

A Conceptual Model for Human Resource Development in Iran's Distance Education System

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ABSTRACT

The purpose of the present research is to provide a conceptual model for human resource development in Iran's distance education system. The Delphi method (three rounds) and survey were used among 30 professors working in the area of distance education. Then, a researcher-made questionnaire was distributed among 136 samples from a population of 1082 doctoral students and the collected data was analyzed using LISREL 8.53. The results supported the main question of the research: distance education and its components influence human resource development (knowledge, attitude, skill, and behavior). Chi-square to df ratio (1.23) was less than 3 (number 3 is in the middle of the five-point Likert scale), the value of RMSEA (0.0032) was less than the cutoff value (0.01), p-value (0.32177) was greater than the significance level ($\alpha=0.05$), and the values of GFI (0.97) and AGFI (0.93) were greater than the cutoff value (90%), all of which suggest the goodness of fit of the model and further indicate the causal relationship between distance education and human resource development. In other words, the components of distance education—i.e. technology, interaction, and facilities—have an effect on the components of human resource development—i.e. knowledge, attitude, skill, and behavior.

Keywords: Distance education, human resource development, PNU

INTRODUCTION

The education system is one of the bases of economic and human development of a country. With the advent of the age of information and communication and due to such problems as investment, increased number of postgraduate students, employment, and pollution, the traditional education systems cannot meet the needs of the contemporary generation. Therefore, universities and educational institutions have increasingly become interested in modern educational approaches including distance education. Distance education has been created as a complementary system along with traditional education in order to respect individual differences, provide equal educational opportunities, and bring about educational democracy with respect to the age, gender, and social status of people, seeking to achieve its core motto: "education anytime, anywhere" [15]. Due to its dynamic, state-of-the-art, and cooperative environment, distance education has played a significant role in bringing education to people, not bringing people to education. This is the manifestation of valuing people's individual needs and differences which is referred to in human sciences as *human resource development* [11]. If distance education is properly administered as one of the components of development, it can lead to the all-embracing development of the country [10]. Some countries devote almost 30 percent of their national investments in developing information and communication technology and distance education, for the most fundamental element in the age of ICT is knowledge which can be best transferred through distance education. Human resource development consists of four basic components:

knowledge, attitude, skill, and behavior [1]. In the age of information and communication, the key to successful, stable, and sustainable development is investment in education and human resources [10]. Education forms the collective consciousness of societies where “we live the way we are taught”. Today education is regarded as a fundamental investment, since education is an investment in human resources for promoting the knowledge, skills, and attitudes of future employees and workforce, thus laying the ground for development [1]. On the other hand, human beings and human resources have a special place in the discourse on development, for it serves as either the means or the goal of development [2]. Therefore, one of the aspects of development is human resource development. This refers to all the aspects of human beings (human intellect, attitude, behavior, and skill). No organization can survive without paying attention to human resources, aspects of human beings, and their constructive role in development and no factor matches the importance of the human factor in the all-embracing development of a society [19]. Human resource development is a process for developing and unleashing human expertise through organization development and personnel training and development for the purpose of improving performance [21]. This development can be facilitated with the help of knowledge-based education, i.e. distance education and electronic learning. In the past, financial capital was regarded as the sole driving factor in development of societies. However, by recognizing the role of human beings in development, another form of capital, i.e. human capital, made its way into development analysis and planning. Therefore, human being must be the core and basis of development [22]. Lack of manpower, both in terms of quality and quantity, is one of the most important problems of development [12]. To develop human beings, we need to understand and develop their abilities. These abilities are referred to as *personal characteristics* in psychology and *human resources* in management. Nadler (1970) defines human resource development (HRD) as “a series of organized activities conducted within a specified time and designed to produce behavioral change”. Asadollah (2005) argues that the components of HRD are knowledge, attitude, skill, and behavior. Soltani (2006) has also examined HRD in terms of knowledge, expertise, cognition, attitude, behavior, creativity, and performance (Figure 1). HRD involves systematic learning activities conducted within an organization that foster performance and personal growth [7].

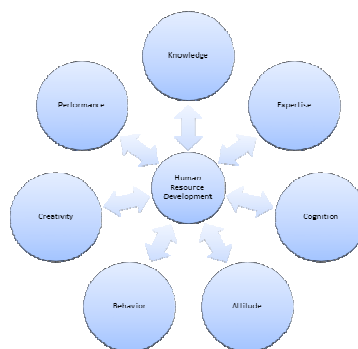


Figure 1. Human resource development model [20]

Distance education

The requirement for scientific and technological advancement in a country is to appreciate the importance of a new education system that, if implemented properly, can lead to the comprehensive development of countries, especially human resource development which is one of the main elements in economic development and sustainable development. Thus, it is imperative to embrace new methods such as distance education [16]. The history of distance education goes back to over a century ago. According to Moore (1990), distance education, which he refers to as correspondence study, began in the late 1800's. The concept of correspondence study made its way to the United States in 1873, when Anna Eliot Ticknor founded a Boston-based society named The Society to Encourage Studies at Home [5]. Its goal was to provide education for those women who were denied higher education due to the patriarchal attitude toward women's education at that time. However, in its modern sense, distance education is a field that focuses on delivering teaching to learners who are not physically present through technology, multimedia, and ICT in order to create an interactive learning atmosphere that facilitates learning. Some of the features of distance education are: teacher-learner separation, teacher-learner interaction, individual learning, learner autonomy, use of Sharable Content Objective Reference Model (SCORM) for creating content, use of multimedia for transferring content, attention to individual differences, easy access to educational materials, use of learning management system (LMS), variable yet equal learning opportunities, attention to quality as well as quantity of education, reduced education costs, increased efficiency and efficacy, improved performance and productivity, up-to-date knowledge, environmental benefits, flexibility in modifying contents, lack of admittance limitations, promotion of community-based and cooperative learning, and promotion of research [9]. Asadollah (2005) considers distance education as one of the factors that foster the development of human resources and believes that human resources refer to human competencies such as knowledge, skill, experience, and behavior. He also notes that the main role of distance education in the process of human resource development is to produce change in behavior,

knowledge, attitude, and skill. He believes that distance education fosters HRD which in turn results in economic growth and sustainable development. Most economists agree that it is human resources of nation, not its capital nor its material resources, that ultimately determine the character and pace of its economic and social development. Psacharopoulos and Woodhall (1997) argue that: Human resources constitute the ultimate basis of wealth of nations. Capital and natural resources are passive factors of production, human beings are the active agencies who accumulate capital, exploit natural resources, build social, economic and political organization, and carry forward national development.

Conceptual model of the research

Considering the literature on distance education and human resource development, a new conceptual model of the effect of distance education on HRD is provided in Figure 2.

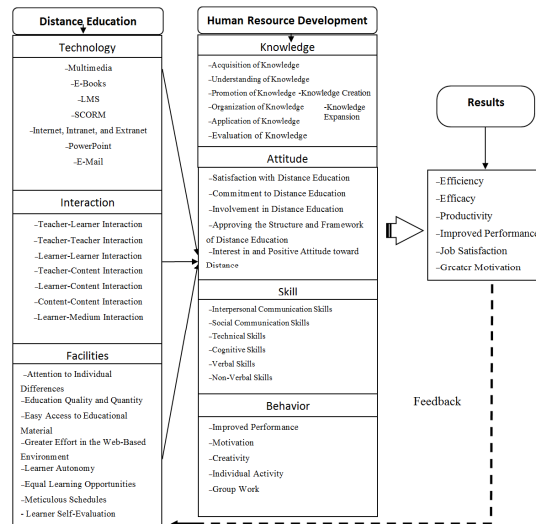


Figure 2. The conceptual model of the relationship between distance education and human resource development

In the above figure, the main components of distance education and their effect on human resource development are presented. The components are extracted using the Delphi method (three rounds) and a survey of 30 professors and education experts in PNU. In this model, distance education consists of three components (technology, interaction, and facilities) with 21 indices and human resource development consists of four components (knowledge, attitude, skill, and behavior) with 24 indices. Therefore, the present research examines the effect of distance education on human resource development in Payame Noor University (PNU) and tries to address the main components of distance education, human resource development, the effect on human resource development and to provide a HRD model for Iran’s distance education system.

MATERIALS AND METHODS

The present research was descriptive survey. The population of the research consists of 1082 PhD students of Payame Noor University (PNU). Using random sampling and Cochran’s formula, 136 students were selected as sample. The main instrument of the research was a questionnaire designed based on the conceptual model of the research and survey of education experts in PNU. In this questionnaire, distance education consisted of three components and 21 indices and human resource development consisted of four components and 24 indices. The content validity of the questionnaire was examined and confirmed by the experts and professors of PNU. As for reliability, 30 students from the population were randomly selected to complete the questionnaire. The Cronbach’s alpha was 0.927 for the component of distance education and 0.901 for the component of human resource development.

RESULTS

Structural equation modeling was used to examine the causal relationship between distance education and human resource development in PNU (Figure 3).

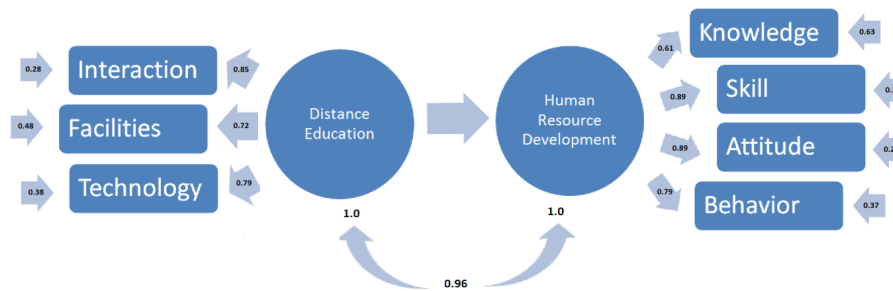


Figure 3. Structural equation modeling for the effect of distance education on HRD (Chi-square=14.77, df =13, P-value=0.32177, RMSEA=0.0032, GFI=0.97, AGFI=0.93)

Table 1. Goodness of fit statistics

Degree of Freedom	13
Root Mean Square Error of Approximation (RMSEA)	0.0033
Normal Fit Index (NFI)	0.96
Goodness of Fit Index (GFI)	0.97
Adjusted Goodness of Fit Index (AGFI)	0.93
Parsimony Goodness of Fit Index (PGFI)	0.45

The results of LISREL analysis (Figure 3 and Table 1) showed that the χ^2 (14.77) to df (13) ratio was 1.13 which is less than 3 (since 3 is the middle value in the 5-point Likert scale), the values of GFI (0.97) and AGFI (0.93) were both greater than the standard 90% cutoff value, the value of RMSEA (0.0033) was less than the cutoff value (0.01), and the p-value (0.32177) was greater than the significance level ($\alpha=0.05$). All of these suggest that the model closely fits the data and confirms the causal relationship between distance education and human resource development.

DISCUSSION AND CONCLUSION

The Delphi method (three rounds) and survey were used in 30 professors and education experts in PNU for identifying the main components of distance education and human resource development. Based on the literature, a conceptual model of the relationship between distance education and HRD was developed (Figure 2). In this model, distance education consisted of three main components—i.e. technology, interaction, and facilities—and HRD consisted of four main components—i.e. knowledge, attitude, skill, and behavior. The indices of these components were as follows:

- Technology: Use of multimedia, e-books, learning management system (LMS), sharable content objective reference model (SCORM), Internet, intranet, and extranet, e-mails, and ICT,
- Facilities: Attention to individual differences, education quality and quantity, easy access to educational materials, attractiveness of working with computers and multimedia, greater effort in the web-based environment, meticulous scheduling, learner autonomy, variable yet equal learning opportunities, lack of limitations, learning autonomy, reduced costs of education, investment in human resources, learner self-evaluation, and comprehensive and up-to-date contents
- Interaction: Teacher-learner interaction, teacher-teacher interaction, learner-learner interaction, teacher-content interaction, learner-content interaction, content-content interaction, and learner-medium interaction.
- Knowledge: Acquisition of knowledge, understanding of knowledge, organization of knowledge, knowledge creation, promotion of knowledge, expansion of knowledge, application of knowledge, and evaluation of knowledge.
- Attitude: Satisfaction with distance education, commitment to distance education, involvement in distance education, approving the structure and framework of distance education, and interest in and positive attitude toward distance education.
- Skills: Communication skills (interpersonal and social), technical skills, verbal skills, non-verbal skills, and cognitive skills.
- Behavior: Improved performance, creativity, innovation, group work, motivation, and individual activity.

These components and indices were incorporated in the questionnaire of the research. To examine the reliability of the instrument, the questionnaire was distributed among 30 students who were randomly selected from the population. The Cronbach's alpha was 0.927 for the component of distant education and 0.901 for the component of

human resource development. Then, the questionnaire was distributed among a sample of 136 students of Payame Noor University (PNU).

To examine the effect of distance education on human resource development in PNU, we used structural equation modeling in LISREL 8.53. Chi-square to df ratio (1.23) was less than 3 (number 3 is in the middle of the five-point Likert scale), the value of RMSEA (0.0032) was less than the cutoff value (0.01), p-value (0.32177) was greater than the significance level ($\alpha=0.05$), and the values of GFI (0.97) and AGFI (0.93) were greater than the cutoff value (90%), all of which suggested the goodness of fit of the model and further indicated the causal relationship between distance education and human resource development. Based on the results, if PNU evaluates and implements the components of distance education (technology, facilities, and interaction with all their indices), it can develop the human resources of its students (knowledge, attitude, skill, and behavior). In other words, if all the components of distance education are properly implemented and administered, it will lead to creation and expansion of knowledge, positive attitude and satisfaction, personal, social, and technical skills, and behavioral change in students. This is consistent with the findings of Asadollah (2005), Gaba (2005), Kapoor (2006), Rena (2008), Brown et al. (2006), Panda et al. (2006), and Psacharopoulos and Woodhall (1997).

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