Role of Professional and Technical Training in Human Development

Ensieh Zahedi

Faculty Technical and Vocational University
ensiehzahedi@yahoo.com

Abstract: Human development is the latest approach in developmental concept. Its objective is to "increase human choices" with the intention to improve living quality. This approach focuses on human and uses education as its main tool for human development. The idea is that a training individual acquires abilities and competences that turn that individual into an asset to be utilized for achievement of defined objectives.
What is important in training programs is to indentifying specific qualities that may introduce individual and social changes to bring about improved quality of life. This article searches for training concepts that may promote educational, economic, social, and cultural equality.
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Key words: Development, Human Development, Human Development Approaches, and Competences.

Introduction

Human development is a more advanced form of development concept if we look at it as social-economic point of view or as a social-economic improvement program. Human development adds humanistic dimension to the original development concept. Development concept was initially directed toward increased production. Yet today, it is directed toward improvement of human life (Nazari, 2006).

Development specialists and professional societies have proposed various approaches for providing better living conditions as a part of the national development programs. Education is the most important element of the human development program that is able to provide changes in human prospect and behavior. Education is used to increase economic growth, improve living quality, provide knowledge, train skills, create jobs, and increase national production. That is why education has achieved its special standing in current societies.

The role of education as a basic human right and value in personal development is now publically accepted. Education is likened to the heart of society. Social pleasure and renewal depend on education (UNESCO, 1998).
In the first UN report on development program published in 1990, human development was proposed as "the process of increasing human choices." This definition was changed in 1997 report to: "human development is a process to expend life improvement by providing better choices" (Mashayekh, 2006). The important point in this definition is the increased human choices based on individual's needs as the focal point of development process (Poorfar & Ahmadi, 2008).

Table (1): Development Classification (Khalili Tirtashi, 2001)

Economic Development	Economic Growth: National Growth Product Growth
Human Resource Development	Human as operant in production process; human as a means
Welfare Oriented Approach	Human as the beneficiary of development process and not as the operant
Basic Needs Approach	Provide the required goods and services for deprived
Human Development	Extended production and distribution of product and services plus applications of human empowerment; human as the target

Human development has four basic components:

1) **Productivity**: Productivity improvement in human development means creating an environment where individuals are able to utilize their abilities in the best possible way. The focus is on the quality of development in line with quantitative growth.
2) **Equity**: Equity is equal access to opportunities. It means that people should be able to share opportunities and equally benefit from them.
3) **Sustainability**: The availability of choices and benefit from opportunities should be guaranteed to the future generations.
4) **Empowerment**: Empowerment represents a social environment that people can share to obtain better living conditions (UNDP, 1995).

Human Development and Human Asset

Assets can be divided into three general categories:

1) **Natural assets**: including natural resources, plants and animals, soil and mineral reserves, fresh water resources, and the like;
2) **Material assets**: including production equipment, machineries, facilities, bridges, railroads, and the like; and
3) **Human assets**: including knowledge, skills, experiences, vigor, innovation, and the like.

Human development emphasizes on the human assets and this represents a fundamental change in social priorities. There are two justifications for this change of priority:

1) The return on investment in human assets is at least equal to the return on other investments.
2) Investment in human assets may produce savings in material asset and natural resource utilization in certain cases (Griffin and McKinley, 1996).

Investment in education produces direct benefit at individual and social levels. Direct benefits of education at individual level show up in form of additional salaries and wages. Indirect benefits of education are represented as reduced crime, increased hygiene, better child rearing, and proper family management. Direct social benefits of investment in education can be observed as increased productivity and higher level of national wealth resulting from the transfer of knowledge and skills within educational system. Indirect social benefits of investment in education may include reduced health costs, lower crime rate, and increased benefits from population control (Mohsenpour, 2006).

A trained individual has higher social and scientific skills, accountability, cultural awareness, and the like. Such a person may turn into a development agent. Human development creates a bidirectional relation between its two elements, i.e. development for human and human for development. At one end, development produces additional benefits to humans and more humans benefit from it. And at the other end, development is the result of human thoughts and actions. The relationship between human development and education is that the advancement of human thoughts and actions is the outcome of education. And, education has been the only past and present means for human to institute development. This relation can be illustrated as follows (Nazari, 2006):

Education ⟶ Developed Human ⟶ Developed Society

Human asset is the manifestation of individuals who:

1) has deep and sufficient knowledge about a given specialty;
2) is innovative and creative with the ability to apply the learnt skills to a given specialty in an entrepreneurial way;
3) observes professional responsibility and has desirable work discipline;
4) has a sense of cooperation and practice patience with others; and
5) believes in natural resources as "a means to understand how a society values its surrounding environment" (Ta'iee, 1997).
6)

Human Development and Education

Jaques Delour, Director of UNESCO Educational Commission, stated four education principles for achievement of human development in 21th century (UNESCO, 1998):

- ✓ Learning to know; i.e. learning, advancement, reasoning, retention, and other human abilities.
- ✓ Learning to do; learning to acquire certain skills and competences to apply to various situations.
- ✓ Learning to live together or with others: learning how to participate in group projects, how to deal with crisis, how to respect group values, how to reach mutual understanding, and how to maintain peace.
- ✓ Learning to be: learning how to benefit from opportunities created by education.

The main role of education in human development is to generate opportunities for advancement of these four competences that are also known as: 1) individual competence, 2) cognitive competence, 3) communication competence, and 4) productivity competence (Ayrton Senna Institute ,2005).

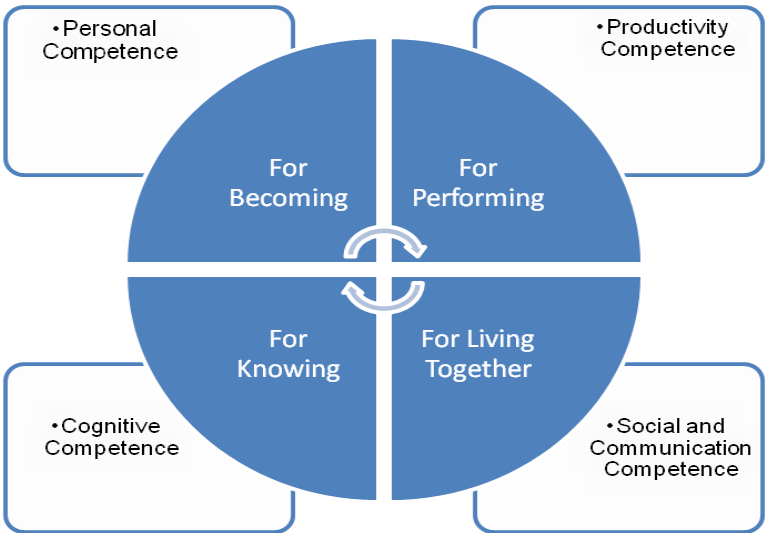


Figure 1- The Four Competences of Human Development
Source: Ayrton Senna Institute ,2005

Philosophy of Education

Based on the Four Components of Human Development

1) Liberating School of Education

Education is liberating, idealistic, and optimistic about human perfection and tries to provide human serendipity. According to Paolo Freire, founder of liberating school of education, human being lives in a "becoming" state and this is what differentiates human from animals. Human being accepts his imperfection and, therefore, relies on education as a tool for achieving perfection. Freire believed that education governs the human revitalization process and helps him to change from "being" state to "becoming" state. Consequently, a dialogue oriented education provides a base for liberation. Dialogue in Freire's line of thinking has two dimensions, namely, thinking and action. He believes that living a human life means understanding the world and taking actions to change it (Sha'bani Varaki, 2004).

2) Critical Rationalism School of Education

Carl Popper is the founder of critical rationalism school of education. This school was developed during several decades of 20th century. Critical rationalism school of education attempts to train responsible citizens as its objective. It tries to internalize cognitive and moral ideals in individuals' mind and conscience. Democracy, in this approach, is the best model for social management. This approach emphasizes on staying away from filling students mind by resorting to memorization of classroom materials within the educational curriculum. This approach, instead, encourages learning though judicious criticism. It develops a problem seeking eye and a creative mind to search for proper solutions to theoretical and practical problems intended to internalize cognitive and moral ideals in the students (Paya, 2007).

3) Humanistic School of Education

In this approach, human being is not an object to be made. It is, rather, a unique being in the process of becoming and reaching out to higher positions. In this approach, individuals are responsible for learning and discovering meanings and concepts (Mahdian, 2006). Personal development and creating positive individual characteristics are more important in humanistic school than transferring raw educational materials to the students. The focus of this school is mostly on education with two parts: (a) transfer of basic training materials such as mathematics, physics, literature, and the like, and (b): teaching intellectual frameworks, i.e. how a person should think about issues and how he should evaluate them (Mahdian, 2006).

4) Self-Belief and Assertiveness School of Education

Salter (1949) and Wolpe (1958) were two researchers who concentrated on assertiveness and its training. Assertiveness has been the focus of attention during past two decades which shows the importance of this aspect of social interaction. Educational systems later applied this concept to its programming. There are several definitions for assertiveness skills. Lange and Jakuboski (1976) defined this skill as: "assertiveness includes asking for own rights and expression of own thoughts, feelings, and beliefs in a proper, direct, and honest way so that the rights of others are respected" (Hargie, et. al, 2005).

5) Cooperative School of Education

Society needs citizens with certain characteristics in order to promote cooperation in different social

subjects. People need to acquire certain skills, attitudes, and knowledge in order to learn how to cooperate with each other. Cooperation is possible with the required awareness, effective skills, and constructive attitudes.

A training program of cooperation should include subjects such as: a) how to define a problem; b) how to analyze a problem; c) how to identify objectives; d) how to have effective interpersonal relationships; e) how to make group decisions; f) how to live together; and g) how to live up to group spirit (Sarkar Arani, 2000).

6) Quality School of Education

"Education for all" World Declaration of 1990 pointed out that the poor quality of education needed improvement and recommended that education not only should be available to all but also should be made more suitable. This declaration makes quality of education a prerequisite for achieving equality. Of course, quality alone is not sufficient but it should be considered as the heart of education. A complete definition of quality in education was gradually proposed by considering special characteristics of students (e.g. health and motivation), processes (i.e. teachers), content (i.e. curriculum), and systems (i.e. a set of proper resources).

This concept was further developed by UNESCO. One of the first manifests issued by UNESCO to support quality education in "learning for doing" was published with the title "World of Education for Today and Tomorrow: A Report from International Commission on Education Development by Edgar Faure". This report made a statement that: "The objective and content of education should be constructive and innovative in order to provide for manifestation of new social and democratic qualifications" (EFA report, 2005).

7) Competency School of Education

International organizations have accepted and emphasized competency based education fundamental for sustainable development. UNESCO considers vocational training as an important element of a sustainable development. About 80 percent of jobs in the world require certain levels of technical and professional trainings. Iran is not an exception.

Many developed countries recognized several decades ago that vocational training was the main requirement for human development. They put top priority for technical-professional training and took actions to increase this part of educational system both qualitatively and quantitatively. These countries have tried to find solutions to several problems confronting this area of education including the position of technical-professional training, interaction of vocational schools with users, and the costs of this type of training. The outcome of solving these problems was economic development, reduced unemployment, and the like.

Two actions are to be taken in order to improve education efficiency (Dehghan, 2002).

1) Production and transfer of knowledge for training skills.
2) Establishment and transfer of norms and values which are required for development and creating a suitable personality system for it.

The first group of actions focuses on training different skill and expertise to interested individuals with the intention to transfer the knowledge and scientific heritage accumulated through generations. This heritage has to be transferred from one generation to another and its accumulation should provide the basis for creation and production of additional knowledge. Realization of this task requires suitable educational coverage and comprehensive general and specialty education. The growth of this type of education depends on the realization of this task within higher education or technical and professional education.

Education system acts as a basic element of economic growth for the first group of actions. Japan is one industrial country that has been able to create the highest level of change in social, economic, and technical structures through education. Japan reached to the present level of industrial growth by rapid development of its educational system and extending the reach of higher education to include the whole world. Reliance in education for economic growth has a long history in Japan and started in 17th century (Azkia, 2000, p. 62).

Extending a general education to the whole society cannot produce the special skills, efficient professionals, and specialty knowledge that are required for training creative individuals who can generate and push through development programs. For realization of the first group of actions, it is necessary to pay attention to the quality of education along with quantitative growth.

A quality education and learning system shall pay attention to educational indexes such as creation of opportunity and motivation, development of internal and sustainable motivation, and the development and generalization of expressional values in the learning process. The additional aspects to be considered in a quality education are the type of learning adopted including critical, questioning, or student oriented education in a cooperating educational environment versus competitive or individual oriented education system in a participatory and not authoritative education management system (Dehghan, 2002, p. 19).

The second group of actions is directed toward the establishment of a personality system suitable for development. The educational system

shall provide the required personality system with proper values, norms, intellectual ideas, and cognitive structures as a prerequisite for development.

Discussion and Conclusion

Objectives for technical and professional training school shall consider national educational objectives and the following issues:

1) ***Education as an agent for change and development***. Michael Todaro believed that development programs in the past, especially during 1950s and 1960s, have traditionally been based on a national economic capacity for production and maintenance of an annual increase of 5 to 7 percent in national gross product and an assumption that the national economy to remain static at the initial economic conditions for a long time (Todaro, p. 86). Some scholars have reasoned that development is multi dimensional and shall include changes in infrastructure, social institutions, social attitude, values, and behavior, toward providing social equality and eradicate poverty (Saha, 1994).
2) ***Education and Economic Development***. Education and development has commonly been keyed to economic development. Economic development models have been dominating since the time of economic growth theorems proposed by Adam Smith, John Stuart Mill and others since eighteenth century. Economic development theorems share one common point: human dimension is an agent of development but it is not the only agent. The role of human dimension in development is represented by the quality and skills of workforce.

   The relationship between education and development is defined based on the same assumptions made by human asset theorem. This theorem states that any improvement in health, skills, and motivation of labor could improve worker productivity. Consequently, education is an influential agent in national economic development so long as it is able to provide quality improvement in a society.
3) ***Education and Social Development.*** The side effects of education on development may be overlooked if focus rests merely on economic dimension of development. The social aspects of development have equal importance as economic aspects. Social dimensions of development include quality of life, renewal of attitude, values, and believes, and fulfillment of the basic human needs. Economic development may not be as effective so long as these issues remain unresolved. Examining how education may affect or not affect these issues could provide a wider prospective of the relation between education and development.

   3.1 **Education and modernization**. Most of research into modernization is based on the definition proposed by Inkeles and Smith (1974). They tried to make the concept of "modern individual" more practical. According to their definition, a modern individual is:

   - Willing to accept new experiments and is ready for social change;
   - Is aware of various attitudes and believes but tend to have own views. He is realistic in his views and emphasize on present and future.
   - Believes that any individual can be effective and, therefore, tends to make long term plans.
   - Trusts social entities and individuals. Respects others' stand and competence.
   - Highly values technical skills; pays lots of attention to technical training.
   - Understands the logic behind production and industry.

   The main point of Inkeles thinking is that the path toward development cannot be crossed without modern individuals. The followers of the modernity school believe that a modern individual is made by participating in modern entities with education and industry topping the list.

   3.2 **Education, quality living, and basic human needs**. Providing for the quality of life and fulfilling the basic human needs are aspects of social development. A major part of population cannot effectively participate in the development process when there is a major discrepancy in the distribution of material products creating shortage of sufficient food, shelter, and clothing, (Saha, 1994, p. 88).

   The relation between education and a quality living based on fulfilling basic human needs is almost similar to modernization because both emphasize on the changing individual. The difference is that modernization focuses on social-mental changes and living quality based on fulfilling basic human needs considers physical and social conditions of population. The effect of education on physical and social conditions is indirect and lower compared to its effect on attitudes and values (ibid)
4) ***Education and Political Development***. Political development may be in form of highly consolidated policy making at the top echelon

with high cohesion and low dissension, or in form of participatory policy making with collective decision making and voting. Policy development may include socialization of politics, preparation for political leadership, policy integration, and policy awareness. Political development in form of participating politics and sharing political power provides the reason for linking education to economy and social development (ibid p. 89)

5) ***Technical and professional training versus Technological changes***. Many courtiers have experienced rapid technological changes. Computers and other new technologies act as generating agents that constantly produce new products for users and introduce changes work procedures.

Companies and institutions in developed and developing countries use new technologies to improve workers' productivity and increase their competitiveness in international markets (Rumberger, 1981)

Technology changes are only one of the factors that affect the demand for trained workers. Other factors are:

5.1 Changes in demand for goods and services. Production of some good and services require more trained workers.

5.2Labor cost changes which depend on other production factors such as capital. Managers may change labor cost by substituting factors related to production, work, and services.

5.3 Changes in international competitive trend which may affect the structure and volume of export and import. This issue may change domestic production and the need for vocational training.

5.4 Changes in work structure and organization. Work may be organized in different ways. Work organization may increase or decrease the levels and types of skills required for a given work. Workers also need different levels and types of skills for performing their duties the best possible way in a given work organization.

5.4.1Changes in employment arrangement and structure - Employment arrangement varies from one country to another and from one period to another. Industrial countries changed their economy from agriculture to industry during the second half of 20th century. They changed their base of economy to services during the last part of 20th century. Technological advancements have expedited economic transformation and the changes in economic structure by developing new machineries, increasing products and services, and improving human assets.

Changes in the required work skills have affected the demand for skills training and the type of skills. For example: service sector requires higher skills than industry and agriculture sectors. Service sector advancements and its expanding employment have increased demand for skilled workers in the industrial world.

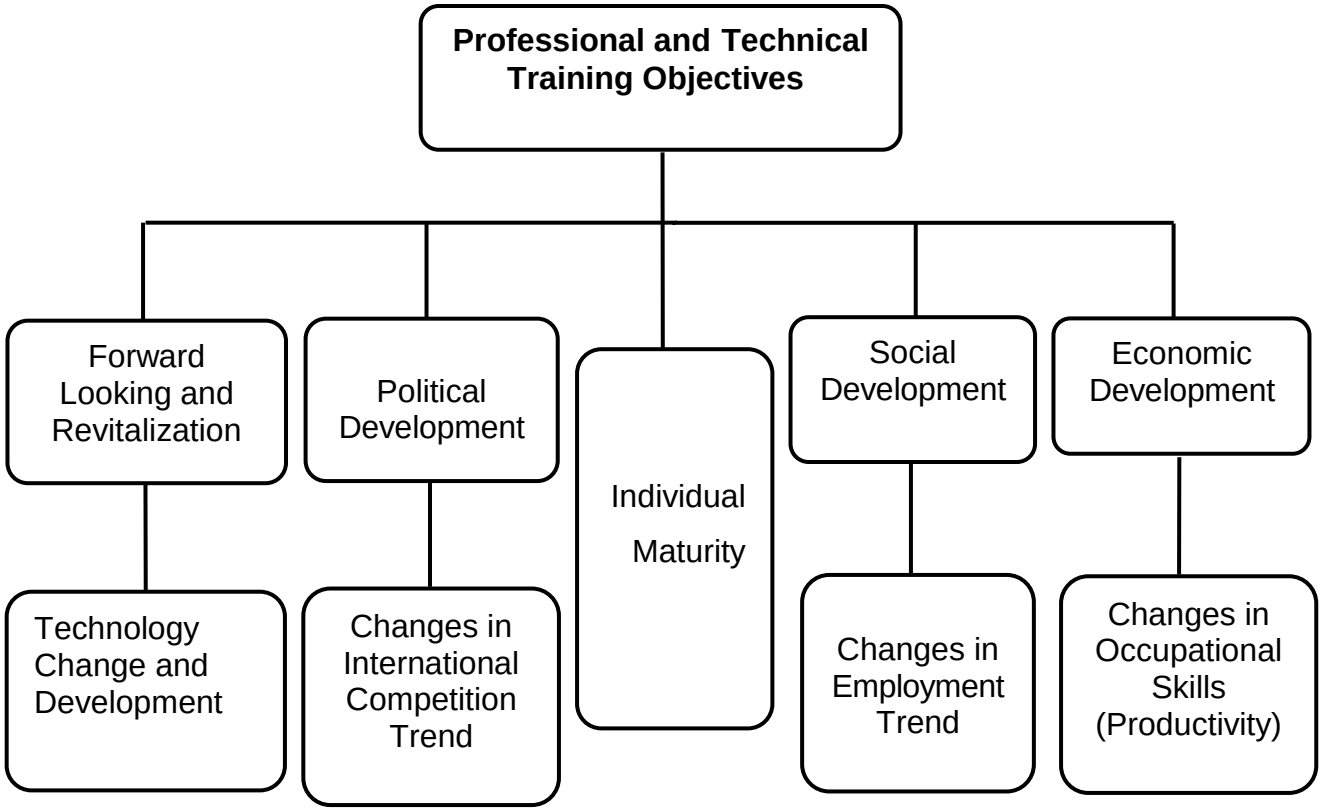
5.4.2 Changes in the required occupational skills. Technological advancements have created a debate about whether technology increases or decreases the required skill levels of jobs. This debate started from the initial days of technological advancement and is still subject of debate in research and political arenas. Technological trends will not remain the same in the future the types and capabilities of a technology changes through time. Past technologies produced machineries with capability to reduce physical needs of work. Present and future technologies produce machineries with higher capabilities to substitute intellectual needs of work (Rumberger, 1981).

Technological changes affect the demand for trained workforce by affecting work influencing factors. New technologies can change the demand for products and services by improving productivity and lowering prices through introduction of new products and services. Technology can reduce the cost of investment and labor by by introducing productivity improvements. Advanced communication, transportation, and production techniques have increased international competitions by extending the markets for products and services in both developed and developing countries. Technology changes have facilitated the formation of new organizations that provide work related information to workers for better decision making and targeting their efforts.

6) ***Individual Maturity*** - There is a link between individual personality and technical and professional training. This type of training affects individual aptitudes, capabilities, and characters. Technical and professional training is required for building a modern and sustainable society with economic and social growth. Societies are mandated to provide an

environment that can provide for balanced and systematic growth of individuals as their basic right. Such an environment should enable individuals to strengthen their spiritual and personal values, and increase their capacity and abilities for better understanding, judgment, critical thinking, and expression of views.

Tremendous technical and scientific advancements of the past decades and the anticipated future advancements represent the characteristics of the present era. That alone can justify why technical and professional training should be a part of education. Vocational training should pave the way for achieving social, cultural, and economic growth. It should advance individual capabilities to help them increase their contributions toward achieving social objectives.



Corresponding Author:
Dr. Geeta Kharkwal
Corresponding Author:

Ensieh zahedi
Faculty Technical and Vocational University
Mobile+989123224553
ensiehzahedi@yahoo.com

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