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

Educational Technology

Elixir Edu. Tech. 55A (2013) 13133-13140



Design a pedagogical model to virtual education: comparative study in Iran and India

Negin Barat Dastjerdi

Department of Education, University of Isfahan, Iran.

ARTICLE INFO

Article history: Received: 31 May 2012; Received in revised form: 13 February 2013; Accepted: 21 February 2013;

Keywords

Virtual Education, Models, Third world countries.

ABSTRACT

The paper examines the possibility of providing a platform or base for extension of knowledge and wisdom in the virtual era to benefit all the people. Availability of knowledge and wisdom objectively influencing all the people and in all occasions, time wise and place wise, will go along way in limiting the role of beauracracy. The major objectives of the Study were to determine the main dimensions in the field of virtual education, Present a Research Model for Virtual Education and also to determine the proportional degree of the Research Model from the point of view of the teachers, educational experts and specialist in Iran and India. The Statistical sample of the present Study includes 400 of the teachers and educational experts in education technology, ICT and IT in Iran and India. In order to collect the needed data, a questionnaire was designed. The obtained data were analyzed on the basis of such descriptive and inferential statistical indexes as Factor Analysis, Coloration and Cronbach's Alfa. The SPSS package was used. This research is based on a well though out and scientifically designed "Research Model". The 'designed Research' Model facilitated indepth ground Study of each component of Virtual Education Model. Based on the empirical finding, our Conceptual Model could be refined and applied to draw conclusions. All the eight components of the Research Model were confirmed from the point of the view of the teachers and educational experts in Iran and India.

© 2013 Elixir All rights reserved.

Introduction

From the point of view of educational science the Virtual Learning spaces sketched here are each unusually attractive, because the specific activities which have become possible there in can be developed individually and separately, as well as in combination, bundled and integrated. The gained herein is achievement of new possibilities for educational activities which cannot be overestimated. Even if the digital learning environment had opened up just one of the sketched new learning spaces, viz., the multimedia space, which enables different modes of presentation to be bundled, or just the information space with its rapid access to the database in the World Wide Web. This in itself would have been a remarkable advance adding to enthusiasm of the instructional designer and amazing the educational scientist. Instead, we have at least ten of these learning spaces; each one with its own specific learning activities which, taken together, structure the virtual learning space for the digital learning environment in an innovative manner. We are faced here with an innovation and modernizing thrust of the first rank which is without example in the history of learning, and whose effects still can't be foreseen (Peters, 1999). As online education includes mechanisms to facilitate development of and access to a variety of learning services, the underpinning technological platform seeks to help potential learners; select and enroll then in learning experiences, and also to support administrative processes. Quest for Strategic planning concerning use of information and communication technologies (ICTs) in education must be directed Work in the context of constant and accelerating change that demands flexibility in the design of online learning institutions' structure, course and program offerings. Use of technology must be embedded within a wider strategy for teaching, learning and service, responsive to the challenges of technological change (Bates, 1999).

Virtual Education refers to instruction in a learning environment, where teachers and students are separated by time or space, or both; while the teacher provides course content through course management applications, multimedia resources, the Internet and videoconferencing, etc, students receive the content and communicate with the teacher via the same technologies (Kurbel, Karl, 2001).With a rapid growth and use of internet and digital technologies, the web has become a powerful, global, interactive, dynamic, economic, and democratic medium of distant learning and teaching (Khan, 1997). It provides an opportunity to develop learning ondemand and learner- centered' instruction and training. There are numerous names for online learning activities including elearning, web-based learning (WBL), web-based instruction (WBI), distributed learning, online learning (OL), mobile learning (ml) or nomadic learning, remote learning, off-site learning, a-learning (any time, any place and any where learning) and so on. Designing and delivering instruction and training on the internet requires thoughtful analysis and investigation, combined with an understanding of both the internet's capabilities and resources and the way in which instructional design principles can be applied to tap the internet potential (Ritchie & Hoffman, 1997).

Literature review:

Nada Dabbagh Design Pedagogical Models for E-learning (2005). This research presents a theory–based design framework for e-learning that emphasizes the transformative interaction between pedagogical models, instructional strategies, and learning technologies. This framework are three key components working collectively to foster meaningful learning and interaction: (1) pedagogical models or constructs,(i.e.,) open/flexible learning, distributed learning, and knowledge building communities), (2) instructional and learning strategies (i.e., collaboration, articulation, reflection, role-playing-exploration-problem solving), and (3) pedagogical tools or online learning technologies (e.g., asynchronous synchronous communication-tools, hypermedia tools, web authoring tools, and course management system).

The Global Virtual University (GVU) is an online university for sustainable development, and has a particular objective to meet the educational needs of the developing world. The university was officially launched in 2002 at the World Submit on sustainable development in Johannesburg [SA], where the Norwegian government, the United Nations University (UNU) at the United Nation Environment Programme (UNEP) pledged their support and partnership. Today GVU tends to focus lesson distance teaching, and focus more on development of an online learning environment with many-to-many communications. GVU intend to apply a model of networked learning environment. This model contains several learning approaches and combination, which less represent the specific way as a tutor and the student create an environment for the actual course. This opens up for creation of virtual CSCL environment (computer supported collaborative learning), where students support each other in the learning process (Bjorke, Ask and Heck, 2003).

Hilts et als (2000), designed model for virtual learning environment. He suggested that there are three aspects of virtual learning environment including pedagogical theories from educational research, media effect theories from communications research, and group interaction/social theories from social psychology and sociology. Among these three aspects, two aspects, instruction and interactive, have been discussed in this Study. Media effects of a virtual learning environment were not experienced by the sample available. The instructional aspect of a virtual learning environment refers to providing study materials and learning resources via the world wide web (WWW) that is relevant to the pedagogical theories from educational research. Whereas, the interactive aspect of a virtual learning environment refers to the avenue for students to be actively involved in online collaborative (group) learning such as case studies and group discussion, using forum, instant messenger, or chat rooms. In addition, students may use e-mail for one- to-one communications between lecturers and student, for seeking advice, clarifications, and for asking individual questions. The interactive aspect is pertinent to group interaction/ social theories from social psychology and sociology. Understanding students' perceptions and skills within these two aspects, is considered essential in assessing students 'readiness to forward web-based courses.

Bruner (1996) describes four models for virtual pedagogy education i.e., learning by being shown; learning by being told; learning by constructing meaning and; learning by joining knowledge generation community. Bannan and Milheim (1997), declare that their theoretical framework for online learning included the learning theory and its instructional model to describe the design features of a specific course. Thus, this model can assist "instructors, researchers, and course developers in their pursuit of quality" (Bannan & Milheim, 1997), online learning. The model developed by Kurubacak, determines online instructional approach, the theoretical and educational foundations of the approach, and the potential virtual strategies, and methods, and instructional activities. The author, also, points out the need to involve the control of learning activities with significant impact on the online learning methods. This modified model has two main dimensions: 1) Online dissemination, and 2) online collaboration and facilitation.

Pea (1994), describes two modes of online communication that foster collaborative learning: 1) in information transmission (knowledge is imparted to the learner by some from of instruction), 2) in ritual communication (learners share common knowledge and values through socialization and participation with other group members). Collaboration covers active participation and interaction. Online learning stresses active participation and interaction between learners and learners, between learners and instructors, and between learners and experts (Bonk, Medury, & Reynolds, 1994; Harasim, Calvert, & Groeneboer, 1997). Therefore, an online learning model can organize and structure online interactions among learners, instructors, experts from outside, and/or global online sources with no time and space limitations (Sherry & Wilson, 1997; Harasim, Calvart, & Groeneboer, 1997; Gamas & Solberg, 1997). This model, also, can encourage and engage learners to work with them together on their learning activities (Relan & Gillani, 1997).

Richardson (2002), identifies that classroom model of instruction have numerous weaknesses including that it is separated from work-based tasks and the emphasis on information. He also identifies that technology-based learning has focused too much on instruction and failed to provide effective social transactions. Richardson also introduces Blended learning attempts to introduce technology-based learning and traditional classroom learning with simulated classroom delivery as an "insufficient response to learner needs". He then suggests that the ineffectiveness of these models is a result of a failure to consider that people learn in many different ways and that learning is a part of everyday life and that "people learn in response to need".

The Research Objectives:

• Determination of the main dimension in the field of Virtual Education.

• Present a Research Model for Virtual Education.

• Determination of the proportionate degree of the Research Model from the point of view of the teachers, educational experts and specialists in Iran and India.

The Research Questions:

1. What is the main dimension of Virtual Education?

2. What is the Present Research Model of Virtual Education?

3. Whether the suggested Virtual Education Research Model is balanced with regard to the teachers, educational experts and specialists in Iran and India?

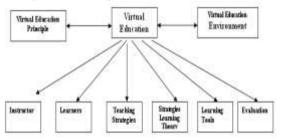
Research Methodology:

The research is based on a well thought out and scientifically designed "Research Model". Using this research model and subsequent designing of suitable instruments for data collection including a structured questionnaire, the present 'Research Study aims at in-depth analysis of Virtual Education Models. The designed 'Research Model' facilitated in-depth ground study of each component of our Virtual Education Model. For Data analysis, SPSS Software has been relied upon. As there is no background for such a research in Iran and India, much of our attention is devoted to a Customized Model and defining of Indices for the Variables.

Conceptual Model of Research

The Conceptual construct for the present Study is depicted in the following diagram:

Figure 1: Conceptual Model of Research



Population

For the purpose of our research, population comprise Iranian and Indian teachers, experts in educational technology, information technologies (IT) and information communication technology, (ICT).

Sample Size:

The sample size under this Study consists of 400 teachers and specialists in educational technology, information technology (IT), and information communication technology (ICT), working in Iran and India respectively. Thus, the sample size of Iran (200) and of India (200) totals 400. This has been distributed in different universities and institution of Iran Tehran, Isfahan, Shiraz, Ahvaz, and distributed Aligarh, Delhi, **Maysore, Bhopal and Mumbai.**

For our Study, we have used the purposive sampling method. In this way, the researcher has selected teachers and experts in Educational Technology, Information Technology and Information Communication Technology, available in the universities and on relevant websites of the universities and institutions.

Statistical Analysis:

For the purpose of data analysis, the researcher has relied upon statistical tools including Factor Analysis and Correlation, and has used SPSS Software.

Validity and Reliability of the Data:

Validity: To ascertain the validity of our draft questionnaire, we gathered the opinions of a number of teachers and specialists in Educational Technology, Information Technology and Information Communication Technology. In the light of their valuable opinions, we retained only the valid, relevant and meaningful questions, as they could serve to elicit valuable data and information from the respondents.

Reliability: Reliability reflects the consistency of a set of scale items in measuring a particular concept. Reliability measurement is very important to check the internal consistency of all the items, concerning Virtual Education. Cronbach's Alpha (α) was computed by using SPSS Reliability program for the set of Virtual Education Scale. Cronbach's Alpha (α) value for 110 items (19 items for Virtual Education Principle, 12 items for Virtual Education Environment, 19 items for Instructor in Virtual Education, 25 items for Learner in Virtual Education, 14

items for Teaching Strategies in Virtual Education, 5 items for Strategies Learning Theory, 3 items for Learning Tools in Virtual Education and 13 items for Evaluation in Virtual Education) in the questionnaire has been calculated as Alpha 0.94. We also checked the linearity and normality of the Ouestionnaire.

Data Analysis and Results:

1-What is the main dimension of Virtual Education?

We have tested every component of our Research Model and have using Factor Analysis. Bartlett's Test of Sphericity finds out whether the correlation Matrix is in identity, indicating that the variables are unrelated. The Significance Test gives the result in very small values (less than 0.05. For our Model it is 0.000). It indicates a significant relationship among different the Variables. Further, keeping in view we selected 6 Components of Principle of Virtual Education with Eigen Values of over 1, according to Rotation Method (Varimax with Kaiser Normalization). The Varmix Method indicates that the six components measure 0.66 of the total Variance. It shows 0.34 of Variance related to components. Lesser than this couldn't measure with Factor Analysis. It is thus we found that these components of Research Model stand confirmed.

It may be stated here that here too we selected 3 components of Environment of Virtual Education with Eigen Values of over 1, according to Rotation Method (Varimax with Kaiser Normalization). The Varmix Method indicates that the three components measure 0.61, of the total Variance. It shows 0.39 of Variance related to components, as lesser than this couldn't measure with Factor Analysis. It is thus found that these components of Research Model stand confirmed.

Here too, we selected 4 components of instructor in Virtual Education with Eigen Values of over 1, according to Rotation Method (Varimax with Kaiser Normalization). The Varmix Method indicates that the four components measure 0.62 of the total Variance. It showing 0.38 of Variance related to the component. Lesser than this couldn't measure with Factor Analysis. Thus the components of our Research Model are confirmed.

We selected 7 components of Learner in Virtual Education with Eigen Values of over 1, in accordance with Rotation Method (Varimax with Kaiser Normalization). The Varmix Method indicates that the seven components measure 0.67 of the total Variance. It shows 0.33 of Variance related to components. Lesser than this couldn't measure with factor analysis. The result indicates that these components of Research Model stand confirmed.

We selected 3 components of Teaching Strategies in Virtual Education with Eigen Values of over 1, according to Rotation Method (Varimax with Kaiser Normalization). The Varmix Method indicates that the three components measure 0.54 of the total Variance. It shows 0.46 of variance related to component. Lesser than this couldn't measure with factor analysis. Thus, it is found that these components of Research Model stand confirmed.

We selected 2 components of Virtual Strategies Learning Theory with Eigen Values of over 1, according to Rotation Method (Varimax with Kaiser Normalization). The Varmix Method indicates that the two components measure 0.72 of the total Variance. It shows 0.28 of variance related to component. Lesser than this couldn't measure with factor analysis. Thus, it is found that these components of Research Model stand confirmed.

Name of Factor	Components for VP	Load
	Learning by Exploration	0.558
	Learning by Discovery	0.676
Active and Self Directed	Activity Learning	0.813
	Learning by Doing	0.729
	Individualized Learning	0.317
	Student-Center	0.564
	Focus on Learning Rather than Teaching	0.648
	Self-Directed Learning	0.667
Individual	Learning without Limitations.(i.e., Time-Place-Speed)	0.766
	Self- Organized learning	0.663
	Learning by Increased Communication	0.851
Conversation and Interactive	Learning by Increased Collaboration	0.753
	Interaction between Learner-Learner	0.635
	Interaction between Teacher-Learner	0.566
	Interaction between Learner-Content	0.572
Transferable	Interaction between Teacher-Teacher	0.828
	Learning by Knowledge Management	0.683
Constructive and Cumulative	International learning through Communication	0.728
Contextual and Situational	Resource - based Learning	0.768

Table 1: Rotated Components Matrix Related to Virtual Education Principle

Table 2: Rotated Components Matrix Related to Virtual Education Environment

Name of Factor	Components for VE				
	Role Playing Activities				
	Allowing Learners to solicit information from each other, while others can Take the	0.524			
	form of a Structured Online Discussion				
	Encourages Learners to view the Knowledge-base from Multiple View- points	0.850			
Social Interaction	Provides Guidance in the Learning Process	0.637			
Environment	Allows Learners to Learn in more Authentic and Challenging ways	0.760			
	Encourages Interaction between and among two or more Learners to maximize their own	0.578			
	as also each others Learning				
	Supports Emerging Learning Skills, Problem Solving Skills and Self- Directed Learning Skill	0.652			
Collaborative Learning Environment	Provides Open and Flexible Learning				
	Supports Interactive and Collaborative Learning	0.842			
		0.796			
	Moving the Emphasis from Teaching to Learning	0.689			
Environment	Provide to Communicate informally, and to get Immediate (Synchronous) and				
Integrated with support Technology	also Delayed (Asynchronous) Feedback				
	Multiple Perspectives Supports	0.682			

Table 3: Rotated Components Matrix Related to Instructor in Virtual Education

Name of Factor	Components for VI	Load
	Responsible for Helping Learners with Interaction Handing out, Collecting and Grading Papers	0.653
	Encouraging Active Learning	
	Encouraging Cooperation	0.596
	Encourage Interaction Among the Participants	0.666
	Responsible for Managing and Monitoring Learning by Learners	0.601
	Engages Learners in Active Rather than Passive Learning Experiences	0.741
	Supports that Learners Individual Process of Handling and Coping with Information	0.579
Management and Encouragement	Allows Learners the Choice of Activity, Participating in Discussion or Simply to Observe in	0.663
	the Background	0.752
	Understanding the Nature and Philosophy of Virtual Education	0.706
	Adapting Teaching Strategies to Deliver Instruction in a Virtual Space	0.774
Transferring	Organizing Instructional Resources in a Format suitable for Independent Study	0.575
Internet Knowledge and Skill	Develops Skills, promoting Online Discussion, Devising Learning Activities	0.735
	Becoming involved in Organization, Collaborative Planning and Decision Making	0.593
	Evaluating Learners' Achievements, Attitudes and Perceptions at Virtual Sites	0.704
Supporting Learners	Guiding Collaborative Groups	0.625
	Provides Learning Resources for Learner	0.707
	The Facilitators of Learning	0.547
Act as	Enable Learners to establish Contact with them, as well as Interact among themselves	0.594
Facilitator of Learning	Members of Learning Communities	0.697

To work Independently Evaluation of his/her Achievement0.705 0.468Must have a sense of ownership of the Leaning Goals Abilities to make something Meaningful out of the Material Presented0.689 0.689 0.688Developing Ability To LearnSelf- Responsible Learning0.438Develops Social Communication, Critical Thinking, Leadership, Negotiation, Interpersonal and Cooperative Skill Learning From Others as well as From his/her own Environment0.766 0.766Social InteractionEngages in a Collective Socio-Cultural Experience Engages in Multiple Forms of Interaction (Learners- Learners, Learners-Group, Ability to work Independently without Instructor's help Self- Study0.740 0.740 0.613Meb-Based KnowledgeConstruct Knowledge Can work directly on a Learning Management System Platform to create a Web-based Learning Environment0.729 0.690	Table 4: Rotated Components Matrix Related to Learner in Virtual Education					
Attitude DevelopmentEnjoys the feeling of solving problems together0.700Attitude DevelopmentEngages in a Meaningful Learning Experience0.708Believes Working Together on Projects0.728Brings his/her Experience into the Role-playing Situation and consequently Gains control0.687of the Learning Process0.674Acquires Social, Communication, and Interpersonal Skills0.747possed by the Environment0.674Management of Learning0.842Management of Learning0.841Must have a sense of ownership of the Learning Goals0.688Developing Ability10 mis/her Achievement0.648Developing AbilityStimulated by other Group Members0.738Social InteractionDevelops Social Communication, Critical Thinking, Leadership, Negotiation, Interpersonal and Cooperative Skill Learning From Others as well as From his/her own Environment0.663Learning From Others as well as From his/her own Environment Engages in Altileperforms of Interaction (Learners-Learners, Learners-Group, Ability to work Independently without Instructor's help 0.7480.740Mutividual ActivityParticipates in Self-discovery Activity Ability to Construct Knowledge0.749Mutividual ActivityAbility to Construct Knowledge Can work directly on a Learning Management System Platform to create a Web-based Knowledge0.729Can work directly on a Learning Management System Platform to create a Web-based Learning Environment0.690	Name of Factor	Components for VL	Load			
Attitude DevelopmentEngages in a Meaningful Learning Experience0.708Believes Working Together on Projects0.728Brings his/her Experience into the Role–playing Situation and consequently Gains control0.687of the Learning ProcessAcquires Social, Communication, and Interpersonal Skills0.674Can Construct his/her Individual Interpretation of the Challenges and Opportunities0.747possed by the Environment0.674Management of Learning0.842Management of Learning0.842Management of Learning0.468Musin tains High Level of Control over Learning Experience0.689To work Independently0.705Evaluation of his/her Achievement0.468Must have a sense of ownership of the Leaning Goals0.689Abilities to make something Meaningful out of the Material Presented0.689Abilities to make something Meaningful out of the Material Presented0.502Social InteractionDevelops Social Communication, Critical Thinking, Leadership, Negotiation, InterpersonalSocial Interaction0.663Learning From Others as well as From his/her own Environment0.746Engages in a Collective Socio-Cultural Experience0.740Engages in a Collective Socio-Cultural Experience0.740Engages in Multiple Forms of Interaction (Learners-Learners, Learners-Group, Learners-Content and Learners-Instructors Instruction)0.741Individual ActivityAbility to work Independently without Instructor's help Self- Study0.740Web-Based KnowledgeAbility to Construct Knowledg		Takes Responsibility for his/her Learning	0.402			
Believes Working Together on Projects0.728Brings his/her Experience into the Role-playing Situation and consequently Gains control of the Learning Process Acquires Social, Communication, and Interpersonal Skills Can Construct his/her Individual Interpretation of the Challenges and Opportunities possed by the Environment0.687Management of Learning0.613Management of Learning0.641Must have a sense of ownership of the Leaning Goals Abilities to make something Meaningful out of the Material Presented Is Stimulated by other Group Members0.638Developing Ability To LearnDevelops Social Communication, Critical Thinking, Leadership, Negotiation, Interpersonal and Cooperative Skill Learning From Others as well as From his/her own Environment Engages in a Collective Socio-Cultural Experience Engages in Self-discovery Activity Ability to work Independently without Instructor's help Or4380.738Individual ActivityParticipates in Self-discovery Activity Ability to work Independently without Instructor's help Or4480.740MatrixAbility to work Independently without Instructor's help Or4480.740MatrixAbility to work Independently without Instructor's help Or4400.740MatrixAbility to work Independently without Instructor's help Or4400.748MatrixAbility to work Independently without Instructor's help Or4400.740Must have a carring Construct Knowledge Can work directly on a Learning Management System Platform to create a Web-based Learning Environment0.720		Enjoys the feeling of solving problems together	0.700			
Brings his/her Experience into the Role-playing Situation and consequently Gains control of the Learning Process Acquires Social, Communication, and Interpersonal Skills Can Construct his/her Individual Interpretation of the Challenges and Opportunities possed by the Environment0.687Management of Learning Maintains High Level of Control over Learning Experience To work Independently0.842 0.747 0.674Must bave a sense of ownership of the Leaning Goals Abilities to make something Meaningful out of the Material Presented Is Stimulated by other Group Members Self- Responsible Learning0.689 0.705Developing Ability To LearnDevelops Social Communication, Critical Thinking, Leadership, Negotiation, Interpersonal and Cooperative Skill Learning From Others as well as From his/her own Environment Engages in a Collective Socio-Cultural Experience Engages in Self-discovery Activity Participates in Self-discovery Activity Ability to work Independently without Instructor's help Self- Study0.740 0.740 0.741 0.740 0.740 0.741 0.741 0.742Must have a sense of ownership of Interaction (Learners- Learners, Learners-Group, Learners-Content and Learners-Instructor's help 0.740 0.740 0.740 0.7410.740 0.740 0.740 0.740 0.741	Attitude Development	Engages in a Meaningful Learning Experience	0.708			
of the Learning ProcessAcquires Social, Communication, and Interpersonal Skills Can Construct his/her Individual Interpretation of the Challenges and Opportunities 0.674Management of Learning0.842Management of Learning0.842Management of Learning0.842Maintains High Level of Control over Learning Experience0.649To work Independently0.705Evaluation of his/her Achievement0.468Must have a sense of ownership of the Leaning Goals Abilities to make something Meaningful out of the Material Presented0.688Developing AbilityIs Stimulated by other Group Members Social Interaction0.738Social InteractionDevelops Social Communication, Critical Thinking, Leadership, Negotiation, Interpersonal and Cooperative Skill Learning From Others as well as From his/her own Environment Engages in a Collective Socio-Cultural Experience Engages in Multiple Forms of Interaction (Learners- Learners, Learners-Group, Learners-Content and Learners-Instructors Instruction)0.740Individual ActivityParticipates in Self-discovery Activity Ability to work Independently without Instructor's help Self- Study0.740Web-Based KnowledgeConstruct Knowledge Can work Independently without Instructor's help Web-based Learning Environment0.729Can Construct Knowledge and Understanding, based on Personal0.690		Believes Working Together on Projects	0.728			
Acquires Social, Communication, and Interpersonal Skills		Brings his/her Experience into the Role–playing Situation and consequently Gains control	0.687			
Can Construct his/her Individual Interpretation of the Challenges and Opportunities0.747possed by the Environment0.674Self- directed Learning0.842Management of LearningMaintains High Level of Control over Learning Experience0.649To work Independently0.705Evaluation of his/her Achievement0.468Must have a sense of ownership of the Leaning Goals0.689Abilities to make something Meaningful out of the Material Presented0.688Developing AbilitySelf- Responsible Learning0.735To LearnSelf- Responsible Learning0.438Develops Social Communication, Critical Thinking, Leadership, Negotiation, Interpersonal0.502and Cooperative SkillLearning From Others as well as From his/her own Environment0.766Engages in a Collective Socio-Cultural ExperienceEngages in a Collective Socio-Cultural Experience0.643Horividual ActivityParticipates in Self-discovery Activity0.740Ability to work Independently without Instructor's help0.740Self- Study0.613Ability to Construct Knowledge0.729Can work directly on a Learning Management System Platform to create a0.690Web-based Learning Environment0.729Constructs his/her Knowledge and Understanding, based on Personal0.729		of the Learning Process				
possed by the Environment0.674Management of LearningSelf- directed Learning0.842Management of LearningMaintains High Level of Control over Learning Experience0.649To work Independently0.705Evaluation of his/her Achievement0.468Must have a sense of ownership of the Leaning Goals0.689Abilities to make something Meaningful out of the Material Presented0.688Developing AbilityIs Stimulated by other Group Members0.738Self- Responsible Learning0.438Develops Social Communication, Critical Thinking, Leadership, Negotiation, Interpersonal and Cooperative Skill0.502Learning From Others as well as From his/her own Environment Engages in a Collective Socio-Cultural Experience Engages in a Collective Socio-Cultural Experience Engages in Multiple Forms of Interaction (Learners- Learners, Learners-Group, Ability to work Independently without Instructor's help Self- Study0.740Minividual ActivityAbility to Construct Knowledge Can work directly on a Learning Management System Platform to create a Web-based Learning Environment0.729Web-Based KnowledgeConstruct shis/her Knowledge and Understanding, based on Personal0.501						
Self- directed Learning0.842Management of LearningMaintains High Level of Control over Learning Experience0.649To work Independently0.705Evaluation of his/her Achievement0.468Must have a sense of ownership of the Leaning Goals0.689Abilities to make something Meaningful out of the Material Presented0.688Developing AbilityIs Stimulated by other Group Members0.738To LearnSelf- Responsible Learning0.438Develops Social Communication, Critical Thinking, Leadership, Negotiation, Interpersonal0.502and Cooperative SkillLearning From Others as well as From his/her own Environment0.766Engages in Aultiple Forms of Interaction (Learners- Learners, Learners-Group, Learners-Content and Learners-Instructors Instruction)0.741Individual ActivityParticipates in Self-discovery Activity Ability to work Independently without Instructor's help Self- Study0.740Web-Based KnowledgeCan work directly on a Learning Management System Platform to create a Web-based Learning Environment0.690Construct shis/her Knowledge and Understanding, based on Personal0.690		Can Construct his/her Individual Interpretation of the Challenges and Opportunities	0.747			
Management of LearningMaintains High Level of Control over Learning Experience0.649To work Independently0.705Evaluation of his/her Achievement0.468Must have a sense of ownership of the Leaning Goals0.689Abilities to make something Meaningful out of the Material Presented0.688Is Stimulated by other Group Members0.738Self- Responsible Learning0.438Develops Social Communication, Critical Thinking, Leadership, Negotiation, Interpersonal0.502and Cooperative Skill0.502Learning From Others as well as From his/her own Environment0.766Engages in a Collective Socio-Cultural Experience0.643Engages in Multiple Forms of Interaction (Learners- Learners, Learners-Group, Learners-Content and Learners-Instructors Instruction)0.741Individual ActivityParticipates in Self-discovery Activity Ability to Work Independently without Instructor's help Self- Study0.739Web-Based KnowledgeCan work directly on a Learning Management System Platform to create a Web-based Learning Environment0.769Constructs his/her Knowledge and Understanding, based on Personal0.690		possed by the Environment	0.674			
To work Independently0.705Evaluation of his/her Achievement0.468Must have a sense of ownership of the Leaning Goals0.689Abilities to make something Meaningful out of the Material Presented0.688Is Stimulated by other Group Members0.438Develops Social Communication, Critical Thinking, Leadership, Negotiation, Interpersonal0.502Social InteractionDevelops Social Communication, Critical Thinking, Leadership, Negotiation, Interpersonal0.502and Cooperative SkillLearning From Others as well as From his/her own Environment0.766Engages in a Collective Socio-Cultural ExperienceEngages in Aultiple Forms of Interaction (Learners- Learners, Learners-Group,0.663Individual ActivityParticipates in Self-discovery Activity0.740Ability to Work Independently without Instructor's help0.740Self- Study0.613Ability to Construct Knowledge0.729Can work directly on a Learning Management System Platform to create a Web-based Learning Environment0.690		Self- directed Learning	0.842			
Evaluation of his/her Achievement0.468Must have a sense of ownership of the Leaning Goals0.689Abilities to make something Meaningful out of the Material Presented0.688Developing Ability To LearnIs Stimulated by other Group Members0.738Self- Responsible Learning0.438Develops Social Communication, Critical Thinking, Leadership, Negotiation, Interpersonal and Cooperative Skill Learning From Others as well as From his/her own Environment0.766Engages in a Collective Socio-Cultural Experience Engages in Multiple Forms of Interaction (Learners- Learners, Learners, Group, Learners-Content and Learners-Instructors Instruction)0.741Individual ActivityParticipates in Self-discovery Activity Ability to work Independently without Instructor's help Self- Study0.729Web-Based KnowledgeAbility to Construct Knowledge Can work directly on a Learning Management System Platform to create a Web-based Learning Environment0.690	Management of Learning	Maintains High Level of Control over Learning Experience	0.649			
Must have a sense of ownership of the Leaning Goals0.689Developing Ability To LearnAbilities to make something Meaningful out of the Material Presented0.688Developing Ability To LearnIs Stimulated by other Group Members Self- Responsible Learning0.438Develops Social Communication, Critical Thinking, Leadership, Negotiation, Interpersonal and Cooperative Skill Learning From Others as well as From his/her own Environment Engages in a Collective Socio-Cultural Experience Engages in Multiple Forms of Interaction (Learners- Learners, Learners-Group, Learners-Content and Learners-Instructors Instruction)0.663Individual ActivityParticipates in Self-discovery Activity Ability to work Independently without Instructor's help Self- Study0.729Web-Based KnowledgeCan work directly on a Learning Management System Platform to create a Web-based Learning Environment0.690		To work Independently	0.705			
Developing Ability To LearnAbilities to make something Meaningful out of the Material Presented0.688Developing Ability To LearnIs Stimulated by other Group Members0.738Self- Responsible Learning0.438Develops Social Communication, Critical Thinking, Leadership, Negotiation, Interpersonal and Cooperative Skill Learning From Others as well as From his/her own Environment0.502Social InteractionLearning From Others as well as From his/her own Environment Engages in a Collective Socio-Cultural Experience Engages in Multiple Forms of Interaction (Learners- Learners, Learners-Group, Learners-Content and Learners-Instructors Instruction)0.741Individual ActivityParticipates in Self-discovery Activity Ability to work Independently without Instructor's help Self- Study0.729Web-Based KnowledgeAbility to Construct Knowledge Can work directly on a Learning Management System Platform to create a Web-based Learning Environment0.690Constructs his/her Knowledge and Understanding, based on Personal		Evaluation of his/her Achievement	0.468			
Developing Ability To LearnIs Stimulated by other Group Members Self- Responsible Learning0.738 0.438Social InteractionDevelops Social Communication, Critical Thinking, Leadership, Negotiation, Interpersonal and Cooperative Skill Learning From Others as well as From his/her own Environment Engages in a Collective Socio-Cultural Experience Engages in Multiple Forms of Interaction (Learners- Learners, Learners-Group, Learners-Content and Learners-Instructors Instruction)0.766 0.663 0.741Individual ActivityParticipates in Self-discovery Activity Ability to work Independently without Instructor's help Self- Study0.740 0.613Web-Based KnowledgeAbility to Construct Knowledge Can work directly on a Learning Management System Platform to create a Web-based Learning Environment0.729 0.690		Must have a sense of ownership of the Leaning Goals	0.689			
To LearnSelf- Responsible Learning0.438Develops Social Communication, Critical Thinking, Leadership, Negotiation, Interpersonal and Cooperative Skill Learning From Others as well as From his/her own Environment Engages in a Collective Socio-Cultural Experience Engages in Multiple Forms of Interaction (Learners- Learners, Learners-Group, Learners-Content and Learners-Instructors Instruction)0.766Individual ActivityParticipates in Self-discovery Activity Self- Study0.740Web-Based KnowledgeAbility to Construct Knowledge Can work directly on a Learning Management System Platform to create a Web-based Learning Environment0.729Constructs his/her Knowledge and Understanding, based on PersonalConstructs his/her Knowledge and Understanding, based on Personal0.690		Abilities to make something Meaningful out of the Material Presented	0.688			
Develops Social Communication, Critical Thinking, Leadership, Negotiation, Interpersonal and Cooperative Skill Learning From Others as well as From his/her own Environment0.502Social Interactionand Cooperative Skill Learning From Others as well as From his/her own Environment Engages in a Collective Socio-Cultural Experience Engages in Multiple Forms of Interaction (Learners- Learners, Learners-Group, Learners-Content and Learners-Instructors Instruction)0.766Individual ActivityParticipates in Self-discovery Activity Ability to work Independently without Instructor's help Self- Study0.740Web-Based KnowledgeAbility to Construct Knowledge Can work directly on a Learning Management System Platform to create a Web-based Learning Environment0.790Constructs his/her Knowledge and Understanding, based on Personal0.690	Developing Ability	Is Stimulated by other Group Members	0.738			
Social Interactionand Cooperative Skill Learning From Others as well as From his/her own Environment Engages in a Collective Socio-Cultural Experience Engages in Multiple Forms of Interaction (Learners- Learners, Learners-Group, Learners-Content and Learners-Instructors Instruction)0.7663 0.741Individual ActivityParticipates in Self-discovery Activity Ability to work Independently without Instructor's help Self- Study0.740 0.613Web-Based KnowledgeAbility to Construct Knowledge Can work directly on a Learning Management System Platform to create a Web-based Learning Environment0.790 0.690	To Learn		0.438			
Engages in a Collective Socio-Cultural Experience0.663Engages in Multiple Forms of Interaction (Learners- Learners, Learners-Group, Learners-Content and Learners-Instructors Instruction)0.741Participates in Self-discovery Activity0.740Ability to work Independently without Instructor's help0.740Self- Study0.613Ability to Construct Knowledge0.729Can work directly on a Learning Management System Platform to create a Web-based Learning Environment0.690Constructs his/her Knowledge and Understanding, based on Personal0.890	Social Interaction		0.502			
Engages in a Collective Socio-Cultural Experience0.663Engages in Multiple Forms of Interaction (Learners- Learners, Learners-Group, Learners-Content and Learners-Instructors Instruction)0.741Participates in Self-discovery Activity0.740Ability to work Independently without Instructor's help0.740Self- Study0.613Ability to Construct Knowledge0.729Can work directly on a Learning Management System Platform to create a Web-based Learning Environment0.690Constructs his/her Knowledge and Understanding, based on Personal0.890		Learning From Others as well as From his/her own Environment	0.766			
Engages in Multiple Forms of Interaction (Learners- Learners, Learners-Group, Learners-Content and Learners-Instructors Instruction)0.663Individual ActivityParticipates in Self-discovery Activity0.740Individual ActivityAbility to work Independently without Instructor's help0.740Self- Study0.613Web-Based Knowledge0.729Can work directly on a Learning Management System Platform to create a Web-based Learning Environment0.690Constructs his/her Knowledge and Understanding, based on Personal0.890						
Learners-Content and Learners-Instructors Instruction)0.741Participates in Self-discovery Activity0.740Ability to work Independently without Instructor's help0.740Self- Study0.613Ability to Construct Knowledge0.729Can work directly on a Learning Management System Platform to create a0.690Web-Based KnowledgeConstructs his/her Knowledge and Understanding, based on Personal0.610			0.663			
Individual Activity Ability to work Independently without Instructor's help 0.740 Self- Study 0.613 Ability to Construct Knowledge 0.729 Can work directly on a Learning Management System Platform to create a 0.690 Web-Based Knowledge Constructs his/her Knowledge and Understanding, based on Personal		Learners-Content and Learners–Instructors Instruction)	0.741			
Individual Activity Ability to work Independently without Instructor's help 0.740 Self- Study 0.613 Ability to Construct Knowledge 0.729 Can work directly on a Learning Management System Platform to create a 0.690 Web-Based Knowledge Constructs his/her Knowledge and Understanding, based on Personal		Participates in Self-discovery Activity	0.740			
Ability to Construct Knowledge 0.729 Web-Based Knowledge Can work directly on a Learning Management System Platform to create a 0.690 Web-based Learning Environment Constructs his/her Knowledge and Understanding, based on Personal	Individual Activity	Ability to work Independently without Instructor's help	0.740			
Web-Based Knowledge Can work directly on a Learning Management System Platform to create a 0.690 Web-based Learning Environment Constructs his/her Knowledge and Understanding, based on Personal	-		0.613			
Web-based Learning Environment Constructs his/her Knowledge and Understanding, based on Personal		Ability to Construct Knowledge	0.729			
Web-based Learning Environment Constructs his/her Knowledge and Understanding, based on Personal	Web-Based Knowledge		0.690			
Constructs his/her Knowledge and Understanding, based on Personal	C					
Construct Knowledge Interpretation of the Subject 0.746						
	Construct Knowledge	Interpretation of the Subject	0.746			

Table 4: Rotated Components Matrix Related to Learner in Virtual Education

Table 5: Rotated Components Matrix Related to Teaching Strategies in Virtual Education

Name of Factor Components for VTS			
	Cooperative Learning		
	Web- based Learning	0.745	
Active Teaching Strategies	Learners- Center Strategies	0.724	
	Active Leaning Strategies	0.650	
	Individual Learning and Teaching Methods	0.691	
	Help Learners to achieve Objectives of the Lessons		
	Reasoning and Exploration	0.615	
Collaboration Teaching Strategies	Promoting Collaboration and Social Negotiation	0.441	
	Focus on The Learners and Incorporate Interaction have been shown to be most successful	0.568	
	Resource- based Methods	0.819	
	Problem solving Strategies	0.771	
	Discovery Learning	0.455	
Discovery Teaching Strategies	Collaborative Learning	0.587	
	Decision Making	0.534	

Table 6: Rotated Components Matrix Related to Strategies Learning Theory in Virtual Education

Name of Factor	Components for VSLT	Load
Instructional Theory	Cognitive Theory	0.701
	Instructional Theory	0.863
	Metacognitive Theory	0.793
Social Constructivist Theory	Social Constructivist Theory	0.865
	Constructivist Theory	0.882

Table 7: Rotated Components Matrix Related to Tools Learning in Virtual Education

Name of Factor	Components for VE			
	Synchronous(Text Chat, Audio, White Board, Break-Out Rooms, Application Sharing,			
Synchronous	Synchronous Web-Browsing, Polls-feedback, Hand-raising, and Video)	0.773		

Name of Factor **Components for EVE** Load Evaluation of Effectiveness of Learning Process 0.656 Flexibility in Evaluation Methods 0.592 Focus on Educational Planning Evaluation of Educational Planning 0.720 Evaluation of Learners' Integrated and Collaborative 0.738 **Quality of Feedback Provided** 0.650 Evaluation of Contribution of Learners in Learning Process 0.578Focuses on Learners' Outcomes or System Outcomes 0.625 Evaluation is related to Consideration of Minimal Standards in Design and Implementation 0.783 Evaluation of Quality and Quantities Feedback to Learners 0.757 Focus on Process and Product Application of a Suitable Procedure in Evaluation 0.800 Evaluation of Learners' Achievement 0.790 Evaluation of Learners' Attitudes 0.812 Focus on Achievement and Attitudes Peer Evaluation 0.813

Table 8: Rotated Components Matrix Related to Evaluation in Virtual Education

Table 9 :Total Correlation Co-efficient Matrix between Different Components of Virtual Education Model in (Iran & India) Correlations

		VP	VE	VI	VL	VTS	VSLT	VTL	EVE
VP	Pearson Correlat	1							
	Sig. (2-tailed)								
	N	360							
VE	Pearson Correlat	.682*	1						
	Sig. (2-tailed)	.000							
	N	347	380						
VI	Pearson Correlat	.658*	.787**	1					
	Sig. (2-tailed)	.000	.000						
	N	340	358	373					
VL	Pearson Correlat	.602**	.707**	.765**	1				
	Sig. (2-tailed)	.000	.000	.000					
	N	338	353	352	369				
VTS	Pearson Correlat	.594*	.537**	.597**	.610**	1			
	Sig. (2-tailed)	.000	.000	.000	.000				
	N	350	369	364	360	384			
VSLT	Pearson Correlat	.529*	.484**	.438**	.496**	.598**	1		
	Sig. (2-tailed)	.000	.000	.000	.000	.000			
	N	348	371	361	359	375	386		
VTL	Pearson Correlat	.465*	.439**	.375**	.405**	.375**	.396**	1	
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000		
	N	342	363	358	353	366	369	378	
EVE	Pearson Correlat	.485*	.513**	.529**	.569**	.581**	.627**	.482**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	
	N	352	373	365	360	378	379	371	389

**. Correlation is significant at the 0.01 level (2-tailed).

Table 10: Cronbuch Alf	and the Mean	s for different Co	omponents of ou	r Research Model for Iran

Components	Number of Item	Alfa	Means
VEP	19	0.84	4.01
VEE	12	0.85	3.98
IVE	19	0.91	3.99
LVE	25	0.91	3.96
TSVE	14	0.70	3.94
SLTVE	5	0.71	3.76
TLVE	3	0.72	4.30
EVE	13	0.88	3.83

We selected 1 components of Virtual Tools Learning with Eigen Values of over 1, according to Rotation Method (Varimax with Kaiser Normalization). The Varmix Method indicates that one component measures 0.62 of the total Variance. It shows 0.38 of variance related to components. Lesser than this couldn't measure with factor analysis. Thus, it is found that these components of Research Model stand confirmed.

We selected 3 components of Evaluation in Virtual Education with Eigen Values of over 1, in accordance with the Rotation Method (Varimax with Kaiser Normalization). The Varmix Method indicates that three components measure 0.64 of the total Variance. It shows 0.36 of Variance related to component. Lesser than this couldn't measure with factor analysis. Thus, it is found that these components of Research Model stand confirmed.

2-What is the Present Research Model of the Virtual Education? The Table above, giving Correlations, displays Pearson Correlation Coefficients, Significant Values, and the number of cases with Non-missing Values. Pearson Correlation Coefficient assumes that the data are normally distributed. (We checked this assumption for our data and converted these to scale measure). The Pearson Correlation Coefficient is a measure of Linear Association between all components of the Research Model.

It may be mentioned that our Research Model designed, drew benefit from the United Nations University/Global Virtual University (Ake Bjorke, Bodi Ask, Debbie Heck, 2002). The results of correlation between different Components in (Iran & India) have shown that all the components that we selected for our questionnaire are highly correlated, and therefore, suitable for research on Virtual Education.

Our Research Model for Virtual Education was designed with 8 main components: Principle of Virtual Education, Environment of Virtual Education, Instructor in Virtual Education, Learner in Virtual Education, Teaching Strategies in Virtual Education, Strategies Learning Theory in Virtual Education, Tools Learning in Virtual Education, and Evaluation in Virtual Education. All these components with subcomponents also, have been used for ourresearch.

3-Whether the suggested Virtual Education Research Model is balanced with regard of the teachers, researchers and educational experts in Iran and India?

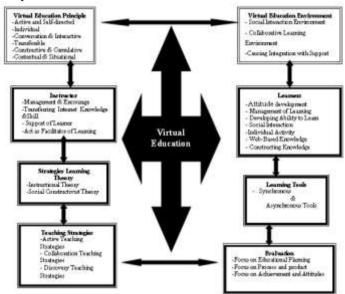
We used Cronbuch Alfa and the Means for each components of our Research Model for Iran and India.

We have tested every components of our Model for Iran and India According to the results of Cronbuch Alfa and the Means, all the components of our Research Model are confirmed from the point of view of the teachers, educational experts and specialists in Iran and India.

The Research Model stand confirmed with the total Alfa of 0.92 for Iran and 0.91 for India; also each of the component of our Model are confirmed (Needless to state that if the Mean is greater than 3, it confirms that our Research Model is suitable). **Amended Conceptual Model:**

Further, based on the results of our Study, the Conceptual Model for our Study get amended, as is shown in figure 2. **Conclusions**

The purpose of the present Study has been to determine the main dimensions of Virtual education. Another purpose of this Study has been to present a Research Model of Virtual Education, and also to determine the proportionate degree of the Research Model from the point of the teachers, researchers and educational experts in Virtual Education in Iran and India. To arrive at conclusions, we identified the various factors for Virtual Education Model (Virtual Education Principle, Virtual Education Environment, Instructor in Virtual Education, Learner in Virtual Education, Teaching Strategies in Virtual Education, Strategies Learning Theory in Virtual Education, Tools of Learning in Virtual Education and Evaluation in Virtual Education). Then, keeping in view the major objectives of this Study, each group of components was divided into Subcomponents.



The first component (Principle for Virtual Education) has six Sub-components, the second component (Environment for Virtual Education) has three Sub-components, the third component (Instructor in Virtual Education) has four Subcomponents, the fourth component (Learner in Virtual Education) has seven Sub-components, the fifth component (Teaching Strategies for Virtual Education) has three Subcomponents, the sixth component (Strategies Learning Theory for Virtual Education) carries two Sub-components, the seventh component (Tools Learning in Virtual Education) has one Subcomponent and the last component (Evaluation in Virtual Education) has three Sub-components.

We checked and assessed all the components of our Research Model, applied in case of Iran and India. According to the results of Cronbuch Alfa and Means, all of the components of our Research Model from the point of view of the teachers, educational experts and specialist in Iran and India, stand confirmed.

Refrence

- Bannan, B. & Milheim, W. D. (1997), Design of Existing Web-Based Instruction Courses. In B. Khan, (Ed.), Web-Based Instruction, Englewood Cliffs, NJ: Educational Technology Publications, pp.381-387.

- Bates, A., W. (1999), Restructuring the University for Technological Change. Vancouver, B. C. University of British Columbia, Center of Educational Technology. Retrieved January 04, 1998 "as reported in, http://www.bates.cstudies.ubc.ca/carnegie/carnegie.html."

- Bjorke, A., Ask, B., and Heck, D. (2003), Global Virtual University, Global Cooperation on E-Learning, "as reported in, http://www.gvu/reports.cfm?categoryid=102global virtual university."

- Bonk C.J., Medury, P. V. & Reynolds, T. H. (1994), Cooperative Hypermedia: The Marriage of Collaborative Writing and Mediated Environments. Computers in the Schools, No. 10(1-2). pp.79-124

- Bruner J., S., (1996), Folk Pedagogy, in the Culture of Education, Cambridge MA, Harvard University. Press. "as reported in, http://www.scott/ondon.com/reviews/bruner.html."

- Dabbagh, h., N. (2005), Pedagogical Models for E-learning: A Theory Based Design Framework. International Journal of Technology in Teaching and Learning, No.1 (1). pp 25-44.

- Gamas, W. & Solberg, B. (1997), Classroom Collaboration in Cyberspace, "as reported in, http://www.coe.uh.edu/insite/elec_pub/HTML1997/de_gama.ht m."

- Harasim, L., Calvert, T. & Groeneboer, C. (1997), Virtual-University: A Web-Based System to Support Collaborative Learning. In B. H. Khan, (Ed.), Web-Based Instruction Englewood Cliffs, NJ: Educational Technology Publications, pp. 149-158.

- Hawkins, R. J. (2002), Ten Lessons for ICT and Education in the Developing World. The Global Information Technology Report 2001–2002: Readiness for the Networked World. The World Bank Institute, World Links for Development Program. Oxford: Oxford University Press, p. 43.

- Hiltz, S., R., Coppola, N., Potter, N., & Turoff, M. (2000), Measuring the Importance of Collaborative Learning for the Effectiveness of ALN: A Multi- Measure, Multi- Method Approach. In Bourne and J.Moore (Eds), Online Education: Volume 1 in the Sloan-C series. Needham, MA: sloan- C press, 2000. Journal of Asynchronous Learning Net- Works, No.4 (2), "as reported in, http://www.aln.org/alnweb/journal/jalnvol4issue 2.htm."

- Kante, Ch. (2003), E-Learning the New Frontier the Developing Word. Technowlogia, January- March, pp.15-19.

- Khan, B. H. (2005), Managing E-learning Strategies. Design, delivery, Implementation and Evaluation. Gorge Washington University. USA .Information Science Publishing, pp. 10-12-379-387.

- Kurbel, K. (2001), Virtuality on the Students' and on the Teachers' Sides: A Multimedia and Internet Based International Master Program; ICEF Berlin GmbH (Eds.), Proceedings on the 7th International Conference on Technology Supported Learning and Training – Online Educa; Berlin, Germany, pp. 133–136.

- Liu & Matthews (2005), Vygotsky's philosophy: Constructivism and its Criticisms Examined, International Education Journal, 6(3), pp.386-399.

- Macdonald, J., (2005), Blended Learning and Online Tutoring, A Good Practice Guide, Gower Publishing Company, pp.83-84.

- Pea, R. (1994), seeing what we build together: Distributed Multimedia-Learning Environments for Transformative Communications. Journal of Learning Sciences, No. 3(3).pp.285-299.

- Peters, O. (1999), A Pedagogical Model for Virtual Learning Space, "as repoted in, http://www.unioldenburg.de/hef/cde/found/peters99.htm."

- Relan, A. & Gillani, B.B. (1997), Web- Based Instruction and Traditional Classroom: Similarities and Differences. In B.H.Khan (Ed.), Web–Based Instruction, Englewood Cliff, NJ: Educational Technology Publication, pp.41-46.

- Richardson (2002), An Ecology of Learning and the Role of Elearning in the Learning Environment: A Discussion Paper in Connecting the Future: Global Summit of Online Knowledge Networks, Education. Unlimited, Dulwish, "as reported in, http://www.educationau.edu.au/globa/summit/papers/arichardso n.pdf."

- Ritchie, D.C., Hoffman, B. (1997), Incorporating in Situational Design Principle with the World Wide Web. In B.H.Khan (Ed.), web-based Instruction, Englewood Cliff, NJ: Educational technology publication, pp.35-138.

- Sherry, L. & Wilson, B. (1997), Transformative Communication as a Stimulus to Web Innovations. In B. H. Khan (Ed.) Web-Based Instruction Englewood Cliffs, NJ: Educational Technology Publications. pp. 67-73.