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Original Article

A Re-examination of Theoretical Foundations of Technical and Non-Technical Curriculum Patterns in Open and Distance Learning Generations

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Abstract

The present study aims to investigate the technical and non-technical patterns of the curriculum in open and distance learning generations in order to identify the position of these foundations in the field of opinion and action. Decision-making in curriculum planning has a wide range and various groups are seeking to influence and participate in decisions related to curriculum planning. The present research method is descriptive research method. Due to the nature of the subject and the way data is collected and the conditions of the variables under study in this research, the researcher seeks to answer "what" and therefore focuses on explaining and analyzing the components of the research questions. Curriculum planning is the process of predicting and preparing a set of learning opportunities for a specific population in order to achieve educational goals and objectives. This type of approach is applicable in technical curriculum planning. Another approach in curriculum planning is spontaneous decision-making and unplanned approach, which relates the planning process to the interactions between teachers and students. According to these two perspectives, a technical and non-technical approach to curriculum planning has emerged. Therefore, the teacher should select a small and limited framework of the curriculum process as a model and analyze and identify it in order to organize their educational activities in an appropriate situation and within the scope of that framework. In the present article, an overview of technical and non-technical curriculum patterns regarding educational requirements in the context of open and distance learning generations has been explored. The results in the curriculum patterns section support these patterns in the technical patterns section, including the Tyler model, and in the non-technical patterns section, including the Pinar model. Psychology based on the Tyler model is aligned with a behaviorist approach. In this approach, instructional strategies have been developed to design learning experiences that meet the needs of the industrial society for developed written materials, which are summarized in the best way in terms of efficiency. Psychology based on the Painer model is a combination of critical theory and constructivism, which is accompanied by the third generation of open and distance learning, namely virtual education with a critical approach

Keywords

Curriculum planning, Distance learning, Non-technical patterns,Open education,Technical patterns.

Introduction

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The education system, as one of the sub-systems of society, has not been unaffected by this wave of change and it can be said that all components of education, including curricula, have been influenced by these changes and developments. Essentially, the curriculum planning pattern can be classified into three groups: technical pattern, non-technical pattern, and intermediate pattern. In the technical pattern of decision-making regarding the development and implementation of curriculum programs, specialists are responsible, and teachers implement the program without interference. The curriculum planning process is linear, tangible, and prescriptive. The most important technical patterns of curriculum planning are: 1- Tyler pattern 2- Tabba pattern 3- Johnson pattern 4- Bushamp pattern 5- Shin pattern 6- Hanking pattern. In the non-technical pattern, the curriculum is not predetermined, linear, or prescriptive. Instead of emphasizing productivity, they focus on the learner during the teaching and learning process. This perspective values intuition, understanding, insight, and awareness. The most influential thinkers in this pattern include individuals like Freire, Pinar, Eisner, Illich, Apple, Peter McLaren, Noddings, Gromet, and others. Through a review of the research conducted in the field of curriculum planning, it is evident that these types of studies have mostly been done quantitatively in the past. However, the realities of education should not only be addressed from objective aspects, but also should be focused on understanding and interpreting the perspectives of educational practitioners. Awareness of the concepts, principles, and fundamental issues of education and planning, familiarity with the foundations and philosophical, psychological, and social effects of educational programs, and proficiency in the application of evaluative methods and analytical techniques are also essential and vital characteristics of planning in the education and upbringing of any country (Yarmohammadian, 2013). Over time, due to the importance that planning has had in education, various approaches and tendencies have emerged in this field, which can be divided into two categories: scientific and technical approaches, and non-scientific and non-technical approaches. Einstein and Hawkins (2004) emphasize the importance of planning in curriculum design and also remind us that although there are many curriculum models, most of them can be classified as technical or non-technical approaches. They believe that these approaches should not be seen as positive or negative duality. Distance learning as an educational system that can eliminate the barriers of time and place and bring about flexible access to the benefits of education for society in various conditions has been seriously considered. With regard to the necessity of implementing this plan, the main question is which technical and non-technical patterns of the curriculum program in open and distance education generations are in terms of purpose, educational method, position of the teacher-learner, and evaluation, so that appropriate solutions and suggestions can be provided for curriculum planners in the end.

Research method

The present research method is descriptive research method. Due to the nature of the subject and the way data is collected and the conditions of the variables under study in this research, the researcher seeks to answer "what" and therefore focuses on explaining and analyzing the components of the research questions. Therefore, the present research is considered a qualitative research in terms of strategy, and due to the type of sources under investigation that require analysis, it is also considered an analytical study. In the present study, the research community includes informational resources, both print and electronic, regarding technical and non-technical curriculum patterns and a sample study in the technical pattern section, Tyler's pattern, and in the non-technical pattern section, pinar's pattern is considered.

The method of data collection

The method of data collection in this study has been based on data extracted from texts. This method is used in all scientific researches in a part of the research process, namely literature review and background study. The present research is essentially documentary and relies on library research findings from beginning to end. The method of doing the work is that the results of the studies are stored in the appropriate tools such as vouchers, tables, and registration forms. And at the end of the work, classification, exploitation, and analysis of the data are carried out.

The analysis of data

The present study has been conducted with the aim of explaining the foundations of technical and non-technical curriculum patterns in open and distance learning generations. In this regard, three research questions were raised, each of which includes the subcategories of technical and non-technical curriculum patterns. These patterns include the technical pattern of Tyler and the non-technical pattern of Pinar. Psychology is aligned with a behaviorist approach. In this approach, instructional strategies have been developed to design learning experiences that meet the needs of the industrial society for developed written materials, which are summarized in the best way in terms of efficiency. Psychology based on the Painer model is a combination of critical theory and constructivism, which is accompanied by the third generation of open and distance learning, namely virtual education with a critical approach. Many theorists in education have been influenced by critical theory and, based on the compatibility of fundamental epistemological foundations with the constructivist psychology school, often emphasize this approach in their own planning. In addition, research has been conducted in the field of technical and non-technical curriculum patterns in general and limited in the country, which supports the research findings. Chavoshi Hosseini and colleagues (1402) in an article entitled "Presentation of a Model for Curriculum Programs in Schools Based on the Social, Cultural, and Psychological Needs of Secondary School Students" aim to present a model for curriculum programs in schools based on the social, cultural, and psychological needs of secondary school students. The results of the research indicate a paradigmatic pattern consisting of social, cultural, and psychological needs of secondary school students as the central theme and the contextual conditions (goal, content, teaching-learning process, and assessment), background factors, intervention conditions, and strategies (in-school and out-of-school) as well as the outcome (change in attitude and behavior). As a result, the pattern matching of school curriculum programs based on the social, cultural, and psychological needs of secondary school students has been approved. Ghasemi and colleagues (1401) titled their research "Evaluation of the New Physics Curriculum in Practice: A Research Based on Expertise and Educational Critique." Curriculum in practice is essentially the interpretation and implementation that teachers intend from the curriculum, and based on this, they put it into action. Considering the obtained results and the insufficient alignment of the programs, it seems necessary to provide effective training for teachers regarding the higher-level documents as well as the new curriculum. Baghbaniyan (1400) titled an article "An Introduction to the Concept of Critical Literacy: Ferreiro's Perspectives, Implications, Critiques, and its Relation to the Curriculum Studies Field" in which they stated that in the present era, which has been transformed by new technologies, especially interactive multimedia and the internet, literacy cannot be reduced to the mere acquisition of mechanical reading and writing skills of letters and words, Rather, literacy means going beyond passive acceptance of the message text for questioning, critiquing power relations, critically understanding reality, and expanding human agency for critiquing the ideological production of meaning. Madani(1399), in an article titled "A Look at Ralph Tyler's Professional Journey: A Historical Account of a Lifetime of Effort to Bridge 'Theory' and 'Practice' in the Curriculum Program." This historical study is a narrative of

Ralph Winfred Tyler's professional journey and ideas in the field of curriculum studies. In this historical research, Tyler's participatory and pragmatic approach and his efforts to narrow the gap between theory and practice in the curriculum program have been highlighted. Sarmadi and Zare (1397) argued in a research titled "The Pedagogical Assumptions of Hermeneutics in Distance Education System" that the first generation of distance education, due to its text-centered nature, is only closely related to systematic hermeneutics. In the second and third generations, we witness the transformation of understanding into a practical concept, which, due to its emphasis on individual participation and the subject under discussion, has given it a relative nature in order to achieve understanding. The goal of education, like philosophical hermeneutics, is to empower individuals in life and professional skills. The fourth generation, with the perception of the individual as a source that their life begins with and ends in, approaches hermeneutics phenomenologically and the highlight of the fifth generation, which relies on intellectual development and critical thinking to liberate from the elements of domination in the educational process, requires a critical philosophical foundation and active human resources that have a close relationship with critical hermeneutics.Rahmani Baladaji and colleagues (1394) in an article titled "Who was Hilda Tabaa? Why is she important for social studies and for California?" attempted to first introduce a summary of Tabaa's life and scientific activities, and then explained her ideas and educational principles. They also expressed the opinions of some theorists about Hilda and compared them. In the end, Taba's opinions on education were summarized in a table that showed the relationship between the components of Taba's curriculum and her teaching strategies.Qaderi (2013) conducted a research titled "Historical Analysis of the Meanings and Purposes of conceptualism in the Field of Curriculum Studies." In this research, 25 articles and 4 books by William Pinar were analyzed using document analysis method. The texts related to the meanings and purposes of conceptualism were critically examined. Raga and Halbwisch's works have also been presented as opposing and conflicting works to the concept of nomophobism, as criticisms of conceptualism. Content analysis results showed that four important propositions shape the meaning of conceptualism: A. Conceptualists are not a group of curriculum specialists who have reached a consensus on a particular belief or beliefs. B- Conceptualism is not a movement but a path or process of understanding. C- The flow of non-understanding or the understanding project is always ongoing, and as a result, the term conceptualism is not easily definable. Critical pedagogy is a critical and holistic movement that focuses on phenomena outside the school and critiques the hidden and explicit consequences of the curriculum. The pursued goals of the nonsensical idealists, which were extracted through open coding and selective extraction, were as follows: Pursuit of interdisciplinary studies, strengthening the critical role of theory, paradigm shift from curriculum planning to curriculum understanding, emphasis on extracurricular variables, holistic approach, theory prevailing over practice, use of self-narrative writing and interpretation of Currere as a life journey, improving curriculum studies as complex conversations, internationalizing curriculum studies to enhance cultural discourses in the field, and historiography of curriculum planning. In the following, criticism of the existing positions of the curriculum and important criticisms that have been interpreted from outside of non-conceptualism are discussed .

Findings

First question: What are the main components of technical and non-technical curriculum patterns?

Simultaneously with the various advancements of humanity and the expansion of knowledge and the emergence of different societies, education and training, and consequently curriculum planning, have become extensive, organized, and systematic. The curriculum, as

a specialized field, began in the early twentieth century with the publication of Franklin Bobbitt's book, and thereafter many experts and scholars paid attention to the curriculum as one of the branches of educational sciences (Fathi Vajargah, 1388). If we want to refer to a definition of curriculum planning, we should say that to determine this matter, we must first address the definition of curriculum planning. In the initial definition, it can be said that curriculum planning is drawing a plan and map to reach the desired destination or desired goals. Webster's Dictionary (2018) defines curriculum planning as follows: the act or process of constructing or carrying out programs, creating goals, policies, and procedures for a social or economic unit. Shariatmadari (1365) defines the curriculum as follows: "The educational program includes all experiences, studies, discussions, group and individual activities, and other actions that the student undertakes under the supervision and guidance of the school. Silver and Alexander (1380) believe that the curriculum is a plan that includes a set of suitable opportunities for learning." Painar (1995) believes that the curriculum is a collection of various discourses: historical, political, racial, gendered, poststructuralist, deconstructive, postmodern, autobiographical, biographical, aesthetic, religious, and institutional discourses about the curriculum. Now, considering the discussion, it can be said that two perspectives on curriculum planning and curriculum are raised.

1. Technical approach: In the first approach, programming in Curriculum is recommended and accompanied by specifying the path and objectives. In this approach, curriculum programs are developed and designed by curriculum planning experts and come in the form of a written document or curriculum guide, which is implemented by teachers and guides the flow of learning. In the technical-scientific approach, it is useful to have a comprehensive that provides the structure for learning. This approach has been described as a logical, practical, and effective approach to education and training (Ornstein and Hunkins, 2004). Curriculum models help designers systematically and clearly design the logic for using specific teaching, learning, and evaluation methods. In this approach, the essence is the perspective and understanding of adults' education and training. Adults carry out the curriculum planning process based on the needs of society and their own interpretation of the needs and necessity of educating learners. However, recent literature (Gassling, 2009; Hosey & Smith, 2008; Maher, 2004; Hosey & Smith, 2003) in this field shows that caution should be exercised in using this model so as not to prescribe learning outcomes excessively (O'Neill, 2015). Einstein and Hawkins (2009) believe that although models of curriculum development are technically useful, they often overlook human aspects such as personal attitudes, emotions, and values involved in the curriculum. The technical or technical approach emphasizes product-oriented curriculum design ideas. In this sense, educational objectives are specified, a plan is formulated, implemented, and at the end, outcomes (products) are measured. Product-oriented curriculum with the works of Franklin Bobbitt (1918 and 1928) and Ralph Tyler (1949) has been developed (Ghaderi, 2009).

2. Non-technical approach: In contrast to the technical approach, the non-technical approach is described as a mental, personal, aesthetic, and learner-centered approach (Ornstein and Hunkins, 2004). This approach, which opposes pre-planned curriculum, delegates all decisions to the teacher. Students, teachers, and the curriculum have a dynamic relationship. The focus is on the process of the curriculum and learning, rather than predetermined outcomes, as goals are variable and constantly changing. The second approach in the curriculum is a comprehensive assessment of the students' encounter with opportunities and learning situations, which is certainly not the same for all students. In this approach, the process of curriculum revolves around what happens in the classroom and what the learner acquires and evaluates. The content and objectives are planned simultaneously by the teacher and learners (Ghaderi, 2009). In this perspective, by adopting an extreme position regarding the interests and tendencies of the learner as the only axis and guide to learning activities, no

preconceived measures and decisions are taken into account in selecting and organizing the content. Sometimes it is necessary for curriculum planners to determine the educational goals for learners' orientation, but in all decision-making, they should consider the learners' needs, abilities, and inclinations.

Second question: What are the technical components of the Tyler, and non-technical Pinar patterns in the curriculum program with a focus on open education generations?

Tyler: Since the 1920s, the part of psychology related to learning and education has taken on a systematic and scientific aspect. Behaviorism was not the first school of psychology to consider the field of learning and education. Other perspectives existed before behaviorism, but their influence in various fields, especially in education, was not as significant (Hergenhahn & Olson; translated by Saif, 0831, p. 83). Different branches of this perspective began with the study of observable and measurable behavior in animals, and their findings have been widely applied in education and training. Since the 1920s, after the publication of Tyler's famous book (1949), many countries have used behaviorism in their curriculum planning. The logic that Tyler presented encompassed the elements of educational goals, selection of curriculum content, organization of content, and assessment in a linear manner. Designing a curriculum with the help of objectives, the program designer could move to the next stage and select learning experiences that are aligned with these objectives. In addition to the similarity of Tyler's logic to behaviorism, this pattern supported the use of behavioral objectives or the expression of students' observable behaviors (Barke, 1998). This movement began with behavioral goals and the use of a behavioral approach in the curriculum (Mehrmohammadi, 1383). Many experts and professionals believe that in the matter of writing textbooks and preparing educational materials, it is easy to obtain the most incentives from the environment based on behavioral goals. In this perspective, teachers reinforce appropriate responses from learners in appropriate situations so that these desirable behaviors become automatic for students and less desirable activities are used to strengthen activities that are less desirable. The principles of this perspective have been widely accepted for various reasons, including ease, accuracy, and obviousness. Tyler (1930), who himself is considered one of the defenders of the behavioral curriculum perspective, was a consultant for educational systems in Thailand, China, Tanzania, and Israel (Chan, 1977). Even after retirement, he continued to provide consulting services in many countries. His famous book, "Basic Principles of Curriculum and Instruction," which has been translated into over 25 different languages worldwide, contains four questions for designing a curriculum in any subject area or educational level (Mehrmohammadi, 1383, p. 474). And for about 60 years, educational systems have used it for curriculum planning. Curriculum planning is influenced by behaviorism, which focuses on stimuli and responses, resulting in behavioral alignment between the stimulus and appropriate reinforcers, leading to learning and understanding. Supporters of this approach believe that teachers should reinforce appropriate responses from learners in appropriate situations so that these desirable behaviors become part of students' automatic behavior. The behavioral approach, as a means-end, logical, and prescriptive approach, is the oldest approach in the curriculum that relies on scientific and technical principles and includes practical considerations and step-by-step solutions in curriculum development. In this approach, the ultimate goals are determined based on a written general plan; the content and learning activities are sequenced according to these goals, and the results are evaluated in relation to the predetermined goals. Accordingly, teaching-learning should be transformed into specific and quantitative behaviors (Ernestine and Harkins, 2009). In the behaviorist approach, curriculum planning focuses on the acquisition of specific abilities by students. Learning tasks are often broken down into definable units, allowing students to gain mastery in various skills. In all cases, behavior is controlled by the environment. The teacher should describe behavior in terms of observable words. Behaviorists believe that the

curriculum should be organized in a way that enables students to successfully master the subject matter through their experiences.

The student in the behaviorist approach is a recipient of knowledge that is presented to them in various ways (Shabani Varki, 2000). The teacher's role is to shape the behavior of the students. The teacher plays a key and determining role. He transfers information to the students and controls their learning level at different stages, and finally reinforces their desirable activities. The teacher-student relationship in this approach is a one-way relationship in which the teacher is the transmitter of knowledge and the student is the receiver. Therefore, the educational system in this approach is controlled by the teacher, and the student takes steps in the path that external references have drawn for him (Shabani Varki, 2000). The learning environment in behaviorism is structured and predetermined, playing a crucial role. In all cases, behavior is controlled by the environment. The behaviorist approach in education relies on criterion-based tests, computers, and performance-based methods (Salsabili, 1382). The assessment is highly objective and demands exactly what has been taught from the student.

In summary, the assumptions of the behaviorist curriculum can be listed as follows:

•Behavioral objectives should be used in curriculum planning because behavioral objectives can be assessed more easily and comfortably. Learning is something that has been predetermined for the student, and the student acquires it when dealing with stimuli.

•Learning takes place through imitation and practice, and desirable behavior is immediately reinforced.

•Learning involves shaping simple behaviors into new and complex behaviors.

•The learner practices in order to achieve the desired goal.

•The environment should potentially be rich in stimuli so that the student can find stimuli that lead to reinforcement. • Content organization is done step by step, from simple to difficult and from specific to general.

•Evaluation: based on score and step by step.

The need for face-to-face communication between the teacher and the learner, the classroom, the library, and laboratory equipment are factors that limit the development of traditional education. Therefore, it is necessary to search, experiment, and employ new methods that increase efficiency and simultaneously reduce educational costs. In achieving these goals, "open and distance learning" is a promising solution to the problems of various communities. Teaching writing and programming is the first step in distance learning. According to Gall and Gall (1996), who consider positivism or empiricalism as the hallmark of modernism, it can undoubtedly be said that in the early twentieth century, the epistemological approach of positivism was involved in the implementation of the first phase of this educational system, namely teaching writing and programming. The principles of effectiveness, accompanied by science, evaluative thinking, and precise criteria, continue to be the main guidelines in designing learning opportunities in educational communities. Learning theories in the efficiency model focus educational experts' attention on the following points: Individual learning, learning information, skills and private facts, using books as primary sources of information, designing learning opportunities to present the content of the curriculum explicitly, methods for presenting what needs to be learned and not learning objectives, and ultimately, teachers are technicians who increase the speed of learning and knowledge is independent of the situations in which it is learned. Based on the above discussions, it can be said that the perspective aligned with the epistemological approach of positivism in the first generation and early stages of distance and online education was behaviorist. In this approach, a group believed that schools could be managed based on scientific management methods, which Frederick Taylor had designed in the industry.

Maslow's hierarchy of needs, Bloom's learning domains, Skinner's behaviorism, and sociocultural factors have had a significant impact on the formation of the first generation and the guidance of its practical activities. In relation to teaching-learning strategies in the paradigm of positivism, there has been a belief in general learning laws for individuals, and collective methods are preferred over diverse methods. Educational strategies for designing learners' learning experiences have been developed to meet the needs of the industrial society, which is summarized in the best possible efficiency. Universities and distance learning institutions belong to the first and second generations, which are now referred to as traditional distance learning institutions, according to Julika and Reedy (2002). In their educational approaches, they do not provide a learning environment for students. Students themselves are responsible for the learning environment in these institutions (quoted from Ebrahimzadeh, 1382).

Pinar: Noumenalism is an educational approach by Pinear Movement in curriculum planning that does not provide a plan or model for curriculum design and does not pay attention to technical curriculum issues. Noumenalists are more inclined to address ideological and ethical issues in education and also study political and economic institutions in addition to schools. The approach of a noumenalist is rooted more in philosophy, and this movement also pays attention to social and political backgrounds. (Ornstein and Hunkins,2004). Pinar fundamentally puts forward a way for curriculum planners to become more sensitive to the individual's experience of centrality and focus in the curriculum. Pinar worked with them during his doctoral program at Ohio State University in the late 1960s and early 1970s, and was mostly influenced by them. He played a prominent role in advancing curriculum theorizing in new directions at the beginning of his professional career, including organizing annual conferences for conceptualists and publishing a new journal. Pinar fundamentally has an existential-cognitive approach to life. He emphasizes that all learners need to create an inner dialectic (Pinar, 1980). In other words, we always react to beliefs, texts, or other people, and these reaction methods enable us to understand our thoughts and feelings and make decisions and change them based on them. Through our lived experiences and dialectical reflections, we can improve the quality of our own and others' lives. Pinar does not believe that curriculum decisions should be guided by predetermined goals. Planning should remain as personal, individual, and informal as possible. However, it establishes two general principles that teachers should keep in mind when making decisions about what and how to teach. First, teachers must analyze and reflect on their biases, values, and personal behaviors before intervening in students' lives. Second, teachers should strengthen qualities such as transparency, honesty, and creativity in both students and themselves through conversations with each student. Since Pinar does not believe in the possibility of designing a curriculum for others, he also disagrees with the idea that curriculum planning occurs through specific steps or stages. He believes that individuals can reflect on their personal experiences through their own method of life writing. This method has general steps that individuals can take to gain awareness from their own experiential path. He describes four steps that students can take during this process as follows:

Step 1: Returning to the past, categorizing past experiences in schools, and transforming this past recollection into present understanding.

Step 2: Imagining the future self (occupation or future interests).

Step 3: Considering the present self (thoughts, interests, people, and situations that shape the present).

Step 4: Attempting to gather the knowledge and awareness acquired, thoughts, emotions, behaviors, and body merge into a more meaningful whole (Payne and Groom, 1976, pp. 51-63).

The Pinar methods are based on the assumption that no one can design a curriculum for someone else. Since these individuals ultimately determine the path of their personal experiences, others such as teachers or other individuals involved in curriculum decision-making can only play a supportive and facilitative role for students. In general, the application of the Pinar theory in school projects is challenging because this theory is based on the personal circumstances of individuals and its implementation requires committed engagement from both teachers and students.

In the third generation of open and remote education, aligned with the Pinar perspective, schools undoubtedly teach cognitive skills to children and enhance the intellectual abilities of learners. However, it is unclear whether these skills can determine the relationship between education, employment status, and individual income or not. The paradigm of non-conceptualism in education and its relationship with society offers a different interpretation and believes that schools are more related to the demands of the elite of society than to the overall needs. This paradigm considers school as an agent that operates in the interest of the elites, reinforces existing inequalities, and instills a particular mindset in individuals to accept the current situation. Then, they impose their desired forms of knowledge as a means of social control over the members of society. The books and educational materials provided to children confirm and legitimize the social order of the dominant social class and grant them legitimacy. In the third generation of open education, schools are not impartial institutions but rather political entities that empower some and deprive others. The strategy of empowerment-domination involves the controlled reconstruction of predefined social and economic roles based on the workings of the global market. Critical theorists seek to reform schools based on their own criticisms. In a way that schools become democratic public spaces, so that the perspective of the younger generation on their rights and responsibilities in political, economic, and civil ethics can be opened up. (Gutk, 1997: translated by Pak Sarsht) Critical theorists consider a type of learning necessary that pays attention to the affirmation and encouragement of learners. These supporters of multicultural education emphasize such a learning that is rooted in learners' personal circumstances and their family and social experiences. The learning environment in third generation distance learning institutions is very different and mostly designed and prepared virtually. Online educational media separate learning environments and transform an individual present in remote and open educational institutions into group communication environments. In the third generation of open education, the student-centered approach of teaching and learning, based on learner activity and personal research, as well as constructivist theory, emphasizes that students must learn how to construct new learning by using diverse and scattered sources of information (Ebrahimzadeh, 2003).

The third question: What are the educational requirements for technical and non-technical curriculum models in the form of triple generations of open and distance learning?

Open and distance education systems have undergone significant changes and transformations since their initial formation in various countries. The first stage of this educational system is divided into correspondence and programmatic education. On the other hand, psychology is consistent with the present behaviorist approach. In the second half of the nineteenth century, behaviorist psychologists concluded that it is possible to use methods to study and scientifically analyze human behavior. In this approach, similar to the technical patterns of Taylor and Taber in the curriculum, what should be taught is carefully determined and then the constituent elements are presented in an orderly and linear manner along with feedback to the student.

The second generation of distance education is called radio, television, and computer education. The psychological approach in this generation is cognitive, which has had a significant impact on the formation and evolution of educational patterns and the interaction

between systemic attitudes and its principles and theories of communication in shaping and transforming the second generation of distance education. In this approach, supervised learners learn the required knowledge and skills through exploration, knowledge, and guidance of learning management. In third generation open and distance learning institutions, the new learning environment, which is mostly designed and prepared virtually, is different from the first and second generations. Online educational media separates learning environments and individual entities, transforming the mentioned open and distance learning institutions into group communication environments. Emphasis on a student-centered teaching-learning approach, based on learner's activity and research, as well as based on constructivist theory, in which students must learn how to construct their own learning by using diverse and scattered sources of information .

The third generation of open and distance education is accompanied by a critical approach (Sarmadi et al., 2011). Non-technical patterns of Pinar and Aizner are classified in the third generation, and critical theorists have attempted to reform schools based on their criticisms in a way that schools are transformed into public spaces of democracy so that the perspective of the younger generation returns to their genuine moral, political, economic, and civil rights and responsibilities. (Gutk, 1997).

General Conclusion

The present study has been conducted with the aim of explaining the foundations of technical and non-technical curriculum patterns in open and distance learning generations. In this regard, three research questions were raised, each of which includes the subcategories of technical and non-technical curriculum patterns. These patterns include the technical pattern of Tyler and the non-technical pattern of Pinar. Psychology is aligned with a behaviorist approach. In this approach, instructional strategies have been developed to design learning experiences that meet the needs of the industrial society for developed written materials, which are summarized in the best way in terms of efficiency. Psychology based on the Painer model is a combination of critical theory and constructivism, which is accompanied by the third generation of open and distance learning, namely virtual education with a critical approach. Many theorists in education have been influenced by critical theory and, based on the compatibility of fundamental epistemological foundations with the constructivist psychology school, often emphasize this approach in their own planning.

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