

## **Change Management In Transition To E-learning System**

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**Abstract:** Though e-learning technologies are begin to be used in education institutions, their role entirely depends on the acceptance and execution of required-change in the thinking and behavior of the developers and users of institutions. It is very hard to change the behaviours, cultural bonds and lifestyle of the users in the educational institutions. Teachers, students and administrators are used to traditional pedagogy and educational administration and research are constantly reporting that many e-learning projects are falling short of their objectives due to many reasons but on the top is the user resistance to change according to the digital requirements of new era. It is argued that the suitable way for change management in e-learning environment is the training and persuading of users with a view to enhancing their digital literacy and thus gradually changing the users attitude in positive direction. This paper discusses change management in transition to e-learning system considering pedagogical, cost and technical implications. It also discusses challenges for integrating these technologies in higher learning institutions with examples from Turkey GATA (Gülhane Askeri Tıp Akademisi- Gülhane Military Medical Academy), and giving best practice approaches for addressing each of the challenges.

**Keywords:** E-learning, Change-management, User-resistance, E-learning Technologies

### **1. Introduction**

The potential of e-learning is to provide learning available anytime, anywhere combined with the tools to measure learning outcomes and collaboration. The potential for an organisation is in a state of continuous learning and continuous change. Thus, e-learning changes the dynamics of an organisation that is aim of the change management. Today there are many pedagogical and socio-economic factors to adopt e-learning. These are information access, communication facilities, synchronous learning, cooperation and collaboration, cost-effectiveness, pedagogical improvement through simulations, virtual experiences, and graphic representations (Sife, Lwoga, Sanga, 2007). Thus the

e-learning is a force for change. Change management is a force for e-learning. The e-learning introduces change to both the people and the organisation on any scale.

Rapid change problems in e-learning affect both the universities and the students. The university tries to deal with technological and managerial changes by scaling instructions down to only an automated text lectures focusing on the delivery of instructional materials ignoring students' needs. For teachers and students, e-learning may result in a limited experience coupled with little-known technologies for which they need extra guidance and ongoing support. The fundamental challenge is how to employ this new technology to provide teachers and students with the help they need by change management (Shebon, 2005)

## **2. Change Management In E-learning Context**

Change management is an activity to get the best outcomes from the change process. It is about managing the changes which are parts or consequences of a particular organisation's context and the type of change required. It is a sub-set of strategy making (Backroad Connections Pty Ltd, 2004 ). The process and the actions which are part of a change management are unique and specific to a particular organisation. Each organisation has unique requirements in which their circumstance and resources differ, clientele and relationships are unique, cultures differ, and objectives may be different. For a flexible learning regime to a successful change management, actions stem from and connects with the overall planning process. According to Australian Flexible Learning Framework (2004) approaches adopted within vocational education and training can be grouped into three main strands:

- Theoretical models,
- Case studies,
- Using an existing change management framework.

There is not a single approach adopted. Frequently the approach is based on existing and potential models with a blended approach as part of a consultative and exploratory process. Change management is mostly about business management literature. Researching and reporting of change management as a study is comparatively new in vocational education and training (Backroad Connections Pty Ltd, 2004 ). Awareness, Desire, Knowledge, Ability and Reinforcement (ADKAR) is a change model which is based on a five stages:

- Awareness stage determines the need for change,
- Desire focuses on generating a desire to participate and support the change,
- Knowledge is concerned with determining how to change,

- Ability is to implement the change with skills and behaviours, and processes.
- Reinforcement is to sustain the change post-implementation.

In the state of transformation, the organisation is constantly reviewing and analysing to ensure the awareness of any need for change. This links back to concept of continuous innovation through collaborative learning. As e-learning, change management research shows the absolute imperative of having top level sponsorship for any project (Mackenzie-Robb, 2004). In most cases e-learning projects get no much importance from senior management as tools for change. They are seen as tools for cost-decreasing and pragmatism. Change Management has four recognised strategies:

- Rational-Empirical strategy is based on appealing to human self-interest through offering incentives.
- Normative-Reductive strategy has the tenet that people tend to adhere to social and cultural normalities, and therefore if these are re-defined, commitment to the new values can be achieved through communication and education.
- Power-Coercive strategy accepts that people will do as they are told, so the change strategy is based on the exercise of authority with, where necessary, the imposition of penalties for failure to comply.
- Environmental-Adaptive strategy is based on a gradual transference from an old environment to a new one (Mackenzie-Robb, 2004).

The university administration apply technology for strategies and attain targets is slower than the dynamics of technological innovations. Therefore, sluggishness is a barrier on the way of technology implementation. Although for some businesses technological conservatism is a way to ensure high operational reliability, educational institutions are proponents of innovations, including the technological ones. Consequently, institutions' change management must be as dynamic as the changes in the subject matters and domains of knowledge. Like other organizations, educational institutions are seeking ways to restructure and increase their flexibility and effectiveness in this climate of change (Navid, Slusky, 2009).

Focusing on technology can cause misplaced priorities. Academic developers of e-learning programs have been mostly pre-occupied by the ease of use of technology and reducing of costs. The ultimate part has been on the development of course material for students. This may be logical when given the importance of cost savings, but sometimes concludes in a undesired lesson for the profession. Developing generic e-learning courseware and making it

available through the Internet, it is hoped that the case of learners who absorb the material is not working in every opportune. Thus for all situations the e-learning process must be greatly customized to the detailed characteristics of the learning subjects, students' skills, and job needs for subject area (Navid, Slusky, 2009).

E-learning includes integration of educational technologies and materials. At one end there are applications like office programs, which have little effect on learning and teaching strategies or the organization. At the other end there are virtual learning environments, and managed learning environments, which can have important effect on learning, teaching strategies, and organization? In the supplemental use of information and communication technology to support traditional learning experiences, the instructor teaches all sessions in the classroom but with the occasional use of technology, like Web-based activities, multimedia simulations, virtual labs, and online exams (Arabasız, Baker, 2003).

Blended learning shows a solution that combines several different delivery methods, such as collaboration software, web-based courses, computer communication practices with traditional instructions (Mortera-Gutierrez, 2005). On the other hand, distance learning is conducted merely online in which interaction may be synchronous or sometimes asynchronous (The Ohio State University, 2007). In synchronous learning it is required the teachers and students to interact at the same time though they may be dispersed geographically, but in asynchronous learning teachers and students interact and participate in the educational process at different time of their locations (Chen, Kinshuk, Lin, 2004).

### **3. E-learning Change Management Stages, Approaches and Attitudes**

Researchers mostly agree that contrary to static online courseware, e-learning can emerge with more specific and dynamic content, driven by better authoring software and supported by tools for measuring the e-learning progress for specific learning objectives. Also, the acceptance of standards for e-learning content can be a vital step in allowing the content to be transferred among the organizations. A strategy for e-learning should be assessed for the appropriateness of the process and the program for the organization. It should define how e-learning could enhance the teaching process and student learning (Navid, Slusky, 2009).

E-learning is a change by itself but it is not organizations that change. Users; employees, managers, colleagues, partners, suppliers, customers, teachers and students change one person at a time. In the discipline of change management the chances of success increase continuously. Change management is the combination of processes, activities, and approaches that manage the people of the organization through the transition from the old way of training to new e-learning. Change management is rich in context of communication, exchange,

dialogue, questions, leadership and support. The focus of change management is on attitudes and behaviours and the objective is to win the battle for the “hearts and minds” of all the people within the organization (Brandon, 2007). Introducing e-learning involves a shift in culture, habits and requires a change in management resistance to e-learning technology and methods originates mainly from a fear of risk (Navid, Slusky, 2009).

### **3.1 Stages in The Transition Process**

There are a lot of knowledge about change, transitions, and change management in subject area. There are three stages in the transition process: endings, the neutral zone, and beginnings (Brandon, 2007).

**Endings:** First is the concept of transitions. Applied to e-learning, replacement of instructor-led training and all that that means is often seen as the “ending.” Learners, trainers, and managers are inclined to try to hold on to the “old-ways.” But, by applying change management techniques they can begin to let go of this past, and have the confidence and support to at least move into their “neutral zone.” They are willing to give it a try. And, most importantly, it will set the stage for positive new beginnings that e-learning can represent for them and the organization.

**The neutral zone:** Second is the concept of change as a “journey” from one place to another, as opposed to a series of events. Learners making the transition to e-learning find themselves going through a four-phase change journey:

- Phase 1 – Denial,
- Phase 2 – Resistance,
- Phase 3 – Exploration,
- Phase 4 – Commitment.

A well designed change-implementation strategy ensures all the people in the organization are supported through the early phases of denial and resistance, so their frustrations and discomfort with the “new way” don’t overwhelm them. It enables them to then explore what e-learning can offer them that is positive and, over time, ensures they will become as committed to e-learning as they have been with any other change in their lives.

**Beginnings:** The third concept is leverage. It is impossible to have one-on-one conversations with all of the people impacted by an e-learning initiative. When people confronted with a new innovation, they fall into six distinct groups – innovators, early adopters, early majority, late majority, late adopters, and laggards – in a bell-shaped dispersion pattern. The group having the greatest influence and providing the most leverage for ensuring the success of the change long-term is the early adopters. Although they represent only 20% of the total they represent. They are the leaders in an organization who adopt new ideas early but carefully. And so once they accept the change, the significantly larger groups of the early and late majority will eventually follow (Brandon, 2007). The aim is to achieve perpetual change through collaboration and sharing of knowledge in a way that supports and enables the process of change both in the people and organisations (Mackenzie-Robb, 2004).

### 3.2 Approaches and Attitudes

There are different views about the nature and aims of ICTs in education therefore varying behaviours and attitudes are found in the development, use and change management of e-learning projects. It is one of the most obvious attributes of mankind that humans 'attribute meaning' to whatever they observe and experience. Thus, whichever is the conception of technology, the same is expressed in the physical attitudes of the people. The administrative, curricular, didactic, organizational, systemic, cultural and ideological approaches are physically implemented through agnostic, conservative, moderate, radical, extreme radical attitudes towards the e-learning development and implementation trajectory (Brush, Saye, 2009).

**Table 1. Approaches to change in e-learning.**

| Approach       | What to change?                                                                             |
|----------------|---------------------------------------------------------------------------------------------|
| Administrative | Achieve a certain ratio of computers – technical change                                     |
| Curricular     | Curricular changes only                                                                     |
| Didactic       | Inevitable or desirable change in the teaching/learning of the subject matters              |
| Organizational | Involve organizational changes in school, consisting of more flexible attitudes             |
| Systemic       | Didactic and organizational changes in school will not be possible without systemic changes |
| Cultural       | ICT revolution is a deep cultural revolution changing all modes and patterns of our lives   |
| Ideological    | Demanding most basic social and educational changes                                         |

**Table 2 Attitudes to change in e-learning.**

| Attitude     | How to change?                                                                                      |
|--------------|-----------------------------------------------------------------------------------------------------|
| Agnostic     | Don't have a clear opinion as to the impact of ICT on education                                     |
| Conservative | Believe that education will survive, ICT with minimal change, as it has survived other technologies |
| Didactic     | Inevitable or desirable change in the teaching/learning of the subject matters                      |
| Moderate     | Extensive change in their didactics.                                                                |
| Radical      | Have to go through such changes if they are to survive the                                          |

|                 |                            |
|-----------------|----------------------------|
|                 | ICT revolution             |
| Extreme radical | De-schooling, mega changes |

Mainly there are two extreme views for use of information and communication technology in education. Some educators are strong advocates of technological innovation while others are reluctant to accept information and communication technology as indispensable to the learning process. These attitudes have created a continuum that represents various reactions towards technology (Juniu, 2005). On one extreme is the instrumental view, which accepts information technology as an addition to the technology cache. The impact of this view and resultant use is only at the technical levels. On the contrary, there is substantive view, which posits that information and communication technology is more than tools with positive and negative impacts for both technical and broader social changes. The approach and attitude matrix by Aviram and Tami (2004) helps in extracting the guidelines about ‘what to change?’ and ‘how to change?’ as in Table 1 and Table 2 (Avimar, Tami, 2004).

### 3.3 Issues and Challenges

Contemporary research on e-learning shows that more than half of all information and communication technology projects become runways, with overshooting budgets, delayed timetables, escalation in decision making and failing to deliver their objectives. Several researchers have identified the problems for the development, use and integration of information and communication technology into teaching, learning and educational management (Purnomoi, Hadi, Leeii, Yi-Hsuan, 2010) such as:

- Inertia of behaviour of people, as their resistance to changes,
- Underestimation, lack of awareness and negative attitudes towards information technology,
- Lack of systemic approach to implementation and lack of follow-up for information technology,
- High rates of system non-completion,
- Lack of user-training,
- Lack of administrative and technical end-user support,
- User dissatisfaction with new systems,
- Mismatches between technologies and the context, culture and work practices.

### 3.4 Perceptual Diversities

Researches tell that one way to assess an individual's approach to computer use is by testing an individual's attitudes to these technologies because numerous studies have explored individual differences in attitudes towards computers. As teachers' attitudes are strongly related to their success in using technology, students' use of computer also depends on the perceived usefulness of these resources in terms of effective communication and access to information. It has

been unearthed that the use of information and communication technology is dependent on the perceptions of developers and users about the nature of technologies and their role in different walks of life (Avimar, Tami, 2004). Sasseville (2004) have found that technology-related changes are “not perceived as a collective experience or social change rather, personal challenge” (Sasseville, 2004). An analysis of the literature suggests that two broader theories are discussed over and over saying that information and communication technology can either play ‘instrumental’ or ‘substantive’ role in the learning process. Instrumental view asserts that information and communication technologies are just technologies and their role depends on their use while substantive view posits that these technologies have the power to change the society and their mere existence can make the difference (Macleod,2005).

### **3.5 Users’ Resistance**

Research tells that one of the most important issue is resistance to change. Teachers are reluctant to integrate information and communication technology into their daily scholarly activities and this situation has not changed over the past few years (Sasseville, 2004). Most educators acknowledge the significance of e-learning, problems continue to recur in the adoption process showing a critical gap between perceptions, theories and practices of teachers. Thus, there are many problems and concerns related to eLearning such as, low rates of participation, learner resistance, high non-completion rates, poor learner performance (Thieman, 2008). Similarly, in most of the eLearning projects, the academics sometimes refuse to change curricula and pedagogic approaches; teaching staff and instructors lack incentive and rewards; there is a lack of feedback towards higher levels of decision and policy-making, and little impact on strategy definition and implementation. Thus, there are many barriers for solutions in schools where some are classical such as inertia of behaviour or natural resistance to changes, while others who lack access to information develop a fear of isolation. If proper eLearning environments are created, user resistance can be transformed into a collaborative learning workplace (Vrana, 2007).

### **3.6 Demographic Variations**

Despite the theoretical benefits that e-learning systems can offer, difficulties can often occur when systems are not developed according to the learner characteristics such as nationality, gender, and cognitive learning style. Within the personal domain there are two key factors which are ‘users’ motivation towards eLearning’ and their ‘capabilities in using eLearning facilities’ (Lynch, Sheard, Carbone, Collins, 2005). Teachers’ use of information and communication technology is influenced by multiple factors including demographics, accessibility of hardware, experience in use of instructional technology, perception about the usefulness and ease of using digital gadgets (Nawaz, Kundi, 2010). Furthermore, new generation of students (Net Generation) use media in many different formats, which shows another notable characteristic of new learning styles as is their behaviour of multitasking – using computers and the Internet at the same time as video games, print media, music, and phone (Barnes, Marateo, Ferris, 2007). Thus, teachers, students and any



other users of information and communication technology, behave according to their demographic characteristics of age, educational level, cultural background, physical and learning disabilities, experience, personal objectives and attitudes, learning preferences and styles, motivation, reading/writing skills, ability to work with diverse cultures, familiarity with differing instructional methods and previous experience with eLearning (Thieman, 2008).

#### **4. E-learning Tools and Guidelines For Change Management**

The success of e-learning in higher education depends on the training of teachers because it is them who prepare students as well as administrators as digital users. The learning of eLearning is a lifelong learning process however, for immediate uses in the universities; users have to quickly learn to use the new technologies. Training is a narrow term than education which aims at preparing someone for a particular job, function, or profession. Education refers to a lifelong learning process with high level objectives of developing moral, cultural, social and intellectual dimensions of an individual and society. Research asserts that lack of technology integration among teachers is considered a major concern for educators in the perspectives of information based, global society (Nawaz, 2011). Both instrumental and substantive approaches to eLearning recognize the role of eLearning-users. Instrumentalists believe that technology is neutral and therefore its impacts entirely depend on how they are used for individual to international purposes (Macleod, 2005). However, use of either instrumental or substantive applications of information and communication technology in the learning environments squarely depends on the quality of “eTraining “ extended to the teachers, students, and administrators (Qureshi, Ahmad, Najibullah, Nawaz, Shah, 2009).

##### **4.1 Users’ Computer Literacy**

Different groups of people: students, teachers, and employers, have different views about what computer literacy means. Now, digital literacy skills are considered necessary for effective and mindful learning in the contemporary digital environments (VanFossen, Berson, 2008). People acquire their technology literacy in two ways: formally through courses on technology or informally at home/workplace, from friends or by themselves (Nawaz, Kundi, 2010). Today, when every user owns a computer, computer literacy is defined as an understanding of computer characteristics, capabilities, and applications, as well as an ability to implement this knowledge in the skillful, productive use of computers in a personalized manner (VanFossen, Berson, 2008).

##### **4.2 Sustained Technical Support**

After completing e-learning system it is not guaranteed the successful operation of the new system. The existence of technical support for teachers, students and administrators related with digital problems is important. E-learning offers a complete information technology support in learning processes and depends on timely and consistent technical support. Critical factor in eLearning is not access to infrastructure technology but rather the access should empower the users to get knowledge, skills, and consistent support of organizational structures (Qureshi, Ahmad, Najibullah, Nawaz, Shah, 2009).

### **4.3 Guidelines For Implementing Change**

Successful change management should involve organizational administrators and initially instigates the change by being visionary, convincing, and unswerving. Organization's top executives have to recognize a change in strategy as both feasible and urgent. A change plan for e-learning implementation should not ignore people who have a conscientious objection or differing perceptions of fundamental changes in the role, mission, and methods of higher education that prevent them from playing an active role in a new technology-based method of teaching. These people are the core group. An organization realize the system if its people perceive that the core group needs and wants it to become (Navid, Slusky, 2009).

In educational institutions the may be proponents of "conservatism" in education and simply be opposed to change. This can result from adapted or assumed pedagogical concepts of the past, or from lack of exposure to better ways of doing things, or from slowness of decision making. Opposing opinions are unavoidable, and it is worthwhile to try to understand their situation. Opposing opinions and behaviors should not stop an institution from going forward with what it determined is right. Knowledge and methods together with the convergence of opinions will come as well.

The organizational structures of the university may need to be modified, including strategic plans, policies and procedures in order to sustain change if the entire curriculum transferred to e-learning system. It typically involves an "unfreezing, change and re-freezing" process. However, as Fred Nickols (2004) argues "the beginning and ending point of the unfreeze-change-refreeze model is stability for some people and some organizations is a luxury." Besides advances, constantly changing educational content further reduces stability of this model for e-learning organizations (Navid, Slusky, 2009).

As in any organization, addressing the resistance is through increased and sustained education and communication that feels that their professionalism is being questioned or challenged. When inaugurating educational change, a combination of bottom up and top down change should be followed. Although the bottom up approach will slow implementation of changes, it will also result in less resistance than top down approach as faculty can discuss issues and get a sense of ownership of the solutions. In the process of managing change, it is important for educational leaders to reward and celebrate success and milestones. Educational leaders need to be prepared and respond quickly to people to slow down change, or to portray the appearance of change while maintaining the status quo. Before initiating a major change, university leaders must ensure that other key problem areas are addressed and improved before the change program commences. Examples would be to ensure the efficiency and reliability of the administration and communication systems. This would help cement the change and prevent other organizational problems from being used to distract faculty from embracing the change (Navid, Slusky, 2009). In addition

to the general guidelines listed above, there are a few other basic guidelines to keep in mind:

- **Display Concern and Care:** Once it is clear “who” is losing “what”, losses need to be acknowledged openly and sympathetically, even though these losses may be subjective.
  - **Communicate:** Transparent and consistent communications top-down, bottom-up, side-to-side, and peer-to-peer are critical to success of organizations experiencing significant change. With changes, there is more “unknown” than “known”, and a cultural tendency to reduce communications until the picture becomes clearer is the worst thing managers could do.
  - **Use a Consultant:** Ensure that the consultant is highly experienced in organization-wide change.
  - **Obtain Feedback:** Get as much feedback as practical from students, including what they think the problems are and what should be done to resolve them.
  - **Keep Perspective:** Stay focused on meeting the needs of the students and faculty.
  - **Avoid Safeguarding from Change:** Do not attempt to isolate the business from change, but rather expect, understand, and manage it.
- **Understand what areas of the organization are faced with significant loss:** One of key characteristics of an organization experiencing significant change is that employees’ productivity falls significantly. Therefore, administrators need to understand what areas of their overall organization are faced with significant “loss” and be committed to managing the resulting transitions to minimize the dip in productivity and efficiency that occurs. Administrators must realize the impact that e-learning will have on the culture of their organization and provide their faculty and staff with professional development opportunities (Bower, Hardy, 2004).

### **5. A Case Study In Transition To E-learning System**

In health education, e-learning offers materials for self-instruction and collaborative learning. E-learning materials suited for competencies can be integrated into the education, replacing and supporting lectures and other synchronous methods of instruction. E-learning can be effectively used during demanding clinical rotations, especially when duty hours are limited. E-learning solution with the institution and learner at the centre is comprised of core components as infrastructure, services, content and users.

GATA (Gülhane Askeri Tıp Akademisi- Gülhane Military Medical Academy) Medical Health education e-learning system interconnects related educational applications. These applications are built with open source software and authoring tools. There was a need for a new, technologically modern and usable e-learning system. Upon these necessities it was decided to build and put into

action with the permission of hospital managers. The most important step was “User training and adaptation”. The steps were as follows in order move to the e-learning system:

**Needs Assessment:** There are three schools in GATA: the Medical Faculty, the Nursing School and the Health Technician School. All courses have been supported by e-learning system. Firstly in order to create course materials in web it is required to train teachers, their assistants and web coordinator of departments. Secondly we had to choose a content management system and other programs and open source software. Thirdly it was required to set up hardware and infrastructure. Fourth is the time period for the project. And lastly a secure access system should be used for privacy, copy right and security.

**Planning:** After analyzing the needs we planned to do requirements it was planned to choose a content management system (Moodle, PHP and MYSQL were chosen), a virtual classroom application (Open meetings), and a dynamic web page creation application (Joomla). And also we planned to translate Moodle interface into Turkish Language. And also a token based certificated internet access system was decided to use. In order to use the system we planned Moodle, Joomla and basic web design trainings.

**Realization of the e-learning system:** According to planning phase, chosen open software, hardware devices such as servers, network connections and other utilities were installed. Software and platforms were installed and tested too.

**User training and adaptation:** This is the most important step and it is an ongoing one. We had five categories of users; teachers, assistants, students, hospital employers and department web page coordinators. For all of these users a detailed guide was prepared and disseminated to them. And also the following trainings were given to users according to their roles:

- Every teacher and assistant were trained for eight hours per person about using Moodle, and content design principles, Open meetings and basic web design.
- Department web coordinators were trained eight hours per person about Joomla and basic web design.
- All students and hospital employers were trained for using Moodle and portal four hours per student.

After training Department Web Coordinators, they created new version of their web pages and uploaded to Joomla sever in five weeks' time. For once initially all departments' web page were controlled by web designers of GATA IT department and published in internet. After that time all department web coordinators upload, edit, delete and maintained their web pages by themselves dynamically. For content management system all teachers and assistants created course contents according to course design principles an upload directly to Moodle server. Course uploading, student enrolling and other works are continuous works for them. A secure internet access system was developed and

a USB token was given to every person who will use the portal. Security and tracking is possible with this system.

**Maintenance and solving problems:** All people in GATA were given necessary right to access the portal according to their role. For every people there is a user account, password and certification utility. In the beginning of using the system there were following problems and solution used:

**Table 3: Problems and solutions in transition to e-learning system**

| Problems                                                        | Solutions                                                                                                |
|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| Complaining about user tracking                                 | It was explained that it is only about finding misuse and abuse use of system. Not for any other reason. |
| Signing user agreement and copy right rules                     | It was explained that it is necessary for IT usage policy, content and computer forensics.               |
| Using security measures (password and USB based authentication) | It is about privacy and over all security measures.                                                      |
| Using e-learning system                                         | Training, on-site help and hard copy guidance supply.                                                    |
| Document format transition                                      | Remote help, web links                                                                                   |
| Course material preparation                                     | Training and web links                                                                                   |
| Technology against protests                                     | Help and convince for using updated technology                                                           |

For GATA e-learning system, 372 teachers, 1203 students and 87 web coordinators were trained. All courses (216 courses of Medical Faculty, Nursing School, and Health Technician School) contents were uploaded to the system by teachers. Many virtual classroom activities were held and it is now an ongoing activity. Nowadays the system is used extensively and updated dynamically by authorized users. When interviewed; 92 % of teachers and 87% of students told that it is easy and practical to use the system. % 88, 5 of both students and teachers enjoy this paperless environment and say that the system meets the needs.

### 6. Conclusions

E-learning is a fast evolving network-dependent method of learning and education. Tight coupling between changes in information technology and changes in e-learning methodology provide opportunities and challenges. With the rapidly changing world of information technology and e-learning management, success requires a clear vision, purpose, and strategic direction. Change management methodology must include strategic direction and planning, communication, and curriculum. Change management must also include instructional skills, and resistance to change. Full realization of strategic aspects of change management discussed above is essential for the successful

implementation and growth of e-learning system in the volatile and heterogeneous world of the Internet. E-learning combines various content and provide a variety of services to be used as a gateway. After development e-learning system it is time to make it usable and implement. Specially, information in health education content changes and completes its lifetime in short time. Thus it is required o update materials, information and services dynamically without help of web designers and IT professionals. The old system was not dynamic, but in our dynamic design we trained teachers, staff, web coordinators in order to create and upload content dynamically. But user resistance is the most difficult problem to solve. Organization leaders must support transition to e-learning system. These gave the chance to disseminate wide use and updated e-learning system for education institution. For a successful e-learning system needs assessment, planning, realization of the e-learning system, user training and adaptation and a continuous maintenance and solving problems are required main steps in e-learning change management.

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