

INFLUENCE OF STUDYING PROCESS WITH USE OF MULTIMEDIA MEANS ON PREVALENCE AND FORCE OF AUDIO HABIT AMONG STUDENTS

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Abstract:

The major purpose of this study was reasoning the influence of teaching and educational process with use of multimedia means on efficiency of counteraction and prevention of harmful audio habit development among students. The students of the 1st -3rd years of study who were trained on discipline “Physical Education” within lessons aimed at the basic group of health have participated in this research. In total 952 male students and 523 female students of 1st -3rd years of study have taken part in research. It was revealed that students spend for audio habit on average more than two hours a day. A percentage share of the male students who were wasting to an audio habit more than four hours a day is above than of female students. For 3 years of training the percentage share of the young who are wasting to an audio habit more than two hours a day has decreased. More than at 30% of the students who are accustomed at the end of any academic year audio habit is so strong that danger of audio-addiction emergence is high. For 3 years of training percentage shares of students both sexes giving more than four hours a day to this habit obtained tendency to decrease. The percentage share of the male students having strong audio habit during training has decreased. At the end of 1st -3rd years of study prevalence of an audio habit among students exceeds 90%. Among male students it has forced for 3 years of training. During training audio habit force has grown among students. The percentage share of those whose habit has amplified during training is 2-3 times higher, than a share of those whose habit was weakened. As for the male students of the 3rd year of study, who had audio habit, a percentage share of those who obtained audio habit is higher than a share of those who were exempted from it. The audio habit is highly widespread among students. Students of both sexes waste on it the considerable time dangerous to their health. The audio habit is more dangerous to male students than to female students. Danger of audio habit development into addiction is high for more than for 30% of the students of both sexes having an audio habit. Teaching and educational process has insufficient efficiency concerning reduction of time waste of students for an audio habit, its prevalence and force. In case of “Physical Education” discipline implementation it is necessary to use the new technologies directed to decrease of audio-addiction danger emergence among students.

Keywords: students, male students, female students, audio habit, multimedia means.

Introduction

Contemporary state of university educational system development is more and more considerably covered by informatization and computerization. Educational process is almost even more often based on the convenient and facilitating professional activity of the teacher, modern information technologies, electronic resources and multimedia equipment. For training students within high school system absolutely new opportunities of methods, forms and means improvement are open with use of modern conditions of youth informatization.

Pedagogical process of students' training in higher educational institutions is undergoing serious changes as multimedia means are being implemented into training process more and more intensively (Kozina, Ol'khovyj, & Temchenko, 2016; Maslyak, & Krivoruchko, 2016). Multimedia (multimedia, from English “multi” - is a lot of; “media” - the carrier, environment) is a set of computer technologies in which several information means are used at the same time: text, computer graphics (photos, animation, schemes, 3D - graphics, etc.), sound, video (Krasnianskij, & Radchenko, 2006).

As a result of an impetuous computerization of young student's community, research of many scientists (Babaeva, & Vojskunsikij, 2016; Kliueva, 2003) including experts in the field of physical education and sport (Kramida, & Kadnikova, 2014; Kudryavtsev, Kramida, Kuzmin, & Iermakov, 2016; Kudryavtsev, Kramida, & Osipov, 2016) are recently devoted to studying of Internet dependence problems (Teperik, & Zhukova, 2007; Shiiyanov, & Drepa, 2009; Iang, 2000), harmful monitor habits (Kramida, 2014; Kudryavtsev et al., 2016), computer game addiction (Kudryavtsev et al., 2016) which emergence happens because of active use of multimedia means as way of educational process intensification in universities. Extent of the similar training

innovations influence on health of students attracts special interest of researches of all scientific branches and specialties (Ajsmontas, 2004; Gol'decibelerg, Krivcunov, & Pustovgar, 2005; Babaeva et al., 2016; Kudryavtsev et al., 2016). Necessity of students' rehabilitation by means of physical education and sport seems quite obvious (Iermakov et al., 2016; Ivashchenko et al., 2016; Kozina et al., 2016; Pryimakov et al., 2016). Such approach brings positive results and improves socialization of students in university environment (by Bliznevsky et al., 2016).

Dynamic multimedia tutorials unite visual and sound ways of perception by themselves. Process of information perception by students is connected with readiness and ability to digestion of the submitted material within specified by the tutor temporary terms. Interactive multimedia means, as well as dynamic, can be visual and sound. Interactive means give tutor the chance to integrate various environments of information submission, such as text, static and dynamic graphics, audio and videos into the uniform complex allowing the trainee to become the active participant of educational process as providing information is caused by the corresponding actions of trained. While designing the future multimedia lesson it is important for the tutor to decide what purposes are set and what part is assigned to this educational activity in system of classes, in the studied module or within all training course. Lesson can be aimed to presenting the new information on the studied subject, fixing of earlier studied material, skills fixing, repetition, practical application of knowledge, abilities, skills gained in the course, knowledge systematization (Astvacaturov, 2009; Anshari, & Alas, 2015; Chen, Lai, & Ho, 2015).

It is connected to the fact that the sound is considered to be very important advantage of a multimedia lesson. The sound can play a role of a sound effect, a sound illustration or a soundtrack that it is capable not only to draw attention of being trained, but also to be the link, binding parts in the course of a lesson, switching students' attention from one type of activity to another. The sound is used for transmission of different voice comments, specific sounds which accompany the process of scoring the text. Students get used to soundtracks on studies very quickly and afterwards use this advantage for knowledge acquisition as by preparation for lessons in nonlearning time, and for rest in the form of listening to the loud music by means of a player and earphones. This hobby develops into a persuasive addiction to use a player and earphones everywhere (in transport, etc.).

According to the latest studies about 78% of the polled school students are already "addicted" users of such "service". Such symptoms of direct dependence as feeling of discomfort without earphones, doubtful feeling of wasted pastime, are found at 60% of tested teenagers. During student's age the unwillingness and impossibility to stop listening to the music in case of a trip in transport causes irritation. The necessity to interrupt listening to favorite music for a minute to answer a question of people around also causes aggression. Staying for a long time without listening to loud music turns into feeling lost and depressed (Shamsuvalieva, & Kashapov, 2012).

A number of young men as well as students with earphones in ears on streets and in campuses of universities are growing with frightening speed. They listen to music, radio news, audio-performances or audio books. But as far as this audio habit to listen to the music via earphones influences health of youth nobody especially is interested. The most dangerous to hearing is ultrasound. Ultrasound has the most strong and harmful influence on hearing. MP3 players are very convenient to store and to listen to a large number of different music at any time.

Impact of sound on a human body depends on duration and volume of this sound. If the person uses earphones to listen to music, then it creates the additional pressure upon sound pass; oscillations influence an eardrum stronger, adding 5–7 decibels that weakens hearing faster (Zhao, Manchaiah, French, & Price, 2010; Guerassimoff, & Thomas, 2015; Okamoto, Teismann, Kakigi, & Pantev, 2016).

It is established that using earphones for listening to the music makes activity of a brain decreased and inhibition processes prevailed (Gol'decibelerg et al., 2005; Smith, Dauz, Clements, Werkowitch, & Whitman, 2009; Kalantarian, Alshurafa, Le, & Sarrafzadeh, 2015). It can lead to thinking, attention and memory violations, lowering the educational activities success of the student.

Rivers W. (1968) notes that the complete understanding of the oral message cannot be reached without paying attention to such elements of nonverbal communication as gestures, mimicry change, scarcely noticeable change of breath, longitude of pauses, extent of allocation of any element of the statement. Rivers W. wrote about redundancy of the sounding speech happening thanks to visual perception of communication situation. Therefore Rivers W. (1968) recommended using movies for training audition.

During this research, the following contradictions were taped: between introduction of educational standards, existence of unified educational environment and lack of electron educational resources which are strictly regulated on time, contents, conform to the standard, educational and curricula programs with following sanitary standards and rules; between the declaration of total public computerization and lack of structuring according to curriculum programs of a studied course with use of multimedia agents, impossibility to organize control on students' health care; between requirement of society to receive new generation of the teachers who are masterly owning computer skills, and danger of their knowledge lack in the field of Developmental Psychology and techniques of teaching with use of multimedia means as there is a steady belief among the

Indicators	Groups
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	1m	2m	3m	1f	2f	3f
Average growth of audio habit force, 0–10 points	0.3 ± 0.1	0.5 ± 0.2	0.6 ± 0.2	0.3 ± 0.1	0.3 ± 0.2	0.4 ± 0.2
Audio habit weakened, %	12	10	17	14	19	14
Audio habit forced, %	24	30	35	22	33	31
Audio habit disappeared, %	1	1	0	0	2	2
Audio habit appeared, %	1	0	6	1	3	3

The data got in samples of students of the 1st – 3rd years of study has shown that the audio habit is widespread among them (tab. 1, 2). Students of both sexes waste for an audio habit on average more than two hours a day that damages their health (tab. 1). During study only at the end of their third year students demonstrate the tendency to some reduction of average waste of time for this addiction, is found among male students with probability 0.93, among female students – 0.85.

As at the beginning of training, so the end of the second and third years of study, a percentage share of male students giving to an audio habit more than four hours a day is significantly higher, than that among male students (tab. 1). It means that the audio habit is more dangerous to male students, than to female ones as in respect of related violations emergence concerning physical health, so concerning the development of audio habit into audio addiction. More than 30% of the students of any year of study (irrespective of sex) having an audio habit at the end of the academic year estimate its force at 7–10 points on a 10-point scale (tab. 2). It means that every third of such students at the end of the academic year, most likely, has audio addiction and the related violations of health. Among those students who have audio habit, a percentage share of those whose habit is strong enough and there is a great probability of audio addiction is significantly higher, than a share of students with weak audio habit (not dangerous for health), among male students – at the beginning of study and at the end of the 1st and 2nd years of study, among female students – at the beginning of study and at the end of the 2nd - 3rd years of study as well.

In the course of research within three years the percentage share of the male students giving more than two hours a day to audio habit has significantly decreased ($p = 0.022$, tab. 1). Data of female groups (Fbfy, 3f) has no significant differences and it is shown in table 1. For the same period of study percentage shares of students both sexes giving more than four hours a day to this habit tends to reduction with probability 0.81 for male and 0.90 for female students. Among those who have audio habit a percentage share of male students who have revealed high level of an audio habit (7–10 points on a 10-point scale) at the end of each of the first three years of study is significant less, than at the beginning of study (tab. 2). For female students the difference between similar data (presented in tab. 2) isn't significant.

Thus, the analysis of time which is spent by students on audio habit shows that teaching and educational process leads to some reduction of this time and harm for health from this habit among male students and there is similar tendency among female students after three years of training. However efficiency of teaching and educational process in this direction is too low. It is necessary to develop and bring in teaching and educational process, in particular – in case of implementation of course “Physical Education”, new technologies directed to forming healthy lifestyle among students of the first years of study, fight against their addictions, decrease in danger of emergence of various dependences among students and, in particular, to audio addiction.

For 3 years of study prevalence of audio habit among male students has grown (the difference of data in the line “Have habit” in table 2 for groups of Mbfi and 3 m is significant), among female students – has no significant changes.

The most important indicator of influence of study on audio habit of students is their self-assessment concerning growth of habit force during study period (tab. 3). On average in all groups meaning of this indicator is positive, and, for students of the 3rd year (male) who have a habit, it is significantly higher, than for first-year students ($p = 0.047$, tab. 3). A percentage share of those whose audio habit has amplified during period of study is significantly (and it is considerable, by 2–3 times) higher, than a share of those whose habit weakened ($p < 0.01$). Among third-year male students who had audio habit a percentage share of those who obtained audio habit during university study is significantly higher than a share of those who were exempted from the habit ($p = 0.0021$, tab. 3).

All aforesaid evidences that teaching and educational process doesn't exert positive impact on prevalence of harmful audio habit among students and reduction of danger of audio addiction emergence among students.

Discussion

Today application of multimedia means in educational process, determination of efficiency and legitimacy of the research conducted by authors of this article is confirmed by actively carried out upgrade of system of the higher education. With respect thereto it is necessary to sharpen the problem resolution of multimedia means use in process of teaching students, enhancement of professional training process of the

qualified specialists capable to reasonable application of audiovisual maintenance of educational process, preserving health of students and non-admissions of harmful audio habit development. This process is in many respects caused by increase of informatization level of educational process. Informatization of education is promoted by creation and application of the multimedia means promoting forming and development of harmful addictions among students.

The main directions of researches within the specified perspective can be connected with obvious benefits of multimedia technologies, a possibility for combination of sound and visual assimilation of information. Similar interaction allows managing more productive assimilation of information by means of sound effects. It promotes in turn development of audio habit as a result of individual changes of sound settings, the analysis of sound information, and increase in number of repetitions of listening to multimedia training material.

Feasibility of use listening in reasonable preparation for lessons, when studied foreign-language texts learnt by students by means of audition and by listening them through a player and earphones can be one of the reasons for decrease in force and prevalence of an audio habit (Krashen, & Terrell, 1988; Heggen et al., 2009; Jarman et al., 2015; Karadeniz, & Can, 2015). For junior students it is offered to use foreign-language short audios and videos. Benefits of video series use as a form of dynamic support are discussed when training in audition; skills of messages audition in the foreign language learning are marked out; the conclusion about need of special series of exercises development aimed to forming of these audition skills and abilities in study conditions with audios and videos containing new information on professional issues are drawn (Abramova, 2001).

From our point of view, the next key moments seems to be important. Development and implementation of multimedia training of students is enabled through integration of various forms of education (internal, correspondence, computer, net work) which is directed to systematic, organized process of building-up of knowledge, skills by means of electronic tutorials. In many European countries electronic training development causes need in development of advanced training system for educators, the same tendencies are observed in Russia. Advanced training of educators in a scope of multimedia means, application of various forms of electronic training promotes development of international cooperation in the educational environment.

Electronic training integrates a number of innovations in scope of the modern information and communication technologies (ICT) in education, such as computer technologies of training, interactive multimedia, training at a basis of web technologies, online training, etc. Thus, boundaries between distance and direct training are erased. Development of modern education system in Russia, Germany, Austria and other countries is caused by influence and implementation of information and communication technologies in all fields of educational institutions activity and is obliged to emergence of an open entry to means of Internet technologies (Meksin, 2006; Borzykh, & Gorbunov, 2009; Bukhanceva, & Dudina, 2009; Adyrkhaev, 2016).

Modern ICT open access to unconventional sources of information for students and teachers (Kolot, 2016; Petrenko, 2016; Mykhno, & Loza, 2016), increase of independent efficiency work with use of a player and earphones, give absolutely new opportunities for creativity, manifestation and identification of the capabilities, findings and various skills fixing. However at the same time there is an indirect collateral impact on forming of an audio habit (Khorton, & Khorton, 2005; Oganessian, 2008; Fossli Jensen et al., 2010; Gómez-Corona, Escalona-Buendía, García, Chollet, & Valentin, 2016).

At the same time, the doctor of Malaysian medical center Kuldzhit Singh (Goncharov, 2006) marks that development of MP3 players only worsens the state of hearing at owners of portable devices as most of young people like to listen to music on their way to university. Most of MP3 player owners permanently listen to music at the maximum loudness in breaks of independent preparation for studies that for several years can lower the range of the perceived frequencies and lead to more serious problems of audio habit development.

The research of Nakaia Sinske devoted to one of perception development methods recommends using complex of video and language systems for development of aurally skills perception at the advanced level, when its application is desirable, but not restricted only to tape recordings (Nakaia, 1993).

Training in aurally perception, especially at the average and high levels, it is necessary to include in an audiovisual technique. At the same time, it is possible to achieve better results in students training. Compilation of the training program in audition for development of informal conversation skills and abilities is possible, that is opposite to traditional methodical theory and can also lead to advanced training in audition (Itikava, 1991; Simidzu, 1993).

While discussing the results of this research it is necessary to focus attention on the point that use of earphones switches-off the audio channel of reality perception. Muffling world around sounds the loud music from earphones filling the most part of attention, the young man can not note a dangerous situation and manage the reaction to it correctly. The amount of mass media messages on fatal accidents in which the victim is the young man in earphones is increasing. Inquiry of student's age young people showed that the majority (95%) uses players in public transport (Kramida, 2011; Kramida et al., 2014; Kramida, & Mazaj, 2014).

At the same time, to superimpose the general sound background, volume shall exceed 100 decibels that inevitably leads to the described above violations of health and lowering of educational activities success of a student (Garaeva, 2010; Kramida, 2011; Levina, Kudeeva, & Ibragimov, 2011; Volkova, 2016).

Process of multimedia training starts with perception of a new training material. The success of this process depends on readiness of being trained to perception of audiovisual tutorials. New computer technologies on studies optimize training process, allows the teacher to manage lesson more interestingly and more visually, motivate students for independent work on language acquisition, using modern resources in the form of MP-3 of a player and earphones (Gorshkova, 2013).

Within this research it is considered that the studies of Gokhlerner M.M. and Rapoport I.A. (1979) concerning educational abilities, their entities, specifics and requirements to them are the basically important in this area for systematization of audio abilities and further perspective development of this question. These scientists not only have determined educational abilities as "... intellectual abilities which are directly connected with study and by means of which educational activities of students are performed" but also have distinguished educational abilities on work with lexicon, on grammar, on work with the text, in the field of oral speech, in the field of speech perception, and also ability of self-checking and self-assessment. Basic abilities which make initial level of proficiency in audition have been also revealed and described by Elukhina N.V. (1986).

The preventive program in "Physical Education" course is aimed at the students to decrease their harmful audio habit in force and prevalence. The purpose of this program is reduction of time wasted for listening of loud music via earphones and prevention of audio addiction among students. The recommendations for reaching this purpose are as follows: to develop skills of communication among students having audio addiction to distract them from listening to loud music; to increase knowledge concerning healthy lifestyle and self-assessment of audio addicted students; to inform students on audio addiction consequences, on an adverse effect of excessive listening of loud music on consciousness and aurality of young people; to reduce amount of time wasted on useless listening to the music during preparation for studies.

The scheduled support for students having audio addiction is necessary to carry out by physical education and sport activities (Bliznevsky, Kudryavtsev, Iermakov, & Jagiechcho, 2016; Babaeva et al., 2016) aimed to students' self-assessment strengthening by promoting the development of personality physical education, by developing decision making skills, by developing control of moderate music listening and non-admission of audio habit development in high level. Teachers of physical education shall provide an optimality of the motive mode in order the students did not have time to abuse listening to the useless loud music determining the main degree of force and prevalence of a harmful audio habit.

Thus, general strategy of sports preventive activities shall provide carrying out the preventive actions directed to forming the steady psychological denial of audio addiction on the basis of modern sports life style (Kliueva, 2003; Bliznevsky et al., 2016; Gaskov, Kuzmin, A.Kudryavtsev, & Iermakov, 2016) with domination of healthy lifestyle values. The innovative preventive technologies promoting active development of physical education values and the principles of healthy lifestyle should be necessarily implemented in the student's sports and educational environment (Kopylov et al., 2015; Kuzmin et al., 2015; Kuzmin et al., 2016).

The preventive program recommended by this research organizers shall promote development of the irreconcilable relation to audio addiction among students, strengthen the personal life position, activate involvement in sports (Kuzmin et al., 2015; Babaeva et al., 2016; Bliznevsky et al., 2016), thereby to acquisition of successful experience in fight for lack of addictions, including audio addiction.

Conclusions

1. The audio habit is highly widespread among students of university. Students of both sexes waste considerable time on it that is dangerous to their health. The audio habit is more dangerous to male students, than to female, as concerning the emergence of the related violations for physical health, so in respect of turning audio habit into audio addiction. More than for 30% of the students both sexes having audio habit danger of its development into dependence is high.

2. Teaching and educational process has insufficient efficiency for reduction of time wasted by students for audio habit, its prevalence and force. In case of "Physical Education" course implementation one of the tasks is healthy lifestyle formation, it is necessary to use the new technologies directed to decreasing the danger of audio addiction emergence among students.

3. Use of multimedia means in educational process often becomes end in itself while in training process the solution of educational tasks is supposed; and as a result students seize knowledge, abilities, skills, develop personal qualities, create competence and at the same time health.

4. Basic reorganization of teachers' relation to methods of applying multimedia technologies in educational process is necessary in general.

5. The system of tracking accomplishment of sanitary and hygienic regulations when using multimedia means is necessary.

6. Methodical recommendations concerning creation of the legal base accurately prescribing slides quantity, uses of color, sound effects, usage time of multimedia means in educational process shall be developed for educational institutions.

7. Sports preventive activities shall provide carrying out the active preventive actions directed to forming the steady psychological denial of audio addiction on the basis of modern sports life style with domination of healthy lifestyle values.

8. The preventive program shall promote development of irreconcilable relation to audio addiction among students, strengthen their personal life position, activate involvement in sports activities, thereby acquisition of successful experience in fight for lack of addictions, including audio addiction.

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