

Study of Curriculum Needs of High School Students in Chalous City, in the Field of Information Technology (IT), in 2008-2009 School Year

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ABSTRACT

The purpose of this study is survey of curricular needs of high school students in Chalus city in the field of information technology. The research method was descriptive and survey. SPSS 16 software was used for data analysis. The population of this study, is all three groups of high school students (mathematical, experimental and human), in Chalous city.

Given the sample size that was 339 and the number of test questions, sampling in the present study has been done through a multistage cluster sampling in three groups of girls and boys in schools (math - humanities - experimental) and 3172 the number of students.

For the research literature was used of library methods and for data collection was used of field method and questionnaire (Researcher made).

The findings are:

There is no significant difference between the curriculum needs of students from different academic disciplines. There are differences between the curriculum needs of students, based on gender. There is no significant difference between the curriculum needs of students from different life location. There is difference between the curriculum needs of students from different educational levels. There is no difference between the curriculum needs of students in terms of governmental and nongovernmental.

KEYWORDS: Information technology, Modern technology, Technology, Curriculum needs.

1- INTRODUCTION

The rapid growth of information technology compared to other revolutions of the past two millennia has a big impact on communities and has penetrated all aspects of society; and as the main factor, causes to enhance productivity and Changes in existing systems. We like it or not, we have entered the age of information; consequently, our education system is also affected; we need new approaches to teaching and learning. if we want graduates who have necessary performance are for life in information society.

Development of information and communication, have increasing the need of individuals and communities to educate and this need has established extremely heavy responsibility on the shoulders of educational institutions. The increasing pace of science and rapid development in technology needs the more efforts of the educational system for awareness of new technologies and its capabilities. So, the educational systems have been faced with the great wave of developments, where the traditional location of school, teaching, students, teachers and managers have been challenged.

On the other hand, the rapid growth of technology are not synchronized with social awareness in communities and schools. The gap between "existing knowledge and technology" and social consequences of their led to the creation of sharp changes in the world. Schools and universities, that among all these changes emphasize on their past traditional lesson plans, create wider and deeper gap. Should be emphasized on some programs to prepare children and youth for social activities, acquisition of knowledge and necessary skills for life, If the higher education and education, want to play its role as an agent of development and social change reasonably (Ghanavati, 2007).

In this case, they can significantly prevent unnecessary waste of human resources and learning; in addition, through which students can understand the relationship and occasion between the life and learning that have contribute to enrich other. The transformation of the educational system is possible if the components of activities be review and transformed systematic. In this regard, the roles of human resources is very important in Education and teacher is considered as the most important factors of affecting growth in the quality development and content of teacher education. On the other hand, relevance of teacher training education and the information age is an important

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issue for addressing the diverse and complex needs of information life and acquiring the ability to use new techniques and use new tools. Since social and philosophical foundations and education systems and curricula are integral, Therefore, these principles should also be changed despite information development and increasing change of organizational structure, methods, information, tools and expectations, to suit the times in order to meet the needs of the community (Shabani,2004).

2- Problem Statement

Information technology in the world today, is brought some prospects for the world that influence on all aspects (political, economic, military, social, and educational) of human life in twenty-first century; So has led to more learners towards working with computers and education. PCs assist school education by providing opportunities for training and human knowledge and Education students.

Information and communication networks, especially the Internet have changed the face of Traditional Education and interaction between teachers and students at all levels (From preschool to university).in the developed countries, because of the importance of technology and creating a culture for its use, curriculum included learning about technology in the childhood and the school and early childhood students are familiar with the terminology of the technology and how to use it.

For this reason, predicted and enforced national and basic programs in education sector in many countries in order to access to new technologies of information and communication by the government; such as communications, information technology literacy programs in the United States, England national program of learning, national program of education reform in Germany and France. Also the experience of countries like Japan and South Korea in recent years has demonstrated thatthe change and revision of the structure of education have had critical Impact in survival and development of the social, cultural and economic vitality of nations, in historical periods. Fortunately in Iran, Major strategic projects and implement theyis considered in secondary level of the Ministry of Education (Sharifi and Rekabi, 2007).

Therefore, according to developments in information- communications technology phenomena and change of students' needs, it is necessary that Education emphasize to enable students to continuous learning and rethink the concept of teaching and learning.

Curriculum aredesigned by adopting methods of educational assessment basic needs of learners and analysis of them. Since the curriculum specifies what content should be taught how this should be done and by what method, it is necessary that be prepared as the basis, on a regular basis. Therefore, the content must be related to the identified needs. By using the assessment process or recognize the need, could determine the specific issues or components of educational programs.Indeedneeds assessment are some activities that causes to detection and precise measurement of needs and may recommend different training courses. Needs analysis about learners, society and the knowledge structure needed will provide basic information for curriculum designers (Taheri, 2007).

3- LITERATURE REVIEW

3-1- Electronics Learning (E-Learning)

Electronics Learning is rapid training to reduce costs, increasing access to students and clear accountability for all participants in the learning process. Therefore, training, which was a kind of compulsory education, replaced by Learning that means students learn self (Lomi and Lessandre, 2008). Nowadays, institutes and companies have to turn to the use of new educational approaches because of the increasing use of new technologies and therefore require more education and consequently higher costs. E-learning is one of those things. E-learning is defined as application of information technology tools (Computer networks, including the Internet, Kinds of educational CDs and all software) in Education and training to improve the quality of teaching and learning and also providing mechanisms such as remote cooperation in education. Also the e-Learning providers are some organizations that provided and made availablethe Methods of using internet various tools and web technologies and facilitates lifelong learning. E-learning is wide range of applications and methods for virtual training that allows individuals to teaching and learning in every subject and in every time and place, lifelong (Nejati, 2002).

3-2- Information technology (IT)

Application of new technologies of information and its rapid changes leads to changes in all aspects of learning and teaching. Communication and information networks, particularly the Internet have changed face of traditional education and interaction between teacher and student at all levels from preschool to university. Because of the importance of technology and creating a suitable culture for its utilization, students will be familiar with the terminology of technology and how to use it from early childhood. Undoubtedly information and knowledge which

develops through providing content of formal training strategies, manpower training and sustainable development is effective. Computers assist school education by providing opportunities to practice and develop and acquiring human knowledge and Education of students. (Karamipour,2003)

Lexical meaning of technology is knowledge and technology of doing things by using scientific knowledge. Technology is the application of human knowledge. (Nelson & Don,2001)

Benefits of information technology are presented in the following cases:

- 1- There aren't any geographical borders to study and business and connections with emergence and development of IT.
- 2- Continuity of economic, political and scientific is created with increasing and accessing the information through various sources around the world.
- 3- Increasing of communication capabilities and accessing and processing helps world trade simply.
- 4- A significant development in tools, applications and systems of information technology causes creation of advanced industries.
- 5- Human error are reduced in processing tasks, especially computing and statistics.
- 6- The finding of problems and that is the underlying for decision making and policy making is done faster and more accurately by using IT.

Challenges and problems are presented in the following cases:

- 1- If schools and universities do not pay attention to the speed of technology, it will follow irreparable financial consequences.
- 2- In case of failure application of appropriate policies jobber people access confidential and important information of organizations via an Ethernet network.
- 3- High investment level is necessary in order to properly and widespread use of IT, and if not supplied, then all attempts wouldn't leads to result(Ghanavati,2007)

3-3- Information and Communications technology (ICT) in schools

Education has changed into digital realities by implementation the ICT and digital technology programs. This means that technology is not just an additive factor, but education has led to a digital society with specific results in the formation of school and organization of the school environment, teaching Methods and educational content; but the result of these transformations does not make through technology alone; but it is formed by politicians, Education experts and students. In the world of today, in the field of education are two ways of dealing with information and communication technology:

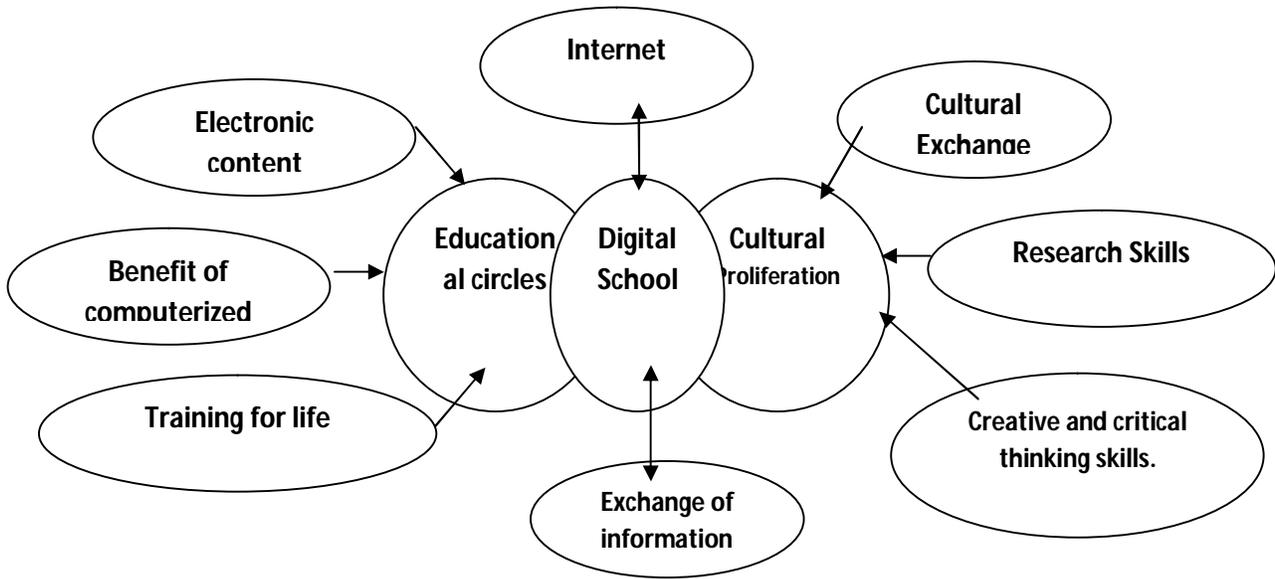
- a- ICT as an educational discipline
- b- Use of ICT as a learning tool in a particular field

In the studies of development of ICT, has been determined at least four broad approaches through which schools educational systems have adopt ICT in developed and developing countries. These four approaches are:« the emergence, applicable, merge,transformation» (Ghorchian,2003).

3-4- Information Technology and Education

Information Technology plays a vital and growing role of in the organization. Information technology can help in a variety of businesses to improve the efficiency and effectiveness of business processes, Management decisions and team work. Information technology can be used to support other systems, product development, customer support processes, E-business operations or any other work activity. Nowadays, the necessity of information systems based on information technology is clear and obvious for managers, survival, organization and their Performance. Information systems provide access to the organizations and business to remote places, supply of new goods and services, reconfigure jobs, work flows and fundamental changes in the conduct of business (Lauden, 2005).

Now we refer to one of the alternative models that can be used instead School of Information Technology in education. Based on this model, ICT Enters into competition by using an appropriate range of internet and create opportunities for new ideas and the development of them, and as a result, provides the durability possibility for dynamic and superior ideas. This model is shown in the following figure.



Education rings is at the heart of the model. These rings are the training virtual environment in the web that formed based on Education project and information exchange between teachers and students in different parts. Digital School is derived from educational circles dealing with issues of cultural reproduction and educational diversity. It is worth mentioning that the implementation of the model requires a comprehensive implementation plan; However, in regulation of this executive Program, it should be noted that information society, calls for special procedures and the most important thing is knowing that information age is the age of all of shareholders; It means that can only achieved the success by the Participation of Government, the private sector, people's organizations, international institutions and organizations with Top-down and bottom-up approach (Tabesh,2008).

4. Previous research

Author	topic	The obtained result
David Pergnez et al (1984)	Characteristic of schools with ICT	1. creation of database for teachers,2. The speed of learning,3. Creating opportunities for evaluation,4. Continuous availability, 5. Continuous evaluation, 6. Creation of E-Book, 7. More interactions of students together and teachers
ElhamAsgarzade(2005)	Information literacy and its effects	1. Incorporating information literacy with curriculum,2. The inclusion of skills necessary for getting of information literacy at preschool and elementary levels,3. Close cooperation between the Ministry of Higher Education, and the Ministry of Education to integrate information literacy
Reza Tajabadi,Sajad Ghaderi&SafaraliRanjbari(2008)	Application and effectiveness of IT and Communication in Curriculum with the scope of innovation	1. Increasing importance and validity of curriculum content,2. The possibility of using of an integrated curriculum in inclusive education,3. Increaseingthe student's interest and increase the usefulness of the curriculum.
AmanehSoleimani(2004)	Studying of The role of teachers in the use of ICT ¹ in education	1.Creation of motivation in students by teacher,2. Providing of human, legal and ethical issues in the use of computer and technology by teachers
AzamAzimi(2004)	ACT applications in education and teacher training	1. The major obstacle of not equipped school, lack of facilities and inefficient telecommunications network,2. Limited understanding of trainers,3. Teachers are

¹. Information and communication technology

		familiar with modern information and communication,4. The use of qualified and experienced teachers
AmrollahEffatnejad(2002)	Evaluation of the use of information technology by graduate students in Shiraz	1. High use of information technology to perform research, dissertation, compilation and translating articles,2. Low use of information technology to perform research, attending in domestic and foreign seminars, compilation and translation of book,3. Lack of facilities of information technology and the time limited use of information technology with problems
Safarirad(2000)	Study of information needs of graduate students of Shiraz University and the role of library to supply these needs	1. Effects of gender and educational level on Students' Trim-seeking behavior.,2. Satisfaction of M.A students is more than PhD students,3. The difference between men and women in terms of motivation and purpose of information search
Malekizadehtafti(1999)	Surveying of information needs of the faculty researchers at the University of Shiraz	1. The most important source used by researchers, local and foreign journals and books,2. The used instruments for searching information: Indexes and abstracts and specialized bibliographies,3. The most important obstacle in accessing information, lack of resources required in the library, limited time and high employment
Jafarnejas(1999)	Facilities of applications of information technology in teaching of courses for librarianship	1. Identifying of strengths and weaknesses of librarianship groups,2. Informing of Iran's universities in the use of information technology
Khojastehchatreverdi(2006)	Surveying of Kerman high school managers' attitudes about the use of information technology in schools	1. Teachers' tend to use computers as a tool to complete teaching, consolidation of student's learning, breed the creativity,2. There is no significant difference between managers' attitude with the relative levels of different disciplines, Work Experiences, education level and gender

5- Research hypotheses

Hypothesis 1. In the field of information technology, there is a difference between the curriculum needs of high school students of Chalous city, based on their academic field.

Hypothesis 2. In the field of information technology, there is a difference between the curriculum needs of high school students of Chalous city, based on their gender.

Hypothesis 3. In the field of information technology, there is a difference between the curriculum needs of high school students of Chalous city, based on their life location.

Hypothesis 4. In the field of information technology, there is a difference between the curriculum needs of high school students of Chalous city, based on their educational levels (I - II - III).

Hypothesis 5. In the field of information technology, there is a difference between the curriculum needs of high school students of Chalous city, based on type of school.

6- RESEARCH METHODOLOGY

6-1- Research methodology and data collection methods

The type of this study is descriptive and survey. In this study in order to research objectives and surveying curriculum needs of students in the field of information technology is used researcher made questionnaire as data collection tools which is 4-point Likert scale. In this study in this study, Cronbach's alpha coefficient was 79%, which indicates the validity and internal consistency of the questionnaire is very good.

6-2- population and sample

In the study, the population consisted of all high school students in three groups (math - humanities - experimental) in Chalous city in 89-1390 academic year.

The following procedure is applied to access the sample and population:

- 1- It was attempted to study the whole number of boys 'and girls' schools in Chalous city and the number of students studying in the city of Chaluswas going to the Education and obtaining statistics published by the department of Education.
- 2- A list of schools for boys and girls in Chalous city was prepared and the sample was selected. By multistage cluster sampling method.

Given the sample size and the number of test questions, considering the number of 3172 students (who are the target population) studying, the sample number is obtained 339 by multistage cluster sampling method in boy's and girl's schools of Chalus city in the three groups (math - humanities - experimental) and according to Morgan.

6-3- The method used for data analysis

First, the collected data are coded and then are analyzed with the using of SPSS software; descriptive statistics, frequency distribution, mean, SD , Standard error of the mean for respondents is used for data analysis and is used the t-test and ANOVA as the best test for such data for the analytical the hypotheses of research.

7- Statistical analysis and testing hypotheses

Hypothesis 1. In the field of information technology, there is a difference between the curriculum needs of high school students of Chalous city, based on their academic field.

Table 1. curriculum Needs and field

	The sum of squares	d.f	The mean of squares	F	Sig
Between groups	190.203	2	95.101	0.972	0.380
Within groups	32889.467	336	97.885		
Total	33079.670	338			

Table 2. Post Hoc Test

Field of Study	Field of Study	mean difference	Standard error	Sig	Confidence interval of the differences	
					Lower	Upper
Mathematics	Experimental	-1.72170	1.27062	0.364	-4.7182	1.2642
	Humanities	-1.06348	1.33687	0.706	-4.2107	2.0837
Mathematics	Experimental	1.72170	1.27062	0.364	-1.2642	4.7182
	Humanities	0.66353	1.45960	0.892	-2.7726	4.0997
Mathematics	Experimental	1.06348	1.33687	0.706	-2.0837	4.2107
	Humanities	-6.6353	1.45960	0.892	-4.0997	2.7726
Mathematics	Experimental	-1.72170	1.27062	0.175	-4.2264	0.7724
	Humanities	-1.06348	1.33687	0.427	-3.6932	1.5662
Mathematics	Experimental	1.27170	1.27062	0.175	-0.7724	4.2264
	Humanities	0.66353	1.45960	0.650	-2.2076	3.5346
Mathematics	Experimental	1.06348	1.33687	0.427	-1.5662	3.6932
	Humanities	-0.66353	1.45960	0.650	-3.5346	2.2076

According to the F value (0.972) and significance level (0.380) that (sig>0.05), thus H₀ is accepted; There is no mean difference in the table of Post hoc tests, that Tukey's test is like the least significant difference. Finally, it can acknowledged that there is no significant difference between the curriculum needs of students from different academic disciplines.

Hypothesis 2. In the field of information technology, there is a difference between the curriculum needs of high school students of Chalous city, based on their gender.

Table 3. curriculum Needs and gender

	Sig	t	d.f	Sig (2-tailed)	mean difference	Standard error	Confidence interval of the differences	
							Lower	Upper
Total	0.002	2.010	337	0.045	2.15208	1.07060	0.04618	4.25798
		1.986	292.653	0.048	2.15208	1.08371	0.1924	4.28493

According to Table 2, Sig.0.002, that the assumption of equal variances is rejected; then the bottom line is used to analyze. According to the test table, t= 1.986 and Sig=0.048 that Sig <0.05, H₀ is rejected. As a result, there are significant differences between the curriculum needs of students, based on gender.

Hypothesis 3. In the field of information technology, there is a difference between the curriculum needs of high school students of Chalous city, based on their life location.

Table 4. curriculum Needs and life location

	Homogeneity of variance	Sig	t	d.f	Sig (2-tailed)	mean difference	Standard error	Confidence interval of the differences	
								Lower	Upper
Total	3.204	0.002	2.010	337	0.045	2.15208	1.07060	0.04618	4.25798
			1.986	292.653	0.048	2.15208	1.08371	0.1924	4.28493

According to Table 3, Sig= 0.074 that Sig>0.05 , the assumption of equal variances is confirmed and top of the line is used to analyze. According to the test, t=-0.087 and Sig=0.931 that Sig>0.05, thus H₀ is accepted. As regards that the lower limit is negative and upper limit is positive, the mean difference between of two populations was not significant and the equality of the mean for two population (in terms of urban and rural) cannot be denied. Finally, it can acknowledged that there is no significant difference between the curriculum needs of students from different life location.

Hypothesis 4. In the field of information technology, there is a difference between the curriculum needs of high school students of Chalous city, based on their educational levels (I - II - III).

Table 5. curriculum Needs and educational levels

	The sum of squares	d.f	The mean of squares	F	Sig
Between groups	1168.964	2	584.482	6.154	0.002
Within groups	31910.705	336	94.972		
Total	33079.670	338			

Table 6. Post Hoc Test

Field of Study	Degree (1)	Degree (2)	mean difference(1-2)	Standard error	Sig	Confidence interval of the differences	
						Lower	Upper
Tukey	First	Second	-3.05136	1.29940	0.051	-6.1103	0.0076
		Third	1.40134	1.29366	0.525	-1.6441	4.4468
	Second	First	3.05136	1.29940	0.051	-0.0076	6.1103
		Third	4.45269	1.29656	0.002	1.4004	7.5050
	Third	First	-1.40134	1.29366	0.525	-4.4468	1.6441
		Second	-4.45269	1.29656	0.002	-7.5050	-1.4004
The test statistic	First	Second	-3.05136	1.29940	0.019	-5.6073	-0.4954
		Third	-1.40134	1.29366	0.279	-1.1434	3.9460
	Second	First	3.05136	1.29940	0.019	0.4954	5.6073
		Third	4.45269	1.29656	0.001	1.9023	7.0031
	Third	First	-1.40134	1.29366	0.279	-3.9460	1.1434
		Second	-4.45269	1.29656	0.001	-7.0031	-1.9023

According to the amount of (F= 6.154) and (Sig=0.002) that Sig<0.05, H₀ is rejected and according to Tukey's test, there is significant difference between the second and third degree and the first and second degree. That the least significant difference test confirms it; and finally the second and third have categorized in a group and the first has categorized in the other group. Finally, it can acknowledge that there is difference between the curriculum needs of students from different educational levels.

Hypothesis 5. In the field of information technology, there is a difference between the curriculum needs of high school students of Chalous city, based on type of school.

Table 7. curriculum Needs and type of school

	Sig	t	d.f	Sig (2-tailed)	mean difference	Standard error	Confidence interval of the differences	
							Lower	Upper
Total	0.646	0.073	337	0.942	0.08725	1.19061	-2.25471	2.42920
		0.074	179.007	0.941	0.08725	1.18445	-2.25003	2.42452

According to Table 7, (Sig=0.646), that (Sig> 0.05), then assumption of equal variances isn't rejected and top of the line is used to analyze; and H₀ is accepted according to the test, t=0.073 and Sig=0.942 that Sig>0.05. As

regards that the lower limit is negative and upper limit is positive, the mean difference between of two populations was not significant and the equality of the mean for two populations cannot be denied. As a result, there is no difference between the curriculum needs of students in terms of governmental and nongovernmental.

8. Conclusions and findings

The results of data analysis based on any of the assumptions are as follows:

According to the findings obtained in the analysis of this study can be said that according to the results of the first hypothesis in this study than field of study there is no difference. According to the results of the second hypothesis in this study than gender there is difference and there are accordance between the second hypothesis and two studies which mentioned below.

Study 1: Assessment of information needs graduate students of Shiraz University and the library's role in supplying these needs(Safarirad,2001)

Study 2: Surveying attitude of Kerman high school's managers about the use of information technology in schools (chatrverdi,2007) that in this study there is no difference between managers' attitude and gender.

According to the results of the third hypothesis in this study than location of living there is no difference and because no research in this context is not done,so no communication in this regard is inconceivable. According to the results of the fourth hypothesis in this study than levels of education is difference. There is a relationship between the fourth hypothesis and the study as surveying of Information needs of graduate students in Shiraz University and Library's' role in supplying the needs. Regarding the result of fifth hypothesis of this study than Type of school is no difference and because no research was done in this context so No communication in this regard is inconceivable.

9. Suggestions and Solutions

1- Adequate facilities and equipments, including educational media, cd, video-based curriculum should be provided for teachers, this way teachers offer new methods of training in the classroom for students.

2- The use of best methods for teaching and learning to understand the audience with using e-learning.

3- If education system wants to take action at field of information technology in terms of gender (male and female) to take actions proportional to them.

4- If education system wants to take action at field of information technology in terms of place of residence (urban and rural) to provide uniform actions, because these study did not observe significant difference between the place of residence.

5- If education system wants to take action at field of information technology in terms of educational levels (primary, secondary and tertiary) according to grade level will be taken appropriate and necessary actions.

7- If education system wants to take action at field of information technology in terms of type of school (public and private) were taken identical actions.

8-

10. Limitations of the research

1- existence individual differences, different internal states, and so among the students can be involved at completing questionnaire by them however, the researchers is used their accuracy in choosing the appropriate time to respond.

2- Problems of filling the questionnaires for different reasons, including lack of motivation, boredom, lack of time and being indifferent.

3- Accuracy of trial when answering to questions in the questionnaire

4- Problems related to the distribution of questionnaires and collecting them.

5- The absence of a standardized questionnaire for the study

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