Available online at www.elixirpublishers.com (Elixir International Journal)

Educational Technology

Elixir Edu. Tech. 77 (2014) 29178-29183

ISSN: 2229-712X

An evaluation of the quality of information technology literacy in Iranian sport organizations

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ARTICLE INFO

Article history:
Received: 25 July 2014;
Received in revised form:
25 November 2014;
Accepted: 13 December 2014;

Keywords
IT Literacy,
Sport organisation,
Computer literacy.

ABSTRACT
The aim of this research is to evaluate the IT Literacy in sport organizations' employees.So370 staff of these organizations were chosen as sample and answered to the researcher made questionnaire of IT Literacy. The opinions of the scope of experts were used in order to determine face and content validity. Confirmative and explorative factor analyses were used in order to determine construct validity. The reliability was determined by Chronbach α. appropriate descriptive and referential statistics (multi-variate regression, ANOVA, MANOVA) were used. The findings demonstrated that the IT Literacy of sport organizations' employees had a moderate rate. The results of MONOVA demonstrated a significant difference between the subscales of the general Literacy of computer in sport organizations so that the IT Literacy of the sport federation employees was lower than that of the Ministry of Youth and Sport and the Principle Office of Physical Education. Regression analysis also demonstrated that all the subgroups of computer general Literacy were significant predictors for computer Literacy. Finally we should state that IT is considered as one of the most important indices of organizational progress and it should be part of the priorities of sport organizations to provide suitable circumstances in order for the employees to get familiar with it and promote the general IT Literacy.

Introduction

IT is considered as one of the main axes of development and most of the countries in the world have classified IT development as one of the main substructures of development (1). In spite of the comparatively short age of IT and its' fast developing trend, there are many contrasting definitions of it (2). The word IT was used for the first time by LOIT and WAIZLER (1958) in order to state the role of computer in decision making and informational processes in the organizations(3). Nowadays, the concept of IT has got more inclusive and IT is considered as a collection of techniques and devices used for designing, studying, developing, supporting, setting and managing computer–oriented informational systems specially software and hardware programs(1). In this definition, different features of IT and its uses are cut short in scientific and commercial aspects. In the organizations, IT is considered as a means of promoting the performance of the employees and making them adjust with the changes (4). But in order for these organizations to impress the performance of their employees scientifically, they should encourage their employees to use IT and promote the level of their Literacy simultaneously with the rate of its' changes. The subject of informational Literacy and the way to practice IT in the society is a focal point making the provisions for the smart presence of the society in this field (5). The word (literacy) has been evolving through the time (5). The expression (informational Literacy) was brought up for the first time by Zurkowski in 1974. He used this expression in order to describe the people who have learned the necessary skills and techniques to achieve the informational solutions for their problems. He recognized that the employees with informational Literacy are more capable of exploiting the information (6). Today more than 34 kinds of proper Literacy are introduced in which scientific Literacy with its typical meaning in the educational system involving the concept of reading and writing is a special one (7). For example, we can name political Literacy, economic Literacy, social Literacy, multi-media Literacy and IT Literacy. The expression, informational Literacy, generally refers to the ability to evaluate and organize the information in order to use it in a secure and accurate way in a variety of fields (8). In other words, informational Literacy is the characteristic that enables the person to evaluate the obtained information critically and use it in order to meet their informational needs in a creative, affective and precise way. So, we can define the Literacy of communications in this way: The characteristic that enables the person to develop and continue the relationship with others (9).

By blending the two mentioned concepts we can state that the IT Literacy and communications is a characteristic that enables the person to develop, continue and deepen his relationship with others in order to have access to the information and evaluate and use the information in a precise, creative and suitable way with the aim of meeting the needs related to others. In other words, we can define IT and communications as the ability to think about the information and to recycle and use the information as one of the necessities of life in the form of relationship with others in a two-way or multi-way transaction (10). The result of the researches implemented in the world confirms the important role of the informational Literacy of the employees in developing the informational abilities of the society. The findings of Fergosen (2004) on students demonstrated that about 40 percent of the difference between the students in some lessons including reading and comprehension was the result of the level of specialty, skill and the information of the teacher (11). On the other hand, the results of the current researches demonstrates

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that besides the necessity to reach a model for developing informational Literacy, this model should be defined for that society exclusively(9). Plaum(2003) claimed that familiarity with computer and the operative system of windows, the basics of computer, word process, power point, internet and multi-media is the necessity of developing Literacy and informational abilities of the governmental employees (specially sport organizations). The usage of multi-media instruments such as digital cameras and videos should also be considered (12). IT national society of Malezy has provided standards and certificates in order to measure the IT Literacy in employees of the organizations which will be practical for all employees. The standards are classified in two levels: The first level is familiarity with the basic concepts of IT and communications, the usage of computer and internet and the second level is word process, wide pages, presentation and source of the data. Those who take this certificate are eligible in terms of having the basic Literacy and skill to use IT in the organizations (13). The findings of salehi and hajizade (2011) on computer Literacy (basics, internet, word process, Excel, power point) in free university employees did also demonstrate that the average of their literacy was lower than the middle level (15). Allahyari (2001) also claimed that most of most of the scientific members make use of IT. 50 percent of them had just started 2 years ago and the rest had the experience of more than 2 years (16). Afshar et al. (2008) acknowledged in their research, in which the subjects were the students, that the students were not familiar with internet and web though these instruments were the most important ones in achieving informational sources (17). Bahadorani(2003) in his research that measured the ability and Literacy of the members of scientific party in working with internet and computer , demonstrated that a considerable percentage of the scientific party did not represent the required skill and Literacy in working with computer and internet (18). Matthcws[5] (2002) and Orbin (1996) explored internet as an instrument stemming from educational system and believed that internet was developed as an instrument to use IT. Nowadays many attempts are being implemented in order to use IT as an educational instrument because it is considered as an important instrument in the organization (19). The results of the research by Moody (2002) demonstrated that computer Literacy is the second skill among the skills needed to get a Job (20). Kocak (2003)[8] in this research found that the attitude of sport managers, teachers, coaches and physical education students towards computer and computer skill is positive and it necessitates using IT and computer in order to develop sport (21). The research by Chen (2004)[9] demonstrated that computer skill is one of the nine skills needed by the managers in Taywan (22). Peng(2000)[10] in his research, whose subjects were the managers of sport events in united states of America, stated that the abilities of sport managers accompanied by computers skill is one of the main skills needed by them (23). The studies implemented by Daris(1997)[11] stated that 83 percent of the managers believed that computer skills for making decision in the organizations was important (1987) and Obrien (1996) demonstrated that the more positive the attitude of sport managers towards the use of IT, the more determined they are in their decision to use IT and the more determined they are in their decision to use it.(24,25). The results of the research by Chizari (2003) demonstrated that the positive attitude of the managers to IT encourages the employees of the organization to move towards the distribution of this technology leading to an increase in the effectiveness and exploitation of the organization (26). The results of the research by Mody(2002) demonstrated that computer Literacy is the second important skill among the skills required to get a job(20). Moreover, Mirta (2003) has presented the provision of computer for the use of clients in all parts of the organization, inter-organization computer and also availability of internet for all learners as the necessities of IT development in organizations (27). According to the importance of IT in organizations, a few researches have determined the required skills in order to develop informational Literacy in the organizations. Junoesque technical training international center has considered the amplification of the concepts and skills of IT and also the training management based on IT in different countries as one of its' missions and defines these skills in this way: familiarity with computer principles, familiarity with windows operative system, using internet and multi-media sources, familiarity with hardware and software, word process and the huge pages dealt with in this research. The most fundamental action of the governments in order to establish an informational society is to change the attitude of the people towards national training in different levels and to raise a new and thoughtful generation in the field of IT, but reaching this goal is not possible unless through increasing the education of the learners (managers, specialist). Therefore, this research is seeking to evaluate the general computer Literacy of the managers and specialists of Iranian sport organizations. So, it is necessary to be aware of the present condition in order to develop this technology and in order to take the subsequent steps and to set up for the promotion of the managers and specialists in the field of IT. The current research is trying to answer some questions such as the followings: what is the rate of the general IT Literacy in the employees of the sport organizations? What is the rate of the general Literacy of the employees in the fields of computer principles, internet, PowerPoint, excel, access and word process? Is there any difference between the three sport organizations (The ministry of youth and sport, the chief ministry of school physical education and sport federations) in terms of the level of the computer general Literacy? How much is the predictive power of any dimension of computer general Literacy in employees?

Methodology

The present research is descriptive. The subjects consisted of the staff manager of the Ministry of Sport and Youth, the managers of sport federations and the principle office of physical education in schools(N= 574). The subjects were chosen through accidental sampling and according to Morgan and Kerjsi table (n= 370). The measurement instruments were:

1-The researcher made questionnaire of individual characteristics.

2-The researcher made questionnaire of computer general Literacy (computer principles, internet, word process, excel, PowerPoint, access).

The pilot test was implemented on 50 employees of sport organizations in order to determine the validity and reliability of the questionnaires and also to eliminate the possible ambiguities. The opinions of 10 specialists were taken in order to determine face and content validity and confirmative and factor analysis were used in order to determine construct validity. The results of the explorative and confirmative factor analysis were (p= 0.001, df= 76, KB=2.532, KMO= 0.923) and (p= 0.000, df= 63, AGF1=.954) by order. Chronbach α was used in order to determine reliability. The results of chronbach α for each of the questionnaires was as follows: The general IT Literacy: (α=0.90), computer principle: α= 0.92, internet: α = 0.94, PowerPoint: α = 0.87, excel: α = 0.83, access: α= 0.81 and word process: α = 0.97. According to the results extracted from α

chronbach we can claim that the coefficients are acceptable and the measurement instruments possess an excellent inter reliability. Descriptive statistics was used in order to organize, summarize and categorize the raw grades. In the part of referential statistics, explorative and confirmative factor analyses were used in order to determine construct validity. The multi-variate regression , one-way variance analysis (ANOVA) and MONOVA were calculated through the software LISREL (version 8.52) and SPSS (version 19).

Findings

The descriptive statistics demonstrate: 32/5 percent of the responders were women and 67/5 percent of them were men. 12/8 percent of the responders had technician degree, 62/4 percent had B.a and 24/8 percent had M.a and Ph.D. 11/5 percent of the responders had the job history of 1 to 5 years, 17 percent of them had the job history of 6 to 10 years, it was 11 to 15 years for 36/5 percent of them and 15 years for 35 percent. The average of the responders' job history was 14/5 ± 6/3 and their average age was 34/66 ± 5/4. The organizational post of 47/5 percent of the responders was manager and it was technician for 52/5 percent of them. Also, 58 percent of the responders studied in the field of Physical Education and 42 percent of them studied in the fields other than Physical Education.

As seen in table 1, the highest average is related to word process and the lowest average is related to internet.

The results extracted from the multi-variable variance analysis in terms of the sub-scales of computer principles, internet, word process, excel, access and PowerPoint did not show any significant difference between the Ministry of Sport and Youth , sport federations and the principal office of physical education in school. ($F_{4.486}$= 10.791, p≤0.001, wilks lambda = 0.885, Eta = 0.87).

The results of the posthoc test for MANOVA and ANOVA, demonstrated significant difference between these variable in the Ministry of Sport and Youth, sport federations and the principle ministry of physical education in schools (Table 2).

The hoc test Sheffe was used for ANOVA in order to check the differences deeply. The results were as follows:

1. No significant differences was observed between the subscales of computer principles (p = 0.069), internet (p= 0.091), word process (p= 3.23), excel (p= 2.13). PowerPoint (p= 1.43), access (p= 2.08) for the ministry of sport and youth and the principle ministry of physical education in school.
2. The subscale of computer principles (p= 0.009), internet (p= 0.001), word process (p= 0.003), PowerPoint (p= 0.03), access (p= 0.08), excel (p= 0.03) demonstrated significant difference between the Ministry of Sport and Youth and sport federations.
3. The subscales of computer principles (p= 0.001), internet (p=0.002), word process (p= 0.03), excel (p= 0.006), PowerPoint (p= 0.008), access (p= 0.012) demonstrated significant difference between sport federations and the principle office of physical education in schools.

The results extracted from multi-variate regression with the method of simultaneous entrance for the prediction of the computer general Literacy in terms of the variables: computer principles, internet, word process, excel, PowerPoint, access ($F_{4, 104}$ = 3.171, p= 0.017, r^2 = 0.643) demonstrated that these variables can be significant predictors for general computer Literacy. The power of prediction of computer general Literacy is demonstrated in table 3 in terms of each of the factors mentioned.

Discussion

The result of the test comparing the averages demonstrated that the general IT Literacy of the employees of sport organizations in the fields of computer principles, PowerPoint, excels and access were in a middle extent. The findings also demonstrated that the highest average of IT Literacy in the three organizations mentioned was as follows: the Ministry of Sport and Youth = 83.7 percent, the principle office of physical education in schools=84.03 percent and sport federations=80.17 percent. The lowest average was also related to internet that was 45.70 for the Ministry of Sport and Youth, 46.01 for the principle office of physical education in schools and 40 for the sport federations. In some researches, internet has devoted a low average to itself. Afshar et al. (2008) claimed that though internet and web are one of the most important instruments in order to have access to information sources, the students do not have adequate familiarity with it(17). Parirokh et al. (2004) also came to the same conclusion (28). The results of Salehi and Hajizadeh (2011) demonstrated that the level of the Literacy of the professors in terms of internet was low and only 4 percent of them used internet (15). The results of the study by Bahadorani (2003) demonstrated that a considerable petcenrage of the members of the scientific party do not possess the required Literacy and skill in working with computer and internet (18). The results of Wailaee and clariona also demonstrated that the average of the grades of internet Literacy in the students was lower than the average (19). The findings of Khajavi (2006) also demonstrated that only 13 percent of the scientific party has access to internet at home most of whom do it by test and error (29).

Brodshaw (2002) also claimed that only a very low percent of the researchers use internet in order to collect the literature of the research and they mentioned the reason as the unfamiliarity of the researchers with internet (31). Kashani (2001) and Alhayebi (2001) came to results opposing to the results in this research (16, 32). Mayby, we can see this disagreement because the present research has studied the circumstances of the employees in sport organizations while in the two mentioned researches the members of the scientific group have been dealt with.

The comparison of the averages in table 2 demonstrates that the IT Literacy of the employees of the principle office of physical education in schools is much more than the employees in sport federation and the Ministry of Sport and Youth. It can be as a result of holding ICDL training classes whose aim is to enhance the fundamental abilities in working with computer for the employees of these organizations. The result of the hoc tests for MONOVA demonstrated significant difference between the subscales of the general Literacy of computer in the Ministry of Sport and Youth, sport federation and the principle office of physical education in schools. Sheffe hoc test did not show any significant difference between the subscales of computer principles, internet, word process, excel, PowerPoint and access and between the Ministry of Sport and Youth and the principle office of physical education in schools while a significant difference was observed between these variables in a comparison between the Ministry of Sport and Youth and the principle office of physical education and sport federations.

One of the reasons why these organizations are superior than sport federations in terms of IT Literacy is the obligation to pass 60 ICDL courses (word process, windows, PowerPoint, Excel, access, computer and internet)for the employees in these organizations.

Table 1: The average and standard variance of IT general Literacy

Factors	Sport organizations	M ± SD
Word process	The Ministry of Sport and Youth	83.70 ± 5.54
	Sport federations	80.17 ± 4.22
	The principle office of physical education in school	84.03 ± 5.98
Internet	The Ministry of Sport and Youth	45.73 ± 2.02
	Sport federations	40 ± 6.13
	The principle office of physical education in school	46.01 ± 1.87
Power point	The Ministry of Sport and Youth	54.67 ± 1.55
	Sport federations	53.33 ± 1.51
	The principle office of physical education in school	54.71 ± 3.50
Excel	The Ministry of Sport and Youth	54.93 ± 2.89
	Sport federations	51.58 ± 3.83
	The principle office of physical education in school	53.23 ± 2.92
Access	The Ministry of Sport and Youth	54.90 ± 2.89
	Sport federations	51.57 ± 3.83
	The principle office of physical education in school	53.43 ± 2.92
Computer principles	The Ministry of Sport and Youth	54.89 ± 2.89
	Sport federations	51.55 ± 3.83
	The principle office of physical education in school	53.24 ± 2.92

Table 2: The results of the Post hoc tests (MONOVA) related to the comparison of the subscales of general computer Literacy in sport organizations.

variables	Location of giving service	M ± sd	$F_{2,344}$	P	Partial Eta Squared
Computer principles	The Ministry of Sport and Youth	25.49 ± 2.70	5.430	0.005	0.31
	Sport federations	24 ± 2.22			
	The principle office of physical education in school	25.17 ± 1.74			
Internet	The Ministry of Sport and Youth	26.06 ± 1.91	4.480	0.008	0.28
	Sport federations	2.38 ± 27.96			
	The principle office of physical education in school	1.78 ± 25.80			
PowerPoint	The Ministry of Sport and Youth	3.03± 19.90	1.445	0.07	0.027
	Sport federations	17.81 ± 2.90			
	The principle office of physical education in school	19.07 ± 2.48			
Excel	The Ministry of Sport and Youth	21.93 ± 2.40	3.741	0.012	0.16
	Sport federations	20.88 ± 2.63			
	The principle office of physical education in school	22.17 ± 2.52			
Access	The Ministry of Sport and Youth	16.68 ± 1.93	13.451	0.001	0.38
	Sport federations	15.64 ± 1.55			
	The principle office of physical education in school	16.73 ± 1.57			
Word Process	The Ministry of Sport and Youth	38.86 ± 3.11	21.638	0.001	0.39
	Sport federations	37.02 ± 3.42			
	The principle office of physical education in school	38.67 ± 1.77			

Table 3: Regression coefficients for the predictive variables in sport organization

Organizations	Predictive variable	B	Beta	t	p
Sport organizations	Computer principles	0.854	0.368	1.768	0.026
	Internet	1.973	0.367	1.767	0.028
	Power point	1.619	0.366	1.764	0.022
	Excel	0.546	0.420	2.516	0.039
	Word process	0.244	0.483	2.616	0.040
	access	1.788	0.456	3.193	0.018

An investigation into the literature of the research shows an agreement between the results of the present research and those of other researches. The result of the research by Salmani (2011) on IT and the coaches of body fitness demonstrated that there is a deep gap between the federation of body fitness and the international standards of IT. The results of the present research also proved the lowness of the IT Literacy average of the employees of sport federations in comparison with the employees of the Ministry of Sport and Youth and the principle office of physical education in schools. We can claim that they are in accordance with the results of the present research (30). The result of the research by Mohammadi et al. (2011) demonstrated significant difference in sport organizations in terms of familiarity with computer skills. According to the results of this research, the principle office of physical education in schools lives in a condition much better than the other two.

Nasiri Amir Abadi et al. (2010) came to the conclusion in a research that the awareness of staff employees of the Ministry of Education in terms of informational nets, electronic government and computer tools has an acceptable level which is in agreement with the results of the present research in terms of the IT Literacy of the employees of the principle office of physical education in schools being higher than the other two organizations (34).

Hajforush (2004) also stated in his research that the managers of the Ministry of Education put a lot in to the software and IT Literacy.

We can say that one of the reasons why IT Literacy of the employees of the principle office of physical education in schools is higher, is the positive attitude of the managers towards IT holding educational classes and making the employees more familiar with IT (35). According to the formal information obtained from the faculty of IT and communications, the Ministry of Education and the Ministry of communication which claimed that the superior organizations in the fields of IT and communication in years 2007 and 2008 were the two ministries of education and communication and according to the superiority of the Ministry of Education, it was expected that the principle office of physical education in schools, which was one of the offices of the ministry of education, be in a better condition in terms of IT Literacy in comparison with the other 2 organizations which is proved in this research as well. But the important point here is that the organization of physical education is parallel with the principle office of physical education in terms of IT Literacy. So, it is suggested that the officials in these organizations and specially sport federations pay more attention to training IT skills in their organizations and emphasize on the motivation of the employees to learn and use IT more and more.

Also, checking Beta coefficient demonstrated that word process among predictive variables has the most power to predict computer Literacy in comparison with other subgroups. This result is consistent with the findings of other researches. The results of the research by salehi and hajizadeh (2011) showed that the computer Literacy of the employees of Mazandaran azad university goes beyond the middle stage in terms of word process(15). Montazer et al. (2007) came to the same conclusion in their research and mentioned IT Literacy of the employees in terms of word process as the basic skills for the employees of the organizations (36).

Conclusion

According to the results of the present research and the researches by other researches, the familiarity of the organizations' employees with word process and enhancing their Literacy in this field seems very essential and it seems effective to make schedules in order to increase and promote their Literacy in the field of word process.

Today, the dominance of the employees on computer Literacy and skill is the necessity of every organization and one of the factors of development. Having IT Literacy and the Literacy of communications leads to an increase in self-confidence of the employees in digital communities.

In the present century implementing the duties of the employees is dependent on computer; therefore, the promotion of this ability leads to performance of the actions in a better way and subsequently an increase in the exploitation of the organization.

In the end, it should be recommended that familiarity with computer and the modern information technologies are part of the essentialities of the present century and unfamiliarity with this subject and illiteracy in the field convey the meaning of getting hindered from all the changes in the world. Therefore, it is necessary that the managers of the mentioned sport organizations and specially the managers of sport federations hold the required training programs in order to increase and reinforce the level of these skills in these organizations.

According to the obtained findings and the results extracted from the research, we have some suggestions in order to enhance the level of the employees' Literacy in the field of IT in Iranian sport organizations:

1- It is needed to have a research on a model in order to develop the IT Literacy of sport organizations' employees.

2- It is needed to have a research on the factors related to the usage of IT in sport organizations.

3- It is needed to have a research on the problems and obstacles facing the usage of IT in sport organizations.

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