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Smart Making from the Professors and Students View of Farhangian University in ICT Age

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ABSTRACT: This paper aims to assess the necessity of teacher skills in the ICT era from different perspectives including familiarity with modern technologies, familiarity with intelligent hardware and software, action research, teacher creativity and using dynamic teaching methods with a review of present literature. Hence, according to the role of information and communication technology, it is essential for all the teachers to acquire these skills in the ICT era so that they can provide the society with skillful and creative members in the future. The sample population includes all the students and lecturers in Farhangian University. The design of the study is descriptive-analytic and the sampling procedure used was random stratified. The burdensome mission of Farhangian University in training human resources (teachers) is hidden to none and it seems the key is to promote the professional skills of teachers. The existence of these skills in teachers would lead to the alternation of traditional methods of learning in different levels so that the new methods would suit the needs of students in the ICT era.
Keywords: ICT (Information and Communication Technology), Action Research, Hardware and Software Facilities, Modern Approaches, Creativity

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INTRODUCTION

In any country education demands enormous changes to adapt with the necessities of the information technology era. Promotion and use of IT in such a system is primarily in its human resources. "The future technology would not need millions of low educated laymen who are willing to perform repetitive tasks and follow orders blindly, yet, it needs people with accurate and educated judgment to find their paths in new environments and distinguish different relationships in a rapidly changing reality", writes Toffler in "future shock" [1].

The turn of the third millennium is called the ICT era and an explosion of information. Education, with its focus on transfer of information and increment of the memorized material by the learners, feels a heavier responsibility now regarding the answer to the fundamental question "are modern approaches of teaching and education able to address the needs of learners in the beginning of the new century and if not what evolutions are essential for making the education system efficient?"

Ignoring the significant effect of the swift development of technology on human societies is impossible. Nowadays, the rapid and surprising development of new technologies has totally changed many aspects of our daily lives including changes in communication and social, economic and business contacts. In this regard, the effect of technological advancements in education and the evolutions in this process of teaching-learning have been remarkable.

Currently, the new skills needed in professional environments have made it essential to attend the use of technology in schools and lecture rooms. In reality, this has influenced the traditional structure and the culture of schools.

Meanwhile, promotion of teaching skills is at the heart of each successful technology and curriculum. Not only do the teachers need formal academic training, they also require the support of education centers to learn and use technology in teaching. The teachers should change the classes from static approaches in which the transfer of information is only from teacher to student into dynamic classes which are student centered.

Teachers should constantly study the findings of researchers in teaching to be more aware of the new teaching attitudes and base, evaluate and modify their teaching methods accordingly. They should logically use novel viewpoints, breakthroughs and teaching methods [2].

The research questions

1. How familiar are the teachers and lecturers and students with concepts and skills of intelligence?
2. How familiar are the teachers and lecturers and students with intelligent hardware and software facilities?

Statement of the problem

Whenever people want to be known in their workplace as professionals, they must possess the necessary qualifications to do so. Basically, being a professional in any field comes with particular principles. Teaching as a profession is no exception. It is often wrongly assumed that teachers with a wealth of experience and knowledge are professional teachers. Although the aforementioned items are essential for each professional teacher, they are not enough. So many teachers are seen with a lot of experience in what they are teaching who have failed to act as professional teachers; in other words they have failed to attract the students, to teach according to a method and to manage the class. There are also teachers who were in a good position regarding teaching and classroom management but failed to create an attractive class for learners. The question raised here is what factors have led these cases to failure? And are there any other variables in the ITC era other than knowledge and experience at work in creating a professional teacher?

In facing future challenges, education is an inevitable capital. Fulfillment of any dream in education rests with the human resources that are the teachers who are the enforcers of those dreams in practical situations and without their cooperation nothing can be achieved.

Karimi [3] in a paper titled "the teaching mission: knowledge or manners" notes that "the circumstances in which teachers are trained must be completely changed in a way that teachers are turned into trainers not mere experts who read out the pre-determined course material."

Also, regarding the role of teachers Robert Marzino claims: "teacher is the physique of student or learner. Skillful teachers are also skillful students." This interpretation of the concept of teaching in the process of education is different from the traditional views of teachers. In order to train committed and knowledgeable human resources, radical changes are necessary in pre-service and in-service training and ultimately it is necessary for ensuring their qualifications [4].

According to the aforementioned factors, the question arises that "what are the essential skills of teachers in the ITC era?" this study attends skills in the teaching mission to improve the teachers' careers and leads the educational activities in classroom in a desirable and effective fashion.

Significance of the Study

The people who are needed in the future world are potent individuals who truly understand the features of the ITC and can create necessary science actively and innovatively. Since the most important goal of education is for the students' creativity and gifts to flourish, it is expected that as the ITC develops, so do education and particularly teachers. Hence, it is essential that all teachers acquire necessary skills in the ITC era to be able to deliver skillful and creative human resources to the future society.

MATERIAL AND METHODS

The present study is descriptive-analytic. The sample population included all male and female students (3200) and all part-time and fulltime teachers and lecturers (300) with MA or PhD degrees in Farhangian University and higher education centers (teacher training). Out of these, 200 students and 70 teachers were selected as participants. The sampling procedure was random stratified. In order to assess the possibility of making the teacher training centers intelligent, questionnaires were used in this study whose validity had been approved by ITC experts in education ministry and the headquarters of Farhangian University. In order to calculate the reliability of the questionnaire, Cronbach alpha was used with teacher items' index of 0.65 and that of student items at 0.90.

Table 1. Frequency and percentages of participants

Group	N	Percentage
Teachers	70	25
Students	200	75
Total	270	100

Table 2. The reliability coefficients of the questionnaire

The statistical index of scale	Reliability coefficients
	Cronbach alpha
Teacher items	**0.65**
Student items	**0.90**

The Necessary Indices for Intelligence Are:

A. Developed IT infrastructure
B. Teaching environment – learning by multimedia content
C. Management of the center using a computer network
D. Using trained teachers in IT
E. Computer connection of the center with other centers

Review of literature

Between 1924 and 1986, Cuban found that most researchers attribute failures of technological innovations to failure of teachers in balancing their teaching methodology to maximize the potentials of these innovations [5].

In Raouf [5]'s view, professional teacher skills are his most necessary requirement. Any ignorance in achieving them will prove his lack of professional existence and threatens to vanish his skills. It needs no research to conclude that practical skills of teachers are not enough as many teachers with a great deal of scientific knowledge and material fail to use their professional skills and vice versa, there are teachers with limited expertise in their respective fields but managed teaching well[5,6].

Karimi [2] in a paper titled "the teaching mission: knowledge or manners" notes that "the circumstances in which teachers are trained must be completely changed in a way that teachers are turned into trainers not mere experts who read out the pre-determined course material".

Ghasemipour [7] claimed in his paper titled "teaching profession and its features": "a teacher cannot perform his responsibilities in the present times correctly without knowledge of psychology, sociology, teaching methodologies, learning principles, testing and material development. The professional identity of a teacher in the present era requires him to be familiar with these modern findings and incorporates them in his teaching."

RESULTS

The situation of teacher training centers is measured according to statistical indices of (t) and (DF). There is a significant difference between the familiarity of teachers and students with the concept of intelligence and hardware and software facilities and in some aspects there were cases of undermining or over attending leading to unintended effects. ($p<0.001$, df= 3 , c2=125.15) .The instructors of teacher training centers are adequately familiar with the concept of intelligence.($p<0.0001$, df= 3 , c2=125.77) But this information is not too much. The instructors of such centers are averagely familiar with them. . ($p<0.0001$, DF= 2, c2=48.8) The students, however, are very much aware of them and this can be a point of strength in making these centers intelligent. ($p<0.0001$, DF= 4, c2=230.3). The students of such centers are moderately informed about the intelligent hardware and software facilities. . ($p<0.0001$, DF= 3, c2=146.92).

Table 2. Hypotheses testing results

χ^2	df	p
125.77	3	0.0001
p	df	χ^2
0.001	2	48.8
p	df	χ^2
0.001	4	230.3
p	df	χ^2
0.001	3	146.92

DISCUSSION

An informed teacher must base his framework of action on a series of known principles before instruction and he must be stably and comprehensively aware of how learners learn and how he can facilitate and guide them using learning skills. In other words, he must have a good command of the principles and theories of learning. The teacher must have a dynamic approach in learning these principles and puts himself at the center of information and communication and scientific findings. On the other hand, another part of making the framework is an accurate knowledge of the learners and their features, how qualified are they for any kind of learning and how motivated they are for that particular topic. No teacher whether in the old ages or in modern times can select specific teaching principles for himself without the mentioned information.

There was a time in which scientists like Abouali Sina and Aboureihan Birouni were masters of all the sciences of their era and compiled them all in several books and taught them to their students. But now that we are in the information era with ever-increasing volumes, how can we even begin to teach a small proportion of it without skills. Moreover, how can we ban our child from accessing inappropriate information and teach him to generate new information. According to the huge responsibility of Farhangian University in training human resources for taking the charge of the learning-teaching process at schools, it seems the only solution would be to promote the professional skills of teachers [8, 9, and 10].

Suggestions

- Scientific promotion of teacher training centers and familiarity of student-teachers with present and future challenges

- Establishing empirical schools in teacher training schools so that the students can attend theoretical and training classes under the supervision of their professors there.
- Necessary measures for having internet access in dorms
- Establishing IT associations by students
- Providing libraries with expert software
- Contemplating encouraging mechanisms for teachers and active students in the process of intelligence
- Financial aid facilities for buying laptops or tablets
- Having LANs in teacher training centers
- A computer for each student in campus
- Video conference capabilities
- Access to scientific-research online databases (domestic and int'l)
- Access to the libraries of other universities and centers
- Online access to theses and papers in universities
- Having virtual class systems and online content for each course
- Having online scientific clubs and forums for answering questions
- Holding educational seminars
- Familiarizing teachers with new teaching approaches and using new software in order to generate electronic content
- Using individual and group methods
- Collecting peripheral information about problematic students including their workplace, families, etc. to know them better
- ICT era teachers must be researchers and use the existing literature in their plans
- Improving religious and cultural level of students

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