvima fizičkog vaspitanja. Može se lako prilagoditi da služi i za učenike osnovne škole.

Istraživanjem stavova u fizičkom vaspitanju pomoću Mercerovog inventara stavova bavili su se (Arunović, 1982; Višnjić, 1987; Katić, 1985; Milanović, 1987; Obradović, 1984; Petković, 1985; Todorovski, 1993 i drugi autori).

Cilj istraživanja je bio da se utvrdi uticaj kontinuirane i koncentrisane nastave na formiranje stavova učenica srednješkolskog uzrasta prema fizičkom vaspitanju.

METOD RADA

Ovo je bilo empirijsko istraživanje, longitudinalnog karaktera realizovano u Poljoprivredno-veterinarskoj školi sa domom učenika „Svilajnac" u Svilajncu, u prvom polugodištu školske 2008/2009. godine. Stavove prema fizičkom vaspitanju utvrdili smo putem Mercerovog inventara stava, koji je modifikovan za osnovnoškolski i srednjoškolski uzrast (Modifikaciju je izvršio Matić i sar., 1982).

Mercerov inventar stava popunjavan je za vreme redovnih časova nastave fizičkog vaspitanja.

Empirijskim istraživanjem su obuhvaćene 92 ispitanice, podeljene u dva subuzorka - prema kriterijumu planiranja i realizacije nastave fizičkog vaspitanja - Eksperimentalna grupa od 50 ispitanica sa kontinuiranim i kontrolna grupa od 42 ispitanice sa koncentrisanim planiranjem i realizacijom sadržaja nastave fizičkog vaspitanja.

Podaci dobijeni empirijskim istraživanjem su obrađeni odgovarajućim matematičkostatističkim postupcima. Pored brojčanih i procentualnih zastupljenosti nivoa primenjena je: multivarijantna analiza varijanse (Manova), Rojev test i diskriminativna analiza.

REZULTATI ISTRAŽIVANJA

U tabeli 1. dati su deskriptivni parametri koji samo mogu nagovestiti neke karakteristike pojedinih nivoa Mercerovog inventara.

Tabela 1. Brojčane (n) i procentualne (%) zastupljenosti Mercerovog inventara stava ispitanica eksperimentalne i kontrolne grupe - inicijalno i finalno

Inicijalno	**Ne slažem se**		**Delimično se ne slažem**		**Neodlučan sam**		**Delimično se slažem**		**Potpuno se slažem**	
Grupe	n	%	n	%	n	%	n	%	n	%
Eksperimentalna	2.	4.00	8.	16.00	19.	38.00	16.	32.00	5.	10.00
Kontrolna	1.	2.40	7.	16.70	19.	45.20	14.	33.30	1.	2.40
Finalno	**Delimično se ne slažem**		**Neodlučan sam**		**Delimično se slažem**		**Potpuno se slažem**	
Grupe	n	%	n	%	n	%	n	%		
Eksperimentalna	4.	8.00	12.	24.00	22.	44.00	12.	24.00*		
Kontrolna	4.	9.50	20.	47.60*	16.	38.10	2.	4.80		

Kod ispitanica obe grupe na inicijalnoj proceni najzastupljeniji je odgovor „neodlučan sam". Na finalnoj proceni u eksperimentalnoj grupi najzastupljeniji je odgovor „delimično se slažem", a u kontrolnoj grupi „neodlučan sam". Odgovor „ne slažem se" na inicijalnoj proceni zastupljeniji je u eksperimentalnoj grupi, a na finalnoj proceni nije uopšte zastupljen, što ukazuje na pozitivnije stavove na finalnoj proceni u obe grupe. Odgovor „delimično se ne slažem" na inicijalnoj proceni zastupljeniji je u eksperimentalnoj grupi, a na finalnoj u kontrolnoj grupi. Odgovor „neodlučan sam" na obe procene zastupljeniji je u kontrolnoj grupi. Odgovor „delimično se slažem" i „potpuno se slažem" na obe procene je zastupljeniji u eksperimentalnoj grupi.

Karakteristike eksperimentalne grupe na inicijalnoj proceni su odgovori „ne slažem se" i „potpuno se slažem", a kontrolne „delimično se ne slažem", „neodlučan sam" i „delimično se slažem". Na finalnoj proceni karakteristike eksperimentalne grupe ispitanica su odgovori „delimično se slažem" i „potpuno se slažem", a kontrolne grupe „delimično se ne slažem" i „neodlučan sam".

Tabela 2. Značajnost razlika između eksperimentalne i kontrolne grupe ispitanica u odnosu na Mercerov inventar stava - inicijalno i finalno

Analiza	**n**	**F**	**p**
Manova - i	1	2.538	.115
Diskriminativna - i	1	2.568	.115
Manova - f	1	10.322	.002
Diskriminativna - f	1	10.322	.002

Vrednost multivarijantne analize varijanse i diskriminativne analize ukazuju da između eksperimentalne i kontrolne grupe ispitanica na inicijalnoj proceni Mercerovog inventara stava ne postoji statistički značajna razlika, pošto dobijeni nivo statističke značajnosti iznosi p=.115.

Vrednost multivarijantne analize varijanse ukazuje da između eksperimentalne i kontrolne grupe ispitanica na finalnoj proceni u odnosu na Mercerov inventar stava postoji statistički značajna razlika sa nivoom statističke značajnosti od p=.002.

Na osnovu vrednosti diskriminativne analize, takođe, možemo konstatovati da postoji statistički značajna razlika i jasno definisana granica između eksperimentalne i kontrolne grupe ispitanica u odnosu na Mercerov inventar stava (Tabela 2).

Tabela 3. *Značajnost razlika između eksperimentalne i kontrolne grupe ispitanica u odnosu na Mercerovu sumu - inicijalno i finalno*

Analiza	χ - i	R - i	F - i	p - i	χ - f	R - f	F - f	p - f
Mercerova suma	.163	.166	2.482	.119	.305	.321	10.208	.002

Rojev test ukazuje da u finalnoj proceni između eksperimentalne i kontrolne grupe ispitanica u odnosu na Mercerovu sumu postoji statistički značajna razlika, u korist eksperimentalne grupe ispitanica. Dobijeni nivo statističke značajnosti iznosi p=.002. Statistički značajna razlika između grupa ispitanica na inicijalnoj proceni nije postojala.

Statistički značajna razlika između grupa ukazuje na pozitivnije stavove u eksperimentalnoj grupi u finalnoj proceni, formirana uz efekte eksperimentalnog tretmana.

Analiza razlika eksperimentalne i kontrolne grupe ispitanica u odnosu na tretman stavova prema nastavi fizičkog vaspitanja i vrednostima fizičke kulture

U ovom delu rada pokušaće da se utvrdi postoje li, ili ne postoje, razlike ili sličnosti, između tretmana eksperimentalne i kontrolne grupe ispitanica u odnosu na Mercerov inventar stava prema nastavi fizičkog vaspitanja i vrednostima fizičke kulture.

Tabela 4. Značajnost razlika između tretmana eksperimentalne i kontrolne grupe ispitanica u odnosu na Mercerov inventar stava

Analiza	n	F	p
Manova	1	6.754	.000

Vrednost multivarijantne analize varijanse ukazuje na statistički značajnu razliku između tretmana eksperimentalne i kontrolne grupe ispitanica u odnosu na Mercerov inventar stava sa nivoom statističke značajnosti od p=.000.

Tabela 5. Značajnost razlika između tretmana eksperimentalne i kontrolne grupe ispitanica u odnosu na sumu Mercerovog inventara stava

Analiza	χ	R	F	p
Mercerova suma	.334	.318	6.754	.000

Rojev test razmatra samo jednu varijablu, a to je Mercerova suma i na osnovu dobijenih parametara možemo konstatovati statistički značajnu razliku između tretmana četiri grupe ispitanica u odnosu na Mercerovu sumu. Dobijena statistički značajna razlika ukazuje na efekte eksperimentalnog tretmana koji je uslovio pozitivnije stavove ispitanica (Tabela 5).

Tabela 6. Značajnost razlika između tretmana eksperimentalne i kontrolne grupe ispitanica u odnosu na Mercerov inventar stava

Analiza	n	F	p
Diskriminativna	1	6.754	.000

Na osnovu vrednosti diskriminativne analize možemo konstatovati da postoji statistički značajna razlika i jasno definisana granica između eksperimentalnog i kontrolnog tretmana u odnosu na Mercerov inventar stava.

Tabela 7. *Homogenost eksperimentalne i kontrolne grupe ispitanica u odnosu na Mercerov inventar stava*

Grupe	m/n	%
Eksperimentalna inicijalno	29/50	58.00
Kontrolna finalno	27/42	64.29
Eksperimentalna finalno	34/50	68.00
Kontrolna finalno	24/42	57.14

Najveća homogenost je u eksperimentalnoj grupi ispitanica-finalno. Definisane karakteristike od 50 ispitanica ima 34, a šesnaest ispitanica ima druge, a ne karakteristike svoje grupe i homogenost je 68.00%.

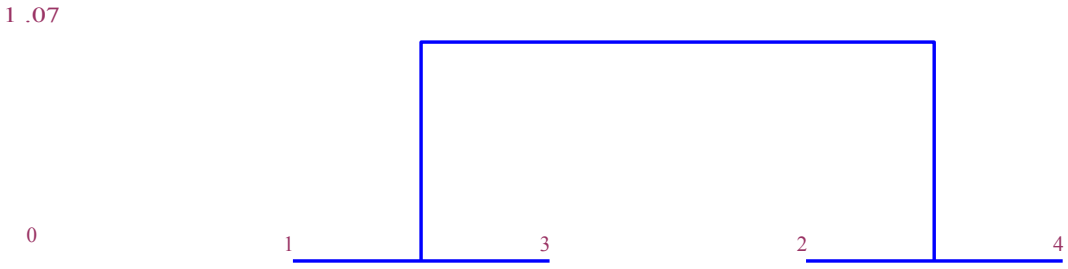
Najmanja homogenost je u kontrolnoj grupi ispitanica-finalno, gde definisane karakteristike od 42 ispitanice imaju 24 ispitanice i homogenost je 57.14%. Najveća homogenost u eksperimentalnoj grupi ispitanica na finalnoj proceni, ukazuje da u ovoj grupi, najveći broj ispitanica ima pozitivnije stavove, koji su izazvani eksperimentalnim tretmanom (Tabela 7).

Tabela 8. *Distanca (Mahalanobisova) eksperimentalne i kontrolne grupe ispitanica u odnosu na Mercerov inventar stava*

Grupe	Eksper. inic.	Kontr. inic.	Eksper. finalno	Kontr. finalno
Eksperimentalna inicijalno	.00	.22	.00	.86
Kontrolna inicijalno	.22	.00	.86	.00
Eksperimentalna finalno	.00	.86	.00	.70
Kontrolna finalno	.86	.00	.70	.00

Mahalanobisova distanca nam ukazuje da je najmanje rastojanje između eksperimentalne grupe ispitanica-finalno i eksperimentalne grupe ispitanica- inicijalno i iznosi .00. Najveće rastojanje je između eksperimentalne grupe ispitanica u finalnoj proceni i kontrolne grupe ispitanica u inicijalnoj proceni i iznosi .86 (Tabela 8).

Dendrogram 1. Distance tretmana između eksperimentalne i kontrolne grupe ispitanica



Legenda: eksperimentalna inicijalno (1); kontrolna inicijalno (2); eksperimentalna finalno (3) i kontrolna finalno (4).

Na osnovu dendrograma 1. može se uočiti da su najbliže eksperimentalna grupa ispitanica-inicijalno i eksperimentalna grupa ispitanica-finalno sa distancom od .00. Najveća razlika je između eksperimentalne grupe ispitanica-finalno i kontrolne grupe ispitanica- inicijalno sa distancom od 1.07.

ZAKLJUČNA RAZMATRANJA

Na osnovu dobijenih rezultata, procene stava prema fizičkom vaspitanju, na uzorku od 92 ispitanice, podeljene u dva posebna subuzorka - prema kriterijumu planiranja nastave fizičkog vaspitanja, možemo konstatovati da stavovi ispitanica prema nastavi fizičkog vaspitanja-finalno upućuju da je u eksperimentalnoj grupi ispitanica najzastupljeniji odgovor „delimično se slažem", a u kontrolnoj grupi ispitanica - „neodlučan sam". U obe grupe ispitanica-inicijalno najzastupljeniji je bio odgovor „neodlučan sam". Pozitivnije promene su u eksperimentalnoj grupi ispitanica gde se smanjio broj odgovora sa „delimično se ne slažem" i „neodlučan sam", a povećao broj odgovora sa „delimično se slažem" i „potpuno se slažem". Promene upućuju na pozitivnije stavove u eksperimentalnoj grupi ispitanica izazvane eksperimentalnim tretmanom.

Multivarijantna analiza varijanse ukazuje na statistički značajnu razliku između eksperimentalne i kontrolne grupe ispitanica u odnosu na Mercerov inventar stava, sa nivoom statističke značajnosti od p=.002.

Diskriminativnom analizom pored statističke značajnosti, konstatovano je i postojanje jasno definisane granice između eksperimentalne i kontrolne grupe ispitanica u odnosu na Mercerov inventar stava.

Rojev test sa nivoom statističke značajnosti od p=.002, ukazuje na statistički značajnu razliku između eksperimentalne i kontrolne grupe ispitanica u odnosu na Mercerovu sumu. Statistički značajna razlika je u korist eksperimentalne grupe ispitanica. Homogenost je veća u eksperimentalnoj grupi ispitanica.

Stavovi ispitanica prema fizičkom vaspitanju u odnosu na tretman ukazuju da postoji statistički značajna razlika između tretmana eksperimentalne i kontrolne grupe ispitanica u odnosu na Mercerov inventar stava sa nivoom statističke značajnosti od p=.000. Ovo takođe potvrđuju vrednosti diskriminativne analize i Rojevog testa.

U cilju formiranja pozitivnijih stavova kod ispitanica treba raditi na organizovanju homogenih grupa, adekvatnom izboru programskih sadržaja nastave fizičkog vaspitanja tj. da sadržaji budu primereni njihovim potrebama. Intenzitet opterećenja pritom treba uskladiti sa motoričkim i funkcionalnim sposobnostima ispitanica. Izabrane aktivnosti treba da svojim efektima dovedu do prijatnih situacija. Davanje instruktaža o telesnom kretanju-vežbanju u vannastavnim aktivnostima, kako bi došlo do odomaćivanja fizičkog vežbanja. Telesnim kretanjem-vežbanjem omogućiti veći obim teorijskog znanja o fizičkom vežbanju i fizičkom vaspitanju, koje bi uticalo na formiranje pozitivnijih stavova ispitanica prema fizičkom vaspitanju.

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THE STRATEGIC SPORTS EVENT PLANNING: A CASE STUDY OF THE UEFA EUROPEAN UNDER-17 FOOTBALL CHAMPIONSHIP

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ABSTRACT

The paper introduces a relatively new way of planning the sports events, the strategic approach, as an innovative and in-depth process of planning the sports events in order for the predefined events objectives to be successfully achieved. According to the authors, the strategic sports event planning is viewed as an effective extension of the traditional theories and models suggesting a more comprehensive, staged process that can enable the event to provide benefits in both longer and shorter term. As such, the staged strategic sports event planning process encompasses both short-term requirements for the implementation of the event and the long-term legacies the sports event can leave behind. The authors, then, present an application of the staged process using the UEFA European Under-17 Football Championship as an example of planning the international football event to be hosted by Serbia in May 2011, which was nominated a prestigious candidature to host the European Championship Final tournament. The paper concludes that the new approach has a great potential for broader applications on sports events of all scales, underlying importance of the strategic planning of, especially, major international sports events and influence they have in economic, social and cultural sense.

Keywords: *event management, sports events, strategic planning, UEFA european u-17 football championship*

The Strategic Sports Event Planning:

A Case Study of the UEFA European U-17 Football Championship

Sports event management integrates the principles of management and marketing to the sports industry. Sport management and also event management are both areas that are growing in stature and scope, can overlap in their content, and provide understandings to event practitioners on how the sports events can be best planned to meet the needs of the 21st century. Both discipline areas are focusing on strategic rather than reactive management of the event and also looking at alternative and innovative solutions to long-standing problems. Today, the environment in which sport organizations exist and operate has also altered; therefore, management of contemporary sports events involves application of techniques and strategies that are also used in commercial business as well as in government and not-for-profit organizations. Sport event management must employ strategic planning, manage human resources and deal with a range of different stakeholders.

Previous research has suggested that the use of the event objectives is necessary for the production of a successful event (Allen et al., 2002; Getz, 1997; Goldblatt, 2002; Shone & Parry, 2001). The argument in favor of use of the event objectives is that they provide the direction for planning and execution (Masterman, 2004). Allen et al. (2002) underline that objectives are required before any situational analysis, while Getz (1997) proposes that scanning the internal and external environments is necessary prior to setting the vision and goals for the event. Damster et al. (2006) emphasized that systems approach to event planning outlined by Getz (1997) envisaged a continual process of review and monitoring the plan and event itself during and after its implementation adding that it can be adopted to include the participation of communities emphasizing the role and responsibility of local authorities in an integrated event planning process, especially applicable in developing countries. Several of the theories also consider wind-up or shutdown (Allen et al., 2002; Catherwood & Van Kirk, 1992; Getz, 1997; Shone & Parry, 2001). Theories of Catherwood & Van Kirk (1992) and Goldblatt (1997) propose a less formal approach to event planning, although in the theories of Getz (1997), Allen et al. (2002), Shone & Parry (2001) and Torkildsen (1999) the event planning is a staged process.

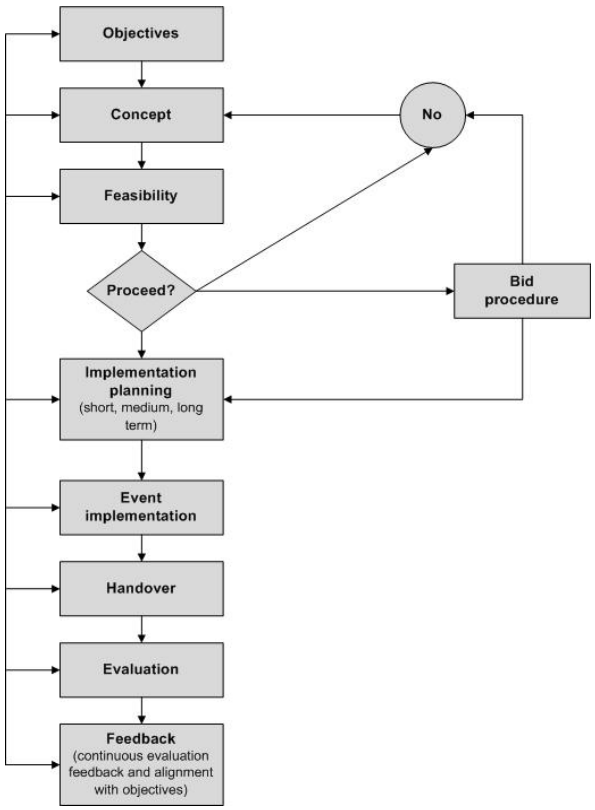
The focus of the research in this paper is on analysis of the theoretical aspects and application of a new event planning process model to an example of planning of the UEFA European Under-17 Football Championship Final tournament to be hosted by Serbia in May 2011.

Method

Research Design

The strategic planning is carried out using as a framework for the analysis the new staged event planning process model which particularly addresses the long-term legacy needs for the strategic planning of international sports events. Among the initiatives involved, the UEFA Under-17 Football Championship Final tournament is an international sports event that has all the characteristics of a major event (special event that is high in status and prestige, which attracts a large crowd and wide media attention, has a tradition and incorporates other types of events, is expensive to stage, attracts funds to the host region, lad to demand for associated services, and leave behind legacies). The sports event management planning process which consists of up to ten different stages is illustrated in Figure1.

Fig. 1. The strategic event planning process - Staged model



Source: Masterman (2004)

In the first stage, it is important for all stakeholders to be identified and their requirements considered that they can be incorporated into the planning of the event. This include considering of potential partners and the basic five questions that should be asked: **(1) WHY is the Event to be held? (2) WHEN will the Event be held? (3) WHERE is the Event to be staged? (4) WHO is to benefit and how? (5) WHAT is to be achieved?**

The UEFA European U-17 Football Championship is an annual competition staged by the UEFA. Starting from its establishment in 2001, the host countries have been Switzerland, Portugal, France, Turkey, Russia, Spain (for the two times repeatedly), Germany and England (UEFA Regulations, 2010). The Championship represents the highest rank of competition for this age. It counts as a preliminary competition for the FIFA U-17 World Cup when the final round takes place in an uneven year; therefore, the first placed 6 teams are eligible to participate directly in the upcoming FIFA U-17 World Cup.

The Football Association of Serbia (FAS) has been nominated by the UEFA Executive Committee as a host association for the Final tournament of the 10th UEFA European U-17 Football Championship which is held in the four cities in period from 1st - 16th of May 2011. As a general rule, the final round is played as a tournament. Eight teams take part in the final round. The seven group winners of the elite round qualify. The host country qualifies automatically (UEFA Regulations, 2010). As the UEFA Executive Committee has entrusted Serbia with the organization of the final tournament, therefore, a host association of the final round, Football Association of Serbia is privileged to qualify automatically for the final round.

Objectives which have to be achieved.

Competitive: placement into the final round of the Championship - from the group phase to the semi-final, taking one of four positions (out of 53 teams from the qualifications, and 8 in the final round) would be the biggest success of our national U-17 football team and placement to the 2011 World Cup Mexico.

Sociological: a means of social intervention on the vulnerable youth population, animation of the youth to actively participate in sports, especially in football, and general popularization of football.

Cultural: regarding the fact that the matches of the European Championship will be broadcast throughout the world, the international character of this competition contributes to a more significant promotion of the state itself, its host cities, and institutions involved in the organization of this sports event.

Key stakeholders. In the organization of the UEFA European U-17 Football Championship Final tournament apart from the football stakeholders - UEFA, FIFA and FAS, will participate the following institutions: Ministry of Youth and Sports, City of Belgrade Secretariat of Youth and Sports, as well as Secretariat of Sports and Youth of the Autonomous Province of Vojvodina.

Development of the event concept. Having determined the objectives, the concept for the event can be designed. As a rule, consideration should give meaningful answers to the explanations about the scale of the event, purposes, significance, necessary time for planning and implementation, locations

and venues, the facilities and equipment required and already available, should be incorporated into development of the concept of the sports event.

Purpose and significance of the event: FAS as the host of the Final tournament of the UEFA European U-17 Championship will not have any financial benefits that could be treated as a profit. The primary purpose of hosting this major football event can only be found in cultural concerns and affirmative benefits for all social instances involved in the promotion of Serbia at the international level, in promotion of football in Serbia and in the initiation of youth involvement in football and sports in general. Accordingly, the fact that all investments in infrastructure set up by the UEFA standards for organizing such a level of competition should not be ignored, will remain both benefit and long-term legacy for future sports events in Serbia.

Time: From 1st to 16th of May 2011

Location: Host cities (Belgrade, Novi Sad, Indjija, Smederevo)

Event program: The quality of the event program is additionally influenced by the sport services representing an extended offer to spectators (such as comfortable accommodation, available information, security issues, merchandizing, advertizing materials) and related to the parameters of accessibility, reliability, sensitivity, tangibility and safety.

Feasibility stage. This stage focuses on the financial aspects pertinent to the strategic planning of sports events, such as the acquisition of funding and the control of expenditure with an emphasis on the need for the financial risk management. The event budget serves as a valuable tool in the measurement of performance of individuals as well as the organization as a whole. According to Masterman (2004), the content of an event budget consists of: revenue targets and expenditure targets.

Designated funds from the budget of the City of Belgrade (the Secretariat of Youth and Sport) are used to co-finance renting of the sports facilities necessary for the maintenance of all preparatory activities and matches of the Final tournament.

Designated funds of the Secretariat of Sports and Youth of Vojvodina have been a precondition for this very important preparatory activity. The Semi-final and final match of the European Championship will be played in the cities of Vojvodina - Novi Sad (the Karadjordje Stadium) and Indjija (the Indjija Stadium). According to the UEFA conditions necessary for maintaining this level of competition, additional work and reconstruction of this two stadiums is obligated covering 200 seats in the stadium of FC Indjija, adaptation of toilets, adaptation of parking for more vehicles than the existing number, VIP sectors, power generators, a signage plan, internal and external decoration of the stadium, creating the optimal conditions for the TV broadcasts which will be implemented by Eurosport, etc.)

The key investor and partners from both public and private sectors have been identified to be helpful to financial planning and organization of the Final tournament. Holding of such an event could not be possible without support of the UEFA, the football authority responsible for the football

game at the European level and the national football association. In accordance with the plan of organization of the European Championship, the following institutions will also actively participate: Ministry of Youth and Sports, Secretariat of Sports and Youth of the Autonomous Province of Vojvodina, as well as Secretariat of Sport and Youth of the City of Belgrade, together with the football stakeholders - UEFA and FAS.

Event implementation. At this stage, the short-term requirements of the event are considered and the operational strategies are determined: human resources, partnerships, suppliers, facilities, equipment, services, sales and marketing. Successful sports events require an effective project management approach (Masterman, 2004). Staging a sports event consists of planning, setting up the organizational structure and developing the work breakdown structures and methods to achieve the predefined objectives. Several concepts in staging and implementation of the Final tournament are integrated within the program of the event, namely: *Accommodation/ Offices/ Boardrooms/ Catering; Accreditation; Ceremonies/ Youth Programs; Hospitality and Protocol; Match filming; Match organization; Media matters and communication with sub-group Media accreditations; Medical matters; Promotion/ Press releases/ Press launches; Safety and Security; Human resources and Volunteers; Natural and Artificial turf football pitches; Logistics, Transport and Parking lots; and Ticketing.*

Sports event marketing: The sports event as a product include the event as a whole and also all the various components that it can consist of. These include goods, services, information and media, places, people and also ideas (Pitts & Stotlar, 2002). The determination of the marketing mix for an event involves creating a product that satisfies customers needs, at an acceptable price, in appropriate places so that it can be promoted in such a way that the whole offering becomes known, attractive and bought by target customers (Masterman, 2004). Events are services and are therefore subject to the consideration of a separate service sector marketing mix. There is an extended approach to the marketing mix, according to Getz (1997) that becomes visible in staging and organizing major sports events such as the UEFA European U-17 Football Championship, where beside the four basic instruments - the 4Ps, people have been incorporated as a key resource in the event organization, programming, partnership and relations with intermediaries - suppliers.

Event evaluation. The evaluation process may be at the back end of the planning process, but it is not just a post-event evaluation. The three phases encompass the planning process as a whole. These are pre-event research, iterative evaluation and post-event evaluation. The most significant form of evaluation from the perspective of a sports event host is impact analysis as a determination of an event's economic contribution to its host city, region and/or nation. In order to make possible the cost-benefit analysis, it is necessary to provide a quantitative and qualitative assessment of the impacts associated with the Final tournament:

Immediate impacts and pre-Tournament: Reconstruction and preparing of the stadiums in accordance with the UEFA requirements; Associated environmental and infrastructure improvements; Associated regeneration activity (including inward investment and employment);

Training of volunteers; Pre-tournament operational employment; Marketing and promotional campaigns; Enhanced partnership working in order to deliver facilities and infrastructure.

Intermediate impacts - during the Tournament: Operating the tournament; Opening and closing ceremonies; Tournament related events and cultural activities; Visitor spend; Marketing, promotion, media coverage and exposure; Volunteer activity.

Strategic impacts - post-Tournament: Enhanced national and international image; Popularization of football; Social benefits such as health benefits brought about through the improved participation in sport, a personal pride and well-being from seeking a job or being a tournament volunteer; Spin-off benefits for the wider region: enhanced profile and image of the host cities of tournament, growth in target sectors of the economy, increased education and skill levels; Increased inward and retained investment.

Results and Discussion

In this paper, special attention is paid to the process of planning an event and its importance for the organizers. The main aim of the paper was to emphasize importance of the strategic planning process of, especially, major international sports event, potential influence which it has in economic and socio-cultural sense, as well as what legacy and values it can leave behind. Within the theoretical discussion, the paper introduced an innovative methodology to the field of sports event management, illustrated, in the applied part of the paper, by a case study on the European U-17 Football Championship. The example was chosen due to the fact that Serbia was nominated a prestigious candidature to host the Final tournament of the European Championship in youth football. The staged model of the strategic event planning replaced the more traditional approaches analyzed in the previous theory and event management literature. The strategic staged model represents a more comprehensive process which encompasses the need for the inclusion of specific long-term strategies when planning a major international sports event and strategies that will extend beyond the end of the event itself. The clear advantage is that the staged model is applicable to the strategic planning process required for all scales of sports events. Although the boundaries between each stage are frequently less then clear in the management practice, the staged model is important so that progression can be made without unnecessary action being taken too early as Masterman (2004) emphasized. The predefined event's objectives set out following the SMART principle (Specific, Measureable, Achievable, Realistic, and Timely) must be combined with the application of a range of performance indicators (budget targets, deadlines for contracts to be achieved, etc.) in evaluation of all stages of the strategic planning process. It is important to underline that the need for introducing a strategic approach is more evident particularly because it may be usefully applied not in the sports event management only, but in the whole events industry.

The attractiveness and prestige of such an event, which are now bound up with the four host cities, have positive effects on the image of Serbia as a destination of growing cultural value. It also stimulated new investments which can repeat and improve the event, as well as produce initiatives of requalification of Serbia at various levels (infrastructures, services, urban renewal, etc.) Since the Final tournament of the UEFA European U-17 Football Championship do not have any interest in achieving material and financial benefits from the organization of competition, the intention is to for all sports, social, cultural and benefits of promoting the state in general to be pointed out (especially the host cities) as the main triggers for hosting this important event. On the other hand, all investments in infrastructure identified as a prerequisite, represent a significant investment in the upcoming sports events planning in Serbia.

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STRATEGIC MANAGEMENT OF WOMEN'S SPORTS IN SERBIA

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ABSTRACT

The basic starting points of this paper are the facts on overall problems caused by insulation of our country from its surrounding, as well as need for quick and efficient adjustment to significant trends and changes that took place in European Union, while we did not take participation in them, and which are still taking place quickly, dramatically, complexly and unforeseeably. Characteristics of the processes that are taking place in our surrounding are called hyper changes, which with a phenomenon of ''condensation'' of space, time and matter, sum up in one year, or maybe in just a few months.

Women's sports of Republic of Serbia try to adjust to such changes by slow, partial solutions, those being the first satisfactory solutions as a result of logical step by step changes. Evolutionary changes are slow, predictable based on the past trends and with the slight lag they fit into the strategic changes with their logical incrementalism. In each model of changes one uses adaptive learning, or single loop learning which is based on cognition and understanding of change in the surroundings and adaptation to those changes.

Key words: *management-University sports-strategy*

The results of the analysis of women's sport indicate need for significant strategic and organizational changes. Punctuated equilibrium model is based on the fact that changes in University sports of developed countries based on its frequency, scope and turbulence level, highly surpass frame that can be filled by adapting through continuous changes in our sport, but that such long changes are succeeded by short periods of radical - revolutionary changes stepping out of the existing equilibrium model. Specific characteristic of certain sport branches does not include accumulation of changes, since each sport changes in its own way and requires its own development model.

At the level of women's sports in Republic of Serbia punctuated equilibrium model should be seen as sublimate of necessary changes in organizational structure, culture, power and leadership in each sport branch of University sport. Substantial model includes preparation for changes and in the end stabilization of sport organization.

Increase in overall changes and necessary high rate of diffusion of changes, as the condition imposed to our country in the scope of complete integration in European trends, objectively requires implementing large, radical and transformational changes in the structure of University sport.

Creation and research of new strategic fields for required expansion of sport organization conditions application of generative learning model or double loop learning, which does not enhance existing knowledge and procedures, but questions basis of application of existing knowledge and creates new knowledge, competencies and strategies. Focusing of the basic competence of sport organization on innovation and quality, i.e. request that sport managers must be more flexible and proactive (future oriented), introduces contemporary theory and practice of sport management in the era of learning, in conscious process of continuous transformation of learning.

Traditional primary factors of sport human resources, talent and capital, in the conditions of constant change that require stability in trends, by providing information on how existing knowledge can be best implemented for achieving results, as actual assets of sport organization (experience, information and ability of its processing and usage, know-how, sport management ability, image, reputation, organizational structure, users loyalty, trust, users satisfaction, etc.).

Ability of the women's sports is to adapt to changes and to initiate appropriate changes in its environment, which is measured by ability to learn, by implementing concept of ''Learning Organization'', i.e. by creating organizations that are able to provide and make transfer of knowledge and to modify their behavior in the manner which reflects new knowledge.

The first required stage of learning in organization is cognitive - where women are exposed to new knowledge and need to think differently. The second stage is behavior - where women accept new knowledge and change their behavior. In the third stage one can see positive changes in performance.

Manner of introduction into the ''learning organization'' is a matter of continuous and lifelong learning program and practice and essence of competency in using ''learning disciplines''.

Personal master, which is responsibility of every woman in sport to work on expanding personal ability to create the most favorable results of her sport organization, by diligent and effective actions in experimenting, innovation and search based on collection, usage and storing information,

Mental models, which should free one's own awareness of surroundings from defensive habits and create new productive mental models

Shared vision, as unique ideal and view to the future, which will build dedication and devotion of members of sport organization,

Team Learning, which goal is improvement of conversation and thinking skills so that in the group of people abilities can improve to be more reliable and to develop to be more versatile , and

Systemic thinking, which represents systemic process of research, usage and communication with information on power and internal relations in the behavior of sport organization as a whole.

Basis of the realization of learning program is in teams and integration of women into teams, as well as in culture that encourages independence and development, making ''learning organization'' innovative organization with the ability to initiate change as entrepreneur and take risk in this context. Teams and team learning are also base for sport organizations which have to set solutions in the development of women's sport, by building into their structure multidisciplinary teams, providing thus quick response to pressure of changes.

Basic characteristics of the concept ''competency cores'' are applicable to women's sports of Republic of Serbia and to its development strategy.

Firstly, key competencies of women's sports cover a large number of business and services regarding organization of sport competitions.

Secondly, ''time domination'' of competency over University sport exists in terms of duration of competition.

Thirdly, competencies are a result of ''collective learning'' as a result of effort in work and especially coordination of all ancillary skills regarding organization of sport competitions.

Fourthly, competition in women's sport which reflected on the sport competitions as outer expression of competency competition, which is in the background, in the essence of competition fight.

Privatization processes, i.e. ownership transformation is starting point of transformation, but its success can be provided by planned approach to transformational changes.

Application of strategic management in women's sports in Republic of Serbia is undergoing very complex changes and challenges, under conditions of discontinuity of our sport, apart from the applicable techniques and methods it should also include control of possible errors.

In the area of change management in the process of transformation there are often reasons for failure, mainly due to the incomplete realization of competition organization or due to the existence of one of the following errors:

Overindulging in satisfaction, which reinforces the approach that the current status is good, that changes are not necessary, and comes from feeling that changes are necessary and unavoidable which is not strong enough.

Oversights in forming leading coalition that is powerful enough, i.e., unrealized plans of building on organizational vertical and horizontal lines, or unachieved power in terms of formal knowledge, information and expertise, reputations and connections, and leader potential.

Underestimating strength of vision, which must be reasonable and play key role in creating change as base for guidance, synchronization and inspiration of action of a large number of people.

Failure to communicate a vision, that comes from discrepancy between words and actions.

Allowing obstacles to block new vision, which most often appears when a vision is acceptable but obstacles seem impossible to overcome, especially when part of participants declaratively support the vision, but all is done so that nothing comes true.

Oversights in realization of short term success, because significant transformation changes require time, and that brings overall success in question.

Occasional announcement of victory, before deep roots of change are set in the culture of sport organization.

Changes that are not firmly planted in culture of women's sports, such as new shared values, forms of behavior and attitudes, represent danger for transformational change, so for the security of change time and often new staff is required.

Special from of organizational change that includes reconstruction and downsizing with the goal to increase efficiency and competition. Key characteristics of downsizing are:

It is a set of activities which are implemented with purpose, not as an addition to regular business, but decisive action towards change.

Decrease in number of employees, by methods of change positions, transfer, eligibility for retirement, dismissal, dispersion etc., or retraining on development of new jobs, new sources of income.

Focus on improvement of sport organization, maintaining or decreasing of expenses and creating base for competition.

Reconstruction and elimination of multiple order lines, reduction in number of hierarchy management levels, introduction of reengineering and integration of sport organization.

Downsizing strategies of reduction of work power, strategy of organizational redesign and so called systemic strategy are more frequently applied. They are based on two types of approach- intensification (mission, strategy and systems are kept, but they are adjusted to circumstances and reorientation (change of all bases and termination of previous sport activities).

Existing knowledge and level of organization in women's sports in RS, after long period of economic crisis and in the moment when sport surroundings are rapidly changing, requires fundamental rethinking of radical redesign of organizational processes, for the purpose of accuracy and service speed.

When change speed and total challenges increase hardships to predict problems and react timely to them, it is critical to develop new concept of innovative organizations, with managers who must be able to create visions, mission, goals, policy and to implement them for the realization of general values.

It is considered that future belongs to sport organizations that will be able to revolutionize manner in which strategy is created it being, unique and valuable position different from sport activities of the competition, and positioned based on the needs of users in relation to competition. There are several directions to create revolution in sports activity.

The most significant part of sustainability of competitive advantage is continuous strategic innovation, which must be realized by inner powers that conduct creative process of revolutionary strategy. The essence of the principle of creating strategy as revolution is as follows:

Strategic planning is not a strategy, but a procedure of setting terms for plans, while to find potential for revolution one needs research and orientation towards future of inventivity,

Creation of strategy must be subversive in the direction of dedication to new ideas and values, The ones who slow down the development are at the top, in management, who base decision making on experience which is not enough, considering change speed that require imagination and vision,

There are revolutionaries in every University sport organization, but usually on the lower levels,

The change is not a problem, engagement is, since most of the senior executives are not for change so they cannot start changes,

Strategy creation must be democratic, based on the broad network for formulating strategy to enable everyone's right to say their opinion and to influence overall opinion and action,

There is no revolution without dedication, since only by complete dedication to realization of new ideas new outlook on the world can be created,

Approaches to creation of strategy ''from top to bottom'' and ''from bottom to top'' are not alternative, but application of both approaches is expected,

The end cannot be seen from the beginning since process of strategy creation encompasses broad cross analysis, entering deep into discontinuities and competencies and encouraging employees to achieve surprising results on new approaches.

The concept ‘’strategy as revolution’’ represents new scientific paradigm and the beginning of realization of a model of revolutionary strategic and organizational changes.

The condition for such changes in women’s sports in RS is to build system of innovation, acceptance of great changes, creation of incline to constant action and acceptance of failure as a part of culture and climate of entrepreneurship and self-step leading to success and higher productivity.

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STRATEGIJSKI MENADŽMENT ŽENSKOG SPORTA U SRBIJI

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APSTRAKT

Osnovna polazišta ovog rada su činjenice o sveukupnim problemima nastalim izolovanošću naše zemlje od okruženja, kao i potrebe brzog i efikasnog prilagođavanja značajnim kretanjima i promenama koje su se odvijale u Evropskoj uniji, a mi bili iz njih isključeni, a koje se i dalje odvijaju brzo, dramatično, kompleksno i neprevidivo. Karakteristike procesa koji se u okruženju odvijaju nazivaju se hiper promenama i uz fenomen „zgušnjavanja" prostora, vremena i materije, sažimaju se dakle u jednu godinu a možda i samo u nekoliko meseci.

Ženski sport Republike Srbije pokušava da se prilagodi promenama, sporim, parcijalnim rešenjima i to onim rešenjima koja su se prva pokazala zadovoljavajućim kao rezultat logičkih promena korak po korak. Evolutivne promene su spore, predvidive na bazi kretanja iz prošlosti i sa malim zaostajanjem se uklapaju u strategijske promene koje imaju svoj logički inkrementalizam.U svakom modelu promena koristi se adaptivno učenje, ili učenje u jednom krugu koje se zasniva na saznanju i razumevanju promene iz okruženja i adaptiranja tim promenama.

Ključne reči : *mendžment-univerzitetski sport-strategija*

Rezultati analize ženskog sporta ukazuju na potrebu značajnih strategijskih i organizacijskih promena. Model prekinute ravnoteže se zasniva na činjenici da promene u univerziteskom sportu razvijenih zemalja po svojoj učestalosti, obimu i nivou turbulentnosti, daleko prevazilaze okvir koji se može popuniti adaptiranjem putem stalnih promena u našem sportu, već se takve duge promene smenjuju sa kratkim periodima radikalnih - revolucionarnih promena izlazeći iz postojećeg modela ravnoteže. Specifičnost pojedinih sportskih grana ne uključuje kumulativnost promena, jer se svaki sport menja na svoj način i traži svoj razvojni model.

Na nivou ženskog sporta Republike Srbije model prekinute ravnoteže se mora posmatrati kao sublimat neophodnih promena organizacione strukture, kulture, moći i liderstva u svakoj sportskoj grani univerzitetskog sporta. Suštinski model podrazumeva pripremu za promene i na kraju stabilizaciju sportske organizacije.

Povećanjem sveukupnih promena i neophodna visoka stopa difuzije promena, kao uslov koji se nameće našoj zemlji u okviru potpune integracije u Evropska kretanja, objektivno traži da se u strukturu univerzitetskog sporta ugrade krupne, radikalne i transformacione promene.

Kreiranje i istraživanje novih strategijskih područja za neophodnu ekspanziju sportske organizacije uslovljava primenu modela generativnog učenja ili učenja u drugom krugu (double loop learning), koja ne usavršava postojeća znanja i procedure, već preispituje osnovne primene na kojima su bazirana postojeća znanja i kreira nova znanja, kompentencije i strategije. Fokusiranje osnovne kompentencije sportske organizacije na inovaciju i kvalitet, odnosno zahtev da sportski menadžeri sve više moraju biti fleksibilni, proaktivni (okrenuti budućnosti), uvodi savremenu teoriju i praksu sportskog menadžmenta u eru učenja, u svesni proces kontinuirane transformacije učenja.

Tradicionalni primarni faktori sporta ljudski resursi, talenat i kapital, u uslovima stalnih promena koje traže stabilnost u kretanju, pružanjem informacija o tome kako postojeće znanje može najbolje da se primeni za dobijanje rezultata, kao stvarnom aktivom sportske organizacije (iskustvo, informacija i sposobnost njihove obrade i korišćenja, know-how, sposobnost sportskog menadžmenta, imidž, reputacija, organizaciona struktura, lojalnost korisnika, poverenje, satisfakcija korisnika, i sl.).

Sposobnost ženskog sporta je da se adaptira promenama i inicira odgovarajuće promene u svojoj sredini, a meri se sposobnošću da se uči, sprovodeći koncept „organizacije koja uči"(Learning Organization), odnosno, stvarajući organizacije koje su sposobne da pribavljaju i vrše transfer znanja i modifikuju svoje ponašanje na način koji reflektuje nova znanja.

Prva neophodna etapa učenja u organizaciji je kognitivna - gde se žene izlažu novim saznanjima i potrebi da misle različito. Druga etapa je ponašanje - gde žene prihvataju nova saznanja i menjaju ponašanje. U trećoj etapi uočavaju se pozitivne promene u performansama.

Način uvođenja u „ organizaciju koja uči" je pitanje kontinuiranog i doživotnog programa učenja i prakse i suštine kompetencije korišćenja „učećih disciplina".

Lično usavršavanje (Personal master), što je odgovornost svake žene u sportu da radi na proširenju lične sposobnosti za kreiranje najpoželjnijih rezultata svoje sportske organizacije, preduzimljivim i efektivnim akcijama u eksperimentisanju, inoviranju i traženju promena na bazi sakupljanja, korišćenja i čuvanja informacija,

Mentalni model (Mental models), koji treba da sopstvenu svest o okruženju oslobodi odbrambenih navika i kreira nove produktivne mentalne modele

Zajednička vizija (Shared vision), kao jedinstven ideal i pogled na budućnost, koji će izgraditi posvećenost i prvrženost članica sportske organizacije,

Timsko učenje (Team Learning), koje ima za cilj poboljšanje konverzacije i veštine razmišljanja tako da se ljudi u grupi mogu pouzdanije i svestranije razviti i poboljšati sposobnosti, i

Sistematsko razmišljanje (Systemic thinking), koje predstavlja sistemski proces istraživanja, korišćenja i komuniciranja informacijama o snagama i internim odnosima u ponašanju sportske organizacije kao celine.

Osnov realizacije programa učenja je u timovima i integraciji žena u timove, kao i kulturi koja podstiče na osamostaljivanje i razvoj, čineći da ,,organizacija koja uči" bude inovativna organizacija sa sposobnošću da preduzetnički inicira promene i u tom kontekstu preuzme rizik. Na timovima i timskom učenju zasnivaju se i sportske organizacije koje u razvoju ženskog sporta moraju postaviti rešenja, ugrađujući u svoju strukturu višedisciplinarne timove, obezbeđujući brzo reagovanje na pritiske promena.

Osnovne karakteristike koncepta ,,jezgra kompetentnosti" primenjive su na ženski sport Republike Srbije i njenu strategiju razvoja.

Prvo, ključne kompetentnosti ženskog sporta prostiru se na veliki broj poslova i usluga oko organizacije sportskih takmičenja.

Drugo, ,,vremenska dominacija" kompetentnosti nad univerzitetskim sportom postoji u

pogledu trajanja takmičenja.

Treće, kompetentnosti su rezultat ,,kolektivnog učenja" kao rezultat napora u radu i posebno koordinacije svih uslužnih veština oko organizacije sportskih takmičenja.

Četvrto, konkurencija u ženskom sportu koja se na takmičenjima ispoljila kao spoljni izraz konkurencije kompetentnosti, a koja leži u pozadini, u suštini konkurentske borbe.

Privatizacioni procesi, odnosno vlasnička transformacija je početna tačka transformacije, ali njen uspeh se može obezbediti planskim pristupom transformacionim promenama.

Primena strategijskog menadžmenta u ženskom sportu Republike Srbije je u veoma složenim promenama i izazovima, u uslovima diskontinuiteta našeg sporta, pored primenjivih tehnika i metoda treba da obuhvati i kontrolu mogućih grešaka.

U oblasti upravljanja promenama u procesu transformacije navode se često razlozi neuspeha, pre svega na nepotpunoj realizaciji organizacije takmičenja ili iz razloga postojanja jedne od sledećih grešaka:

Prepuštanje prekomernom zadovoljstvu, koje jača pristup da je postojeće stanje dobro, da promene nisu potrebne, a rezultira iz nedovoljno snažno razvijenog osećanja o potrebi i neminovnosti promena.

Propusti u formiranju dovoljno moćne vodeće koalicije, odnosno, nerealizovani planovi izgradnje po organizacionoj vertikali i horizontali, ili nepostignute moći sa stanovišta formalnih znanja, informacija i stručnosti, reputacija i veza, kao i liderskog potencijala.

Potcenjivanje snage vizije, koja mora biti razumna i igrati ključnu ulogu u kreiranju promene i to kao osnov za usmerenje, sinhronizaciju i inspiraciju postupaka velikog broja ljudi.

Podbačaj komuniciranja vizije, koja nastaje u neskladu reči i dela.

Dopuštanje preprekama da blokiraju novu viziju, što se najčešće pojavljuje kada je vizija prihvatljiva ali prepreke izgledaju nepremostivo, posebno kada se deklarativno od dela učesnika vizija podržava, a sve čini da se ništa ne ostvari.

Propusti u ostvarenju kratkoročnih uspeha, jer značajne transformacione promene traže vreme, a to dovodi do sumnji u ukupan uspeh.

Prevremena objava pobede, pre nego što se postave duboki koreni promene u kulturi sportske organizacije.

Promene koje nisu čvrsto usađene u kulturu ženskog sporta, kao što su nove zajedničke vrednosti, oblici ponašanja i stavovi, predstavljaju opasnost transformacionoj promeni, pa je neophodno vreme i često novi kadrovi za sigurnost promene.

Poseban oblik organizacionih promena koji podrazumeva rekonstrukciju i smanjenje, (downsizing) sa ciljem da se poveća efikasnost i konkurentnost. Ključne karakteristike (downsizinga) su:

To je set aktivnosti koji se sprovodi namenski, ne kao nastavak redovnih poslova, već odlučna akcija ka promeni.

Smanjenje broja zaposlenih, metodama premeštanja, transfera, povoljnosti za penziju, otpuštanje, osipanje i dr., ili prekvalifikacija kod razvoja novih poslova, novih izvora prihoda.

Fokus na poboljšanje sportske organizacije, zadržavanjem ili smanjenjem troškova i stvaranjem osnova za konkurentnost.

Rekonstruisanje i eliminisanje višestrukih linija naloga, redukciju broja hijerarhijskih nivoa rukovođenja, uvođenja reinženjeringa i integracije sportske organizacije.

Najčešće se primenjuju (downsizing) strategije redukcije radne snage, strategija

organizacionog redizajniranja i tzv. sistemska strategija, koje u osnovi imaju dva tipa pristupa
- pojačanje (zadržava se misija, strategije i sistemi, a vrši se prilagođavanje okolnostima) i preorjentacija (izmena svih osnova i prekid sa prethodnim sportskim aktivnostima).

Postojeće znanje i nivo organizovanja u ženskom sportu RS, posle dugog perioda ekonomske krize i sve to kada se sportsko okruženje menja brzo, traži se fundamentalno osmišljavanje radikalnog redizajna organizacionih procesa, sa ciljem tačnosti, i brzine usluge.

Kada brzina promena i ukupni izazovi povećaju teškoće predviđanja problema i blagovremenog reagovanja na njih, neminovno je razvijati novi koncept inovativnih organizacija, sa menadžerima koji moraju imati sposobnost kreiranja vizije, misije, ciljeva, politike i strategije i njihove implementacije na ostvarenju opštih vrednosti.

Smatra se da će budućnost pripasti sportskim organizacijama koje budu u stanju da revolucionišu način kreiranja strategije i to, jedinstvene i vredne pozicije različite u odnosu na sportske aktivnosti konkurencije, a pozicionirane na potrebama korisnika u odnosu na konkurenciju. Postoji više pravaca do stvaranja revolucije u sportskoj delatnosti.

Najznačajniji deo održivosti konkurentske prednosti je kontinuirano strategijsko inoviranje, a ono se mora ostvariti unutarnjim snagama koje sprovode kreativni proces revolucionarne strategije. Suština principa kreiranja strategije kao revolucije odnosi se na sledeće:

Strategijsko planiranje nije strategija, već postupak determinisanja planova, dok je za nalaženje potencijala za revoluciju neophodno istraživanje i orjentacija na budućnost inventivnosti,

Stvaranje strategije mora da bude subverzirano u pravcu da se posveti novim idejama i vrednostima,

Oni koji usporavaju razvoj su na vrhu, u rukovodstvu, koji odlučivanje zasnivaju na iskustvu što je nedovoljno, obzirom na brzinu promena koje traže imaginaciju i vizionarstvo,

Revolucionari postoje u svakoj univerzitetskoj sportskoj organizaciji, ali su najčešće na nižim nivoima,

Promena nije problem, angažovanje jeste, s obzirom da većina starijih rukovodilaca nije za promene i oni ne mogu pokrenuti promene,

Pravljenje strategije mora biti demokratsko, na bazi široke mreže kod formulisanja strategije tako da se omogući pravo svakoga da kaže svoje mišljenje i da utiče na ukupno mišljenje i akciju,

Bez posvećenosti nema revolucije, jer se samo potpunom predanošću ostvarenju novih ideja može stvoriti nov pogled na svet,

Pristupi kreiranju strategije „od vrha na dole" i „od dna prema gore" nisu alternativni, već se podrazumeva primena oba pristupa,

Ne može se videti kraj od početka, jer proces stvaranja strategije obuhvata široku unakrsnu analizu, ulazeći duboko u diskontinuitete i kompetencije i ohrabrujući zaposlene da na novim pristupima postignu iznenađujuće rezultate.

Koncept „strategija kao revolucija" predstavlja novu naučnu paradigmu i početak ka ostvarenju modela revolucionarnih strategijskih i organizacionih promena.

Za takve promene u ženskom sportu RS uslov je izgraditi sistem inoviranja, prihvatanja velikih promena, stvaranje sklonosti ka stalnoj akciji i prihvatanju neuspeha kao delu preduzetničke, kulture i klime i samokoraku koji vodi ka uspehu i većoj produktivnosti.

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PARTICIPATION OF WOMEN IN SPORT THROUGH HISTORY OF OLYMPIC GAMES

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"A woman stands as a gate at the exit but also at the entrance of this world"[1]
Ivo Andrić

Introduction

Today in the most developed cultures still there is deeply rooted belief that competitive spirit and muscular body destroy womanhood i.e. that women do not need quality such as endurance, strength and courage. Because of this imposed stereotypes regarding gentle femininity, many women think that participate in sport activities simply does not become to them and the physical activity is not necessary in their lives.

Limited participation of women in sport has different causes starting with tradition, conservative consciousness, traditional patterns, prejudices, stereotypes as well as understanding sport as "a male business".

Through major part of human history, athletic competitions were viewed exclusively as a male business. At the ancient times only warriors participated in athletic competitions to prove their courage necessary for fight or to show their sexual maturity in some other way. This exclusivity of male participation in competitive sports was transferred into the Ancient Olympic Games where women were not allowed to watch, let alone to participate in competitions. However, over the time a special athletic event for women was developed, Herean Games.

Herean Games

The ancient Herean games, devoted to the Goddess Hera, were the first recorded athletic competition for women that took part at the stadium in Olympia, most probably in the Olympic year before the male competitions. They were held for the first time in 6th BC. According to some texts, including Pausanias's description of Greece (175 AD), Hippodamia gathered a group known as "16 women" (there are several interpretations, including the one saying that the group consisted of the women chosen to be the negotiators from 16 towns in order to establish peace between Elis and Pisa) who promoted the Herean games as a sign of appreciation because of Hippodamias marriage to Pelops. The other texts have shown that "16 women" created peace between Pisa and Elis, and because their responsibilities in the political field, they were promoted to be administrators of Herean games.

As in the male competition at the beginning the Herean games consisted only of races. The female winners were given a crown made of olive leaves, the meat of a cow or an ox of the animals' sacrified in the honor of Hera. The winners were also given the right to present the statues with carved names as well to display their portraits on columns of Hera`s temple. It is still clearly visible where the portraits used to be in the temple though the works of art themselves have disappeared.

Women competed within three age groups, at the track of the Olympic stadium which was 5/6 length of the track men used to run. Pausanias described how they looked before the race: *their hair let down, their tunics reaching almost the knees with the right shoulder uncovered almost the breasts.*[2]

Though the men competed naked while women were dressed, that particular tunica was a kind of clothes worn by men while doing tiring manual labor. Thus, the female competitors were dressed like men. Are we allowed to conclude something about the position of women and the society of that time, though the Herean games existed? We do know that women were forbidden to compete. They were not even allowed to watch the ancient Olympic Games; otherwise they would be thrown from

[1] Andrić, I. (1932). p.14.
[2] Pausanija (1994). V, 16, p. 398

the cliff of Tipaion mountain. Young girls were not encouraged to become athletes, with the exception of those growing up in Sparta. The Spartan girls were trained in the same athletic events as boys because the Spartans believed that strong women would create strong future warriors. Those Spartan girls were single and competed naked or wearing short dresses. The boys could observe the female competitions hoping to choose a girl to marry and create posterity. The race dedicated to Dionisius (the God of wine and pleasure) was probably connected with a special ritual of the community. The ritual of transition was the one signifying evolution of a person from one status to another. It was universal phenomena which could show hierarchy, values and beliefs which were important in certain cultures. The rituals of transition were usually festivities connected to turning points of puberty, becoming of age, marriage and death.

The Herean games could also be the sign of changes regarding social conditions and alleviation of limits imposed on women. They could also signify a temporal change. Greek women were allowed to compete at the same events as men after the classical period had ended. The lack of references is the evidence that those changes were not kindly observed because they had been carried out due to the Roman influence. In Rome, girls from rich families could participate in male events.

The Herean games were inspired by great popularity of the Olympic Games. The best known ancient Greek female athletes were Cinisca and Belistiche. [3]

Cinisca was born in 440 BC and was the princess of Sparta. She was the first woman to become the winner in the history of the Ancient Olympic Games. She was the daughter of Eurypontid and sister of Agesilaus II, who later became the king of Sparta. She was said to be mannish woman, an expert in horse races, she was very rich and had perfect qualifications to be successful coach. She was extremely ambitious to succeed in the Olympic Games and was the first woman to grow pedigreed horses and thanks to them she won the prestigeous award at the Olympic Games. Her name in the old Greek meant a female puppy.

Belistiche was a hetaera but her origine has been obscured in time. She was said to be Macedonian or to come from Agiva or even to be a slave from a distant country, bought at the market. She won in two horse races at the Olympic Games in 264 BC.

The Olympic Games

While the majority of women in the ancient Greek world were forbidden to the any kind of athletic skills, such as horse ride or hunting, the Spartan women on the contrary, were thought these skills from an early age, at the boarding schools, similar to those attended by Spartan boys.

All the participants of the Ancient Olympic Games were men, while women were not allowed to be at the main stadium in Olympia where all sport events were held. Women could be present at the horse racing events in the capacity of an owner or a coach, they were never allowed to display their skills.

The only woman allowed to be at the festivities was the priestess of Demeter Chamina. Any break of this rule would be followed by death penalty, carried out by throwing an offender from Tipaion mountain. However, according to Pausanias not one case of such a punishment (throwing the women from that high mountain) had been recorded. That every rule had its exceptions was proved by Calyptras. She was there, in the capacity of coach, at her son Pisirodus's wrestling competition, at the Ancient Olympic Games in 396 BC. She got to the stadium in disguise. But, when her son won, typically for a mother, she could not pretend, but ran toward him and revealed herself. Being, through her family, connected to previous famous Olympic winners, she was pardoned. But from that moment on all the competitors and their coaches had to enter the stadium naked. [4]

[3] Šiljak, V. (2007). p. 174.

[4] Šiljak, V., Fragiadaki, G. (2010). p.155.

The earlier mentioned Cinisca had an important role in the male competitions as the owner of horses and coach of horse racing teams. Her teams entered the Olympic Games and won two times in the four-horse-chariot race (tethrippon) in 396 BC and again in 392 BC. According to Xenophon[5], Cinisca was encouraged to race horses and take part in competitions by her brother Agesilaus II who actually, by doing that, tried to discredit that sport. He considered the success in chariot races as the victory without value which only reflected the wealth and the skill of horse owner. He believed that in other events a man, his courage and virtues were decisive factors. Agesilaus II hoped that the victory of woman would make the horse racing less manly, but that event did not decrease the engagement of rich Spartans. There were other versions regarding the Agiselaus II‘s motive to induce his sister to join horse racing. One possible explanation could be his wish to initiate again warrior spirit in the Sparta society which used to grant land to the Olympic Game winners. The other possible reason was Agiselaus II‘s wish to display Cinisca’s abilities to promote women in sport.
Whatever reason was for her participation, as a sign of her victory, Cinisca was given a bronze chariot statue, as well as her statue which was placed in the temple of Zeus in Olympia together with inscription saying that she was the only woman who had won the wreath in the chariot races at the Olympic Games. Besides a sanctuary devoted to Cinisca was built in Sparta, at the place where religious rituals were held. Before that time only Spartan kings could have such an honor.
Cinisca’s victory at the Olympic Games had a great impact on the Greek world, as well as the victories of other women that won the horse races later. Their names were Euruleonisa, Belistiche, Timareta, Theodota and Cassia. But neither of them did not gain respect for their success as Cinisca had gained. Zoe Corelli a contemporary Greek female poet, wrote a poem about love Cinisca had for horse racing and her success in the Olympic Games, making her a symbol of women’s ascent in the society.

The Modern Olympic Games

The modern Olympic Games have included female competitors since 1900, though at the beginning women took part in by far less demanding events. Concern for physical strength and stamina of women discouraged them to participate in some physically more demanding sports, or in some cases brought about easier female version of male sports.
Some historians and sport analysts attach the female appearance in sport to the end of the 19th and the beginning of the 20th century. The analysts claim that the first sports in which women took part in were horse riding, ball games, different shaping exercises, tennis, which took place at homes of the rich. Female sport took off by the beginning of the 20th century, when the first official female competition started. Female engagement in sport and physical exercises was actually dosed and the role of woman was viewed through motherhood and raising children. The lack of public interest for female sport enabled amateur competitions become primarily female events. In the middle of the 20th century communist countries had dominant position in many Olympic events including those in which women participated, due to sport programmes, which were technically considered amateur, sponsored by the state. This heritage has been cherished in ex communist countries which have continued to produce a great number of top athletes. Germany and Scandinavian countries have also developed valuable sport program for women.

Professional Female Sport Teams

In the USA almost all the schools required the participation of their students in sport, thus enabling girls to take up athletics at early age. Such programs did not exist in Western Europe and South America. At the events within schools, sexes were often mixed, while they were separated for competitions among different schools. According to one of the laws it is obligatory for colleges and

5Ksenonfont (1998). p. 200

universities to provide equal possibilities for male and female sport. As a consequence of that a large number of female athletes enabled the USA to be highly positioned nation in female Olympic sports. Tennis has been the most popular female professional sport since 1970. It was also good opportunity for symbolic struggle between sexes, between Billy Jean King and Bobby Rigs. However the success of female tennis have not supported a lot professional female teams.

Starting with the late 60-ies of the 20th century, several women have received recognition for their sport talent and they have been accepted by the society as role models who earn their living through professional sport. Most of them have been living in the USA.

The things started to change in 1973 when Billy Jean King earned more money than her male colleagues. Even now, in the 21st century, majority of professional female athletes throughout the world receive by far less money than men. In 1990 the magazine Life recognized the significance of Billy Jean King's achievement and put her on the list of 100 most important Americans of the 20th century.

The popularity of female professional team sports took off about 1990 when basketball and football were especially interesting. This popularity was asymmetric, being very strong in the USA, some western European countries as well as ex-communist countries. Female football teams were first dominant in the USA, China and Norway, whose male national teams were weak over the last century. However, several countries with successful and dominant male national teams, such as Germany, Sweden, Brazil, have recently become prominent in female football cometitions.Still, despite the increase of popularity in professional sport, female leagues continue to face financial problems.

Conclusion

From the historical point of view, it is beyond doubt that female athletes have always been regarded in a wrong and sexist way. Social issues as well as the lack of understanding regarding physical and health limitations in women have caused slow development of female participation in sport over the years (the female marathon race had not been included in the Olympic games before 1984). This discrepancy in the number between male and female participants will surely be reduced in the decades ahead.

Today, approximately a half of world population is engaged in sport through cheering and following different events. This number includes people of both sexes, different ages, cultural background, political or religious beliefs. Sport has become an inseparable part of people's lives in the contemporary society.

Female sport includes amateur and professional women's competitions in all sport. Participation of women in sport dramatically increased during the 20th century, especially during its last quarter, reflecting the changes of the modern society, emphasizing the equality between sexes. Though the level of participation and success varies depending on the country or type of sport, female sport has been widely accepted. In some sports, such as tennis and figure skating, female competitors are more popular than their male colleagues.

Today, women take part, as amateurs or professionals, in almost all significant sports, but they are fewer in contact sports. Understanding of essential physiological differences between sexes has not created an obstacle for development of top female athletes in some traditionally male sports, such as golf, ice hockey or marathon.

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UČEŠĆE ŽENA U SPORTU KROZ ISTORIJU OLIMPIJSKIH IGARA

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[2] EPAS, Srednja fizioterapeutska škola, Edesa, Grčka

APSTRAKT

U ovom istraživanju je izvršena analiza aktivnog uključivanja žena u sport od antičkog doba do današnjih dana. Kroz veći deo ljudske istorije, sportska takmičenja su posmatrana isključivo kao *muški posao*. Neki istoričari i sportski analitičari vezuju aktivno pojavljivanje žena u sportu za kraj XIX i početak XX veka. Ženski sport je zaživeo početkom XX veka, kada su počela i zvanična takmičenja u ženskim sportovima. Bavljenje sportom i telesnim vežbanjem u suštini je bilo dozirano, a osnova ženinog života je posmatrana kroz materinstvo i produžetak ljudske vrste.

Ženski sport podrazumeva amaterska i profesionalna takmičenja žena u svim sportovima.

Ključne reči: žene, istorija, sport.

PARTICIPATION OF WOMEN IN SPORTS THROUGH HISTORY OF OLYMPIC GAMES

ABSTRACT

This paper has shown the view of the active involvement of women in sport since ancient times to present day. Through most of human history, athletics are viewed exclusively as a male job. Some historians and sports analysts link the appearance of women active in sports for the end of the nineteenth and the beginning of the twentieth century. Women's sports has come to life in early twentieth century, when they began formal competition in women's sports. The practice of sport and physical education in fact has been dosed, and the basis for a woman's life is seen through the extension of maternity and the human species.

Women's sports include amateur and professional competitions of women in all sports.

Key words: women, history, sports.

UČEŠĆE ŽENA U SPORTU KROZ ISTORIJU OLIMPIJSKIH IGARA

"Žena stoji kao kapija na izlazu kao i na ulazu ovog svijeta"[1]
Ivo Andrić

Uvod

U najrazvijenijim kulturama još uvek je ukorenjeno mišljenje da takmičarski duh i mišićavo telo uništavaju ženstvenost, tj. da ženama nisu neophodne osobine kao što su izdržljivost, snaga i hrabrost. Zbog ovakvih nametnutih stereotipa o nežnoj ženskoj prirodi, mnoge pripadnice lepšeg pola smatraju da im bavljenje sportom jednostavno ne leži i da im fizička aktivnost te vrste nije neophodna u životu.

Ograničeno učešće žena u sportu ima različite uzroke, počev od tradicije, konzervativne svesti i patrijarhalnih obrazaca, predrasuda i sterotipa i shvatanja sporta kao „muške stvari".

Kroz veći deo ljudske istorije, atletska takmičenja su posmatrana isključivo kao muški *posao*. U antičko doba, atletska takmičenja održavana su između ratnika, isključivo da bi dokazali svoje borbeno junaštvo ili na drugi način pokazali svoju polnu zrelost. Isključivo muško učešće u takmičarskom sportu preneto je u antičke Olimpijske igre, gde žene nisu smele ni da gledaju takmičenja, a još manje da u njima učestvuju. Međutim, vremenom je razvijen poseban atletski događaj za žene, Herine igre.

Herine igre

Antičke Herine igre, posvećene boginji Heri, su bile prva zabeležena atletska takmičenja žena koja su se održavala na stadionu u Olimpiji, najverovatnije u olimpijskoj godini, pre takmičenja muškaraca. Održane su prvi put u VI veku pre nove ere. Neki tekstovi, uključujući i Pausanijev *Opis Grčke*, (175 g.), govore da je Hipodameja okupila grupu poznatu kao "Šesnaest žena" (postoji nekoliko interpretacija, uključujući i onu koja kaže da su je činile žene izabrane kao pregovarači iz 16 gradova, u cilju stvaranja mira između Elisa i Pize) koje su promovisale Herine igre u znak zahvalnosti zbog Hipodamejine udaje za Pelopa. Ostali tekstovi pokazuju da su "Šesnaest žena" bile stvaraoci mira iz Pize i Elisa, a zbog svojih političkih nadležnosti su postale administratori Herinih igara.

Kao i u muškoj konkurenciji, Herine igre su se u početku sastojale samo od trke. Hera šampionke bi osvojile maslinovu krunu, kravlje ili volovsko meso životinja žrtvovanih u čast Here, kao i pravo da poklone statue sa upisanim imenima ili da postave svoje portrete na stubove Herinog hrama. Još uvek je jasno vidljivo gde su stajali portreti na hramu, iako su sama umetnička dela nestala.

Žene su se takmičile u tri starosne grupe, na stazi Olimpijskog stadiona koja je bila duga 5/6 dužine pruge na kojoj su trčali muškarci. Pausanija opisuje njihov izgled za trke tako da *njihova kosa visi nadole, tunika (hiton) doseže do malo iznad kolena, i desno rame je otkriveno skoro do grudi* .[2]

1 Andrić, I. (1932). str 14.

2 Pausanija (1994). V, 16, str. 398.

Iako su se muškarci takmičili goli, a žene obučene, hiton je odeća koju su nosili muškarci za težak fizički rad. Dakle, takmičarke su bile obučene kao muškarci. Da li nam ova činjenica, uz uopšte postojanje Herinih igara, govori o položaju žena i društvenoj klimi tog perioda, nije sigurno. Znamo da je ženama bilo zabranjeno da se takmiče, pa čak i posmatraju antičke Olimpijske igre, pod pretnjom da budu bačene sa litice planine Tipaion. Devojke nisu bili ohrabrene da budu sportistkinje. One koje su odrastale u Sparti bile su izuzetak jer su obučavane u istim atletskim disciplinama kao dečaci, jer Spartanci su verovali da će jake žene proizvesti jake buduće ratnike. Takve devojke bile su neudate i takmičile su se gole ili u kratkim haljinama. Dečaci su mogli da posmatraju nadmetanje sportistkinja, u nadi da će stvoriti brak i potomstvo. Trka posvećena Dionisu (bog vina i zadovoljstva) je verovatno bila vezana za poseban obred zajednice. Obred prelaska je ritual koji označava napredak osobe iz jednog statusa u drugi. To je univerzalni fenomen koji može da prikaže društvene hijerarhije, vrednosti i uverenja koji su važni u određenim kulturama. Obredi prelaska su često svečanosti oko prekretnica u pubertetu, punoletstva, venčanja i umiranja.
Herine igre mogle su biti pokazatelj promene socijalnih uslova i ublažavanja ograničenja nametnutih ženama. Isto tako su mogle da označavaju privremenu promenu. Grčkim ženama je bilo dozvoljeno da se takmiče u istim festivalima kao i muškarci nakon završetka klasičnog perioda. Nedostatak referenci je dokaz da na ove promene nije blagonaklono gledano jer su bile pod rimskim uticajem. U Rimu, devojke iz bogate porodice su mogle da učestvuju na festivalima muškaraca.

Herine igre su počele zbog velike popularnosti Olimpijskih igara. Najpoznatije starogrčke žene sportistkinje su Kiniska i Belističe. [3]

Kiniska je rođena 440 g.p.n.e i bila je grčka princeza Sparte. Ona je postala prva žena u istoriji pobednica antičkih Olimpijskih igara. *Kiniska* je rođena u drevnom grčkom gradu Sparte i bila je ćerka Euripontida, kralja Sparte i Eupoleje. Ona je i sestra kasnijeg kralja Sparte, Agesilaja II. Za nju su govorili da je muškarača, stručnjak konjičkih trka i veoma bogata, savršenih kvalifikacija za uspešnog trenera. Bila je izuzetno ambiciozna da uspe na Olimpijskim igrama i prva je žena koja je uzgajala rasne konje i sa njima osvojila olimpijski tron. Njeno ime na starogrčkom znači *žensko štene*.
Bilističe je bila grčka kurtizana nepoznatog porekla. Neki smatraju da je Makedonka, ili iz Argive, čak i robinja iz daleke zemlje kupljena na pijaci. Ona je pobedila u dve konjske trke na Olimpijskim igrama 264 g.p.n.e.

3 Šiljak, V. (2007). str.174.

Olimpijske igre

Dok je većini žena u antičkom grčkom svetu bilo zabranjeno da uče bilo kakve sportske veštine, kao što su jahanje ili lov, spartanske žene su, sasvim suprotno, od ranog devojaštva učene tim veštinama u internatima sličnim onima koje su pohađali spartanski dečaci.
Učesnici antičkih Olimpijskih igara su u potpunosti bili muškarci, dok je ženama čak bilo zabranjeno da idu na glavni stadion u Olimpiji, gde su održavani atletski događaji i sportske borbe. Ženama je bilo dozvoljeno da prisustvuju samo konjičkim događajima, ali nikako da prikazuju svoje veštine, već samo u ulozi vlasnika ili trenera konja.
Jedina žena kojoj je bilo dozvoljeno prisustvo na Svečanim igrama je bila sveštenica Demetre Šamine. Svako kršenje ovog pravila se kažnjavalo smrću, i to bacanjem istih sa planine Tipaj. Pausanija međutim, kaže da nije zabeležen ni jedan slučaj kažnjavanja, tj. bacanja neke žene sa te visoke planine. Da svako pravilo ima svoj izuzetak potvrdila je Kalipatira, koja je prisustvovala takmičenju svoga sina Pizirodosa u rvanju, i to kao trener, na Svečanim igrama 396. godine pre n.e. Posle smrti muža bila je prinuđena da sama nastavi sa treniranjem sina, koji je i pobedio na tim igrama. Ona je prerušena ušla na stadion. Ali, kada joj je sin postao pobednik, kao i svaka majka, nije mogla da izdrži, već je potrčala ka njemu i otkrila se. S obzirom da je višestruko porodično bila povezana sa prethodnim poznatim olimpijskim pobednicima, oprošteno joj je, ali od tada su i takmičari i treneri morali ući goli na stadion.[4]
Već pominjana Kiniska je zaposlila muškarca i prijavila svoj tim na Olimpijske igre, gde je dva puta pobedila u trkama kola sa četiri konja (tetripon), u 396 g.p.n.e i ponovo u 392. g.p.n.e.
Prema Ksenofontu[5], Kinisku je njen brat Agesilaj II ohrabrio da uzgaja konje i takmiči se u igrama, u pokušaju da diskredituje ovaj sport. Na uspeh u trkama kola gledao je kao na pobedu bez vrednosti, koja je bila samo znak bogatstva i umešnosti vlasnika konja, dok je u drugim događajima odlučujući faktor bio čovek i njegove hrabrosti i vrline. Nadao se da će pobeda jedne žene demaskulizovati konjičke trke, ali taj događaj nije smanjio angažovanje bogatih Spartanaca. Bilo je nekih spekulacija oko motiva Agesilaja u navođenje svoje sestre da se pridruži konjičkom takmičenju. Jedno objašnjenje je da je želeo da ponovo zapali ratnički duh u spartanskom društvu, koje je poklanjalo zemlju pobednicima Olimpijskih igara. Drugi mogući razlog je da je Agesilaj želeo da prikaže Kiniskine sposobnosti, ili da promoviše žene u sportu uopšte.

Kako god da je bilo, Kiniska je u čast pobede dobila bronzanu statuu trkačkih kola i konja sa vozačem kola, kao i svoju statuu koja je postavljena u hramu Zevsa u Olimpiji, kao i natpis koji govori da je ona jedina žena koja je osvojila venac u trkama kolima na Olimpijskim igrama. Pored toga, podignuto je svetilište Kiniski u Sparti na prostoru gde su održavani verski obredi. Do tada je samo spartanskim kraljevima bila ukazivana ovakva počast.

[4] Šiljak, V., Fragiadaki, G. (2010). str.155.

[5]Ksenonfont (1998). str. 200.

Kiniskina pobeda na Olimpijskim igrama imala je veliki uticaj na grčki svet, kao i druge žene koje su kasnije pobeđivale u trkama konja kao Euruleonisa, Belističe, Timareta, Teodota i Kasija. Međutim, nijedna od njih više nije poštovana zbog uspeha kao što je bila Kiniska. Zoe Kareli, moderna grčka pesnikinja, napisala je pesmu o ljubavi koju je Kiniska gajila prema konjičkom sportu i trkama i o njenim olimpijskim uspesima, učinivši je simboličnim primerom društvenog uspona žena.

Moderne Olimpijske igre

Moderne Olimpijske igre uključuju ženske takmičare od 1900. godine pa nadalje, iako su žene u početku učestvovale u znatno manje zahtevnim događajima. Briga za fizičku snagu i izdržljivost žena je dovela do obeshrabrenja učešća žena u fizički intenzivnijim sportovima, a u nekim slučajevima je dovela do manje fizički zahtevne ženske verzije muških sportova.

Neki istoričari i sportski analitičari vezuju aktivno pojavljivanje žena u sportu za kraj XIX i početak XX veka. Analitičari tvrde da su prvi sportovi kojima su se žene bavile bili jahanje, dobacivanje lopte, razne vežbe oblikovanja tela, tenis i da su se odigravali u bogatijim kućama. Ženski sport je zaživeo početkom XX veka, kada su počela i zvanična takmičenja u ženskim sportovima. Bavljenje sportom i telesnim vežbanjem u suštini je bilo dozirano, a osnova ženinog života je posmatrana kroz materinstvo i produžetak ljudske vrste.
Usled nedostatka javnog interesa za ženski sport, amaterska takmičenja postala su primarno mesto za takmičenje žena. Tokom sredine dvadesetog veka, komunističke zemlje dominirale su mnogim olimpijskim sportovima, uključujući i sportove u kojima učestvuju žene, zahvaljujući državnom sponzorisanju sportskih programa koji su tehnički smatrani amaterskim. Nasleđe ovih programa je održano u bivšim komunističkim zemljama koje su nastavile da proizvode veliki broj vrhunskih sportista. Nemačka i zemlje Skandinavije su takođe razvile jak sportski program za žene u tom periodu.

Profesionalni ženski sportski timovi

U Sjedinjenim Državama, gotovo u svim školama je zahtevano učešće učenika u sportu, što je omogućilo svim devojkama da se bave atletikom u ranom uzrastu. Ovakvi programi nisu postojali u Zapadnoj Evropi i Latinskoj Americi. U takmičenjima unutar škole, polovi se često mešaju, ali za konkurentske sportske događaje se odvajaju. Jednim od zakona propisano je koledžima i univerzitetima da obezbede jednake mogućnosti za ženski sport. Kao posledica toga, veliki broj ženskih sportista omogućio je da Sjedinjene Američke Države budu visoko rangirana nacija u ženskim Olimpijskim sportovima.
Tenis je bio najpopularaniji ženski profesionalni sport od 1970. godine i bio je dobra prilika za simboličnu *bitku polova* između Bili Džin King i Bobija Rigsa. Uspeh ženskog tenisa, međutim, nije mnogo pomogao sudbini profesionalnih timova ženskog sporta.
Počev od kasnih 1960-ih, nekoliko žena je dobilo priznanja za svoj sportski talenat i socijalno su prihvaćene kao uzor koji zarađuje za život baveći se profesionalno sportom. Većina je živela u Sjedinjenim Američkim Državama.

Stvari su počele da se menjaju 1973. godine kada je Bili Džin King osvojila *Bitku polova* i *probila plafon* plata žena sportista. Čak i sada, u XXI veku, većina žena profesionalnih sportistkinja širom sveta dobija mnogo manje novca u odnosu na muškarce. Časopis *Life* je prepoznao značaj dostignuća Bili Džin King 1990. godine i uvrstio je u listu *100 najvažnijih Amerikanaca XX veka*.
Ženski profesionalni timski sport je dobio na popularnosti oko 1990. godine, kada su posebno interesantni bili košarka i fudbal. Ova popularnost je asimetrična, najjača je bila u SAD-u, nekim zemljama Evrope i u bivšim komunističkim državama. Timovi ženskog fudbala prvobitno dominiraju u SAD, Kini i Norveškoj, državama čije su muške reprezentacije istorijski bile slabe.

Međutim, odnedavno, nekoliko država, sa jakim i dominantnim nacionalnim muškim timovima, kao što su Nemačka, Švedska, Brazil postaju sila u ženskom fudbalu. Uprkos porastu popularnosti profesionalnog sporta, ženske lige nastavljaju da se finansijski bore.

Zaključak

Istorijski gledano, nema sumnje da je sport oduvek bio u centru neispravne i seksističke pretpostavke o ženama sportistkinjama. Socijalna pitanja, kao i nerazumevanje o ženskim fizičkim i zdravstvenim pretpostavkama ograničenja, usporila su razvoj ženskog učešća u sportu za mnogo godina (maraton u ženskoj konkurenciji je dodat u raspored Olimpijskih igara tek 1984. godine). Ova razlika u učešću će se bez sumnje smanjiti tokom nekoliko narednih decenija.
Danas se za sport kroz praćenje i navijanje interesuje polovina svetskog stanovništva. U toj masi nalaze se ljudi različitog pola, različitih uzrasta, kulturnog nivoa, političkih i religioznih ubeđenja. Sport je postao neodvojivi deo svakodnevnog načina života ljudi u savremenom društvu.
Ženski sport podrazumeva amaterska i profesionalna takmičenja žena u svim sportovima. Učešće žena u sportu je dramatično poraslo tokom XX veka, posebno u poslednjoj četvrtini, oslikavajući promene u modernom društvu koje naglašava paritet polova. Iako nivo učešća i rezultata varira u odnosu na državu i tip sporta, ženski sport je široko prihvaćen, a u nekim sportovima, kao što su tenis i umetničko klizanje, žene su daleko popularnije od svojih muških kolega.

Danas se žene takmiče profesionalno i amaterski u gotovo svakom sportu, ali nivo učešća obično opada kada je reč o više nasilnim kontaktnim sportovima. Praktično priznavanje osnovnih fizioloških razlika među polovima nije sputavalo razvoj sportistkinja visokog kvaliteta u nekim, istorijski gledano, muškim sportovima, kao što su golf, hokej na ledu ili maraton.

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