RESEARCH OF THE WEB WEBSITES ENSURING AVAILABILITY IN HIGHER EDUCATION INSTITUTIONS OF PHYSICAL CULTURE IN THE CONDITIONS OF ATHLETE STUDENTS INCLUSIVE TRAINING

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Abstract. In this article compliance of the higher education institutions websites of physical culture to the principles and requirements of availability including to athlete students with limited health opportunities (further - OVZ) is considered. The research was conducted on the basis of the provisions offered by developers "Guides to Ensuring Web content availability of WCAG 2.0" and the test leaf created on the basis of state standard specification 52872-2007 accepted on January 1, 2009 in the Russian Federation "Internet resources: requirements of availability to visually impaired persons" (<http://www.tehlit.ru/Pages/44122.htm>) (*requirements of availability to visually impaired persons*, n. d), (*Guide to ensuring web content availability of WCAG 2.0,* n. d). WCAG 2.0 regulates use of all latest web technologies, taking into account all known physical, mental and technical restrictions of users which can interfere with access to information, for such users and which all developers of all websites need to consider without exception (*G3ict White Paper - Web Accessibility Policy Making,* n. d), (Wadhwani, n. d), (*Web Content Accessibility Guidelines (WCAG) 2.0,* n. d), (*Beginners. The international standard of web content availability of WCAG 2.0 and the recommendation about development of qualitative websites of public institutions taking into account requirements of availability to Disabled people*, 2010). The state standard specification 52872-2007 standard provides need of respect for standards of availability to blind users all Russian-speaking electronic resources the Internet (*requirements of availability to visually impaired persons,* n. d). As a result of the carried-out monitoring the numerous facts of discrepancy of the studied websites of higher education institutions of physical culture to the principles and requirements of availability, including to persons with limited health opportunities were elicited. We offered the additional practical recommendations submitted on increase in availability of the websites to persons with OVZ.

Keywords: the principles of web content availability, the person with limited health opportunities, inclusive training, athlete students.

1. INTRODUCTION

According to the Convention on the rights of disabled people availability of a physical, social, economic and cultural environment, health care and education, and also information and communication is very important. It allows persons with OVZ fully to have fundamental freedoms and all human rights (*Convention on the rights of disabled people*, n. d). In any educational institution including higher education institution of physical culture, students with OVZ which can experience considerable difficulties when studying content submitted on the websites of higher education institution study. In the majority the websites of higher education institution provide exhaustive information: normative documents, electronic educational resources, news and contact information, etc. In order that materials were available to persons with OVZ their compliance to certain principles and provisions of availability is necessary. Availability (from English accessibility) is the general term which describes property of a product (for example, the device, service, a context) to be used as it is possible a large number of different users (*European Commission. Directive of the European Parliament and of the Council on the Accessibility of Public Sector Bodies,* n. d),(*an International Perspective,* n. d), (*requirements of availability to visually impaired person,* n. d.). It is possible to consider availability of the website of higher education institution as "an opportunity to use" and to receive result from use, that is an opportunity to understand and download content, to carry out exercises, etc.

Experts from the different countries in the field of Internet technologies, participants of the World web consortium (www.W3C.org) in 2008 developed the document which is at the same time the textbook and the standard, and also the instrument of check and improvement of web content availability "The guide to ensuring web content availability of WCAG 2.0". According to this manual there are four fundamental principles of available content. Perceptibility: information and components of the user interface have to be provided in the form in which users can perceive them. Controllability: all components of the user interface and navigation have to be operated. Clearness: information and operations of the user interface have to be clear. Compatibility: content has to be compatible in that degree which is necessary for its corresponding interpretation by a wide range of various user programs, including auxiliary technologies (Guide to ensuring web content availability of WCAG 2.0, n. d),(Gabdrakhmanoy, Hadiullina & Ulengov, n. d).

Domestic researchers developed the main requirements of availability of Internet resources to visually impaired persons (GOST 52872-2007) which will extend further and to be supplemented with requirements of availability not only to visually impaired and blind users, but also for the persons having restrictions on hearing, the musculoskeletal device, etc. On the basis of the offered principles of WCAG 2.0 and requirements of state standard specification 52872-2007 we will carry out monitoring research of the websites of higher education institutions of physical culture that will allow us to offer further the practical recommendations submitted on increase in their availability in the conditions of inclusive training of athlete students.

2. METHODS

The analysis of sources of literature on the studied subject, practical experience, monitoring.

3. RESULTS

We studied the alternative versions designed for visually impaired users of 15 websites of higher education institutions of physical culture:

1. Bashkir Institute of Physical Culture (BIPC)

2. Far East state academy of physical culture (DVGAFK)

3. Velikiye Luki state academy of physical culture and sport (VLGAFK)

4. Volgograd State Academy of Physical Culture (VSAPC)

5. Voronezh State Institute of Physical Culture (VSIPC)

6. Kuban State University of physical culture, sport and tourism (KGUFK)

7. Moscow State Academy of Physical Culture (MSAPC)

8. Volga region state academy of physical culture, sport and tourism (Volga region GAFSCKiT)

9. The St. Petersburg state academy of physical culture to them P.F. Lesgafta (CPbGFK of Item F of Lesgaft)

10. Siberian state university of physical culture and sport (SiBGUFK)

11. Smolensk state academy of physical culture, sport and tourism (SGAFKST)

12. Russian state university of physical culture, sport, youth and tourism (RGUFKSMiT)

13. Ural State University of physical culture (UrakGUFSK)

14. Tchaikovsky State Institute of Physical Culture (TSIPC)

15. Churapchinsky state institute of physical culture and sport (CGIFKiS)

observed.

0	The main information is presented in the text form	The main information is presented in the text form. There are no informative inscriptions on a motley background	Graphic files are followed by the explaining text (or not such files)	When targeting a mouse graphic fragments are static, or the explanation appears	For pages with the animated objects there are alternatives (or not such objects)	The PDF files are not present or represent "readable" files	Degree of an enclosure of tables does not exceed 3, number of lines - no more than 15	Hyperlinks contain the explaining text	Fields of forms contain signatures (or not fields)
BIFK www.bifk.ru	1	-	1	-	2	1	2	1	2
DVGAFK www.dvgafk.com	1	-	-	-	-	1	1	-	2
ВЛГАФК www.vlgafk.ru	2	-	-	-	-	2	1	-	2
VGIFK www.vgifk.ru	2	2	-	1	2	1	2	-	2
VGAFK www.vgafk.ru	2	2	1	1	2	-	2	-	-
KGUFK www.kgufk.ru	2	2	-	1	2	1	1	-	2
MGAFK www.mgafk.ru	2	2	-	1	2	1	1	-	1
PGAFKSiT www.sportacadem.ru	1	-	2	1	-	1	2	-	1
SPbGAFK of P.F. Lesgaft www.lesgaft.spb.ru	1	2	-	1	2	2	1	-	-
SiBGUFK www.sibsport.ru	2	2	-	2	2	-	2	-	-
SGAFKST www.sgafkst.ru	1	2	-	-	-	-	2	-	2
RGUFKSMiT www.sportedu.ru	2	2	-	1	2	1	2	2	1
UralGUFK www.uralgufk.ru	2	2	-	1	2	1	1	1	1
CGIFK www.chifk.ru	2	2	2	2	1	1	1	-	2
CGIFKiS www.chgifkis.ru	2	2	2	1	-	1	1	-	-

Table 1

4. DISCUSSION

Let's consider in more detail Research results on each of criteria of a test leaf.

1. The main information is presented in the text form. According to the provision of GOST 52872-2007 in order that information was available to the persons having restrictions on sight, it has to be presented in the text form, at the same time

Transition to this alternative version of the website is possible according to the special reference located on the homepage of the website of higher education institution. And only one sports higher education institution has the St. Petersburg state academy of physical culture it P.F. Lesgafta (SPbGAFK of P.F. Lesgaft) there is no reference for transition to the alternative version, but for visually impaired users it is offered to use the instrument of increase in a font of the text. Assessment of availability of the websites was carried out according to the test sheet state standard specification 52872-2007 "Internet resources: requirements of availability to visually impaired persons". In the lines provisions of the standard, and on columns - the checked websites of higher education institutions of physical culture are submitted. Briefly Research results can be presented in table 1 form. In the table are designated by figures: 2 - provisions of the standard are sustained fully; 1 - provisions of the standard are sustained partially; cells with a crossed out section - the provision of the standard is not

electronic text, but not the image of the text means. The electronic text can be presented in a visual format, audio a format, tactual or to combinations of these formats. It is necessary to give an opportunity for increase in a font, and also change of chromaticity of letters.

Research results. The majority (10 of 15) the studied higher education institutions of physical culture fully meet these requirements. Four higher education institutions (BIFK, DVGAFK, PGAFKSiT, SGAFKST) partially sustained this requirement: besides text information there is also an unreadable image of the text quite a lot. Seven higher education institutions (BIFK, DVGAFK, VLGAFK, SIBGUFK, SGAFKST, RGUFKSMiT, URALGUFK) on the alternative version of the website developed for visually impaired users provide to users the additional instrument of control of a font and chromaticity of the text. One higher education institution (SPbGAFK of Item F of Lesgaft) instead of the reference to the alternative version of the website for visually impaired users only provides the tool for change of font size of the text on the main version of the website of higher education institution.

2. There are no informative inscriptions on a motley background. Not monophonic background, inscriptions on a motley background, excess fine details cause considerable difficulties in visually

impaired users. Use low-contrast on the relation each other of a background and color of the text is inadmissible that considerably complicates its reading. Existence of monograms and a serif type is badly perceived by people with sight violations, especially on condition of bad contrast.

Research results. Eleven of fifteen studied higher education institutions adhere to this recommendation: VGIFK, VGAFK, KGUFK, MGAFK, SPbGAFK of P.F. Lesgaft, SIBGUFK, SGAFKST, RGUFKSMiT, URALGUFK, ChGIFK, CGIFKiS.

3. Graphic files are followed by the explaining text (or such files are absent). Each graphic file has to be followed by the text which would explain the submitted image. The text most accurately and clear has to reflect sense of the image. It is whenever possible necessary to avoid not informative graphic files.

Research results. On the website of ChGIFK there are no graphic files that is positive for visually impaired users. On the websites of two higher education institutions (PGAFKSiT, CGIFKiS) all graphic files are supplied with the explaining text, two more higher education institutions (BIFK, VGAFK) only partially sustained this requirement, other 10 websites of higher education institutions do not correspond to these recommendations.

4. When targeting a mouse graphic fragments are static, or the explanation appears. Existence of moving graphic fragments complicates their consideration; they can be small and not have an opportunity for their increase. Besides, it in general does work as less comfortable. If after all such objects are present at the website, then at guidance of the cursor of a mouse on them, they have to be static and give the explaining text.

Research results. The website of SIBGUFK completely conforms to this requirement: graphic fragments are static also with the text explanation. On the website of ChGIFK there are no graphic fragments that too are positive for visually impaired users. Seven higher education institutions partially sustained this requirement:

–   on the websites of VGIFK, KGUFK, MGAFK, RGUFKSMiT, SPbGAFK of P.F. Lesgaft, graphic fragments are static URALGUFK, but there is no explaining text;

–   on the website of VGAFK there are explaining inscriptions, but they in English;

–   the explaining text to graphic objects is present at website PGAFKSiT, but some graphic objects are not static.

Four other higher education institutions do not conform to these requirements.

5. For pages with the animated objects there are alternatives (or such objects are absent). The animated objects complicate perception of information, especially visually impaired users. At placement on the page of the animated objects it is necessary to give an opportunity of transition to the page with alternative information. Transition to such page has to be carried out by means of the corresponding text hyperlink.

Research results. This requirement is fulfilled in ten higher education institutions of physical culture (BIFK, VGIFK, VGAFK, KGUFK, MGAFK, RGUFKSMiT, URALGUFK, ChGIFK) in a type of absence on their websites of the animated objects; (DVGAFK, VLGAFK, PGAFKSiT, SGAFKST, CGIFKiS) the animated objects are present at the websites of other five higher education institutions, and there is no possibility of transition to the alternative version on the corresponding text hyperlink.

6. The PDF files are not present or represent "readable" files. Files of the PDF format have to be readable, i.e. not pictures are presented in the text form, but, otherwise this file becomes not informative for physically disabled people. If this requirement is maintained, then such file becomes available to reading by programs of screen access (screen-rider) and their transfer to a sound format.

Research results. Only two higher education institutions (VLGAFK, SPbGAFK of P.F. Lesgaft) submitted the PDF files on the website "readable". Ten higher education institutions (BIFK, VGIFK, DVGAFK, KGUFK, MGAFK, PGAFKSiT, RGUFKSMiT, URALGUFK, ChGIFK, CGIFKiS) partially sustained this requirement - some text files represent unreadable images. On the websites of three other higher education institutions this requirement is not maintained.

7.   Degree of an enclosure of tables does not exceed 3, quantity of lines - no more than 15. Information imposed in a tabular style becomes difficult for perception. Besides, when reading the

text by means of the program of screen access, blind users will be forced to listen to information consistently - a cell behind a cell that complicates her also general perception. One table has to include no more than 15 lines.

Research results. Seven higher education institutions (BIFK, VGIFK, VGAFK, PGAFKSiT, SIBGUFK, SGAFKST, RGUFKSMiT) adhered to this recommendation completely, other eight higher education institutions only partially - degree of an enclosure of the tables submitted on the websites does not exceed 3, but quantity of lines in tables - more than 15.

8. Hyperlinks contain the explaining text. Each hyperlink presented on the website has to contain the explaining text. In the absence of a hyperlink information search becomes complicated for users with OVZ.

Research results. The only higher education institution on which website hyperlinks are supplied with the explaining text - RGUFKSMiT on the websites of two other higher education institutions this requirement is fulfilled partially - BIFK, URALGUFK. And absolute majority (12 other higher education institutions) do not maintain this requirement.
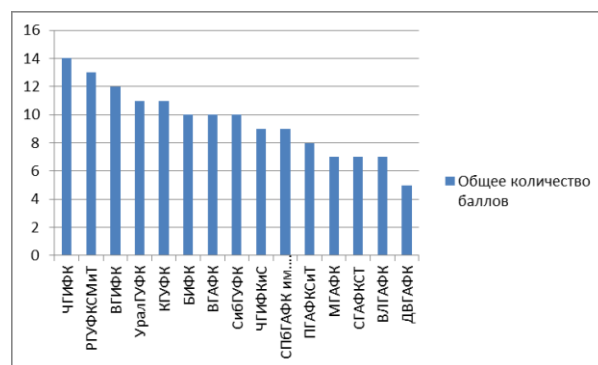
9. Fields of forms contain signatures (or fields of forms are absent). Fields of forms of web pages have to have the explaining text. Violation of this provision of the standard makes almost impossible use of search forms, filling of fields of the questionnaire with visually impaired users.

Research results. On the websites of five higher education institutions (BIFK, DVGAFK, KGUFK, SGAFKST, ChGIFK) of the field of forms have signatures that considerably facilitates to users their filling. Two higher education institutions (VLGAFK, VGIFK) on the websites do not contain the field of forms. On the websites four higher education institution (MGAFK, PGAFKSiT, RGUFKSMiT, URALGUFK) not all fields of forms contain the explaining signatures. And other four higher education institutions do not adhere to these requirements.

5. SUMMARY

Thus, top three - higher education institutions which developers of the websites as much as possible adhere to the principles of WCAG 2.0 and provisions of the state standard specification

52872-2007 standard (ChGIFK, RGUFKSMiT, by VGIFK) - 14, 13, 12 points respectively was formed (of 18 points greatest possible). Two higher education institutions have 11 points (URALGUFK, KGUFK), two higher education institutions - on 10 points (BIFK, VGAFK), two higher education institutions on 9 points (CGIFKiS, SPbGAFK of P.F. Lesgaft), PGAFKSiT - 8 points, three higher education institutions on 7 points (MGAFK, SGAFKST, VLGAFK) are also closed by the list (DVGAFK) - 5 points (see fig. 1).

General qualitites

Fig. 1. Research results of the websites of higher education institutions

6. CONCLUSIONS

Analyzing the obtained data, it is possible to summarize briefly that any of the studied higher education institutions of physical culture does not provide completely availability of the website to users with OVZ. It complicates to have to athlete students equaled educational opportunities - access to quality education. For full implementation of full educational activity of athlete students in the conditions of their inclusive training it is necessary to approach registration and filling of the websites of higher education institutions more carefully.

As practical recommendations, besides the basic principles of WCAG 2.0 and provisions of the state standard specification 52872-2007 standard it would be desirable to recommend the following:

–   the window needs to be divided into several functional areas, designating each of them in a frame;

– additional settings on adjustment of color, a background, contrast of a font allow to improve legibility of the text;

– at navigation of the user on the website it is necessary to provide it the help in search of the necessary information;

– it is necessary to adhere to consecutive navigation in order that programs of screen access could keep sense of the provided information;

– names of headings of components have to be accurate and clear;

– when the component becomes active, for contrast it is desirable to allocate it in a frame;

– the user, being on the website, valleys accurately to understand, where to follow it further; at a disorientation in the location the reference "In the Beginning" will allow it to return on the homepage of the website;

– for ensuring clearness and legibility of the text it is necessary to exclude from the text of an abbreviation and reduction as much as possible;

– it is necessary to adhere to uniform navigation according to all web pages of the website;

– components which bear identical functional loading have to have identical names;

– any changes of a context have to happen only at the request of the user;

– function of the prevention of mistakes will allow to suspend incorrectly filling of fields of forms.

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