

THEORETICAL AND PRACTICAL APPROACHES TO NON-FORMAL EDUCATION

In this collection of work, the contributing authors tackle the topic of non-formal education from a variety of disciplines, such as computer science, psychology, education, science education, literacy, music, art, and social studies by sharing original perspectives, and proposing novel educational approaches. The book chapters present insights into designing and carrying out non-formal education activities, operational management strategies related to non-formal education, activating and creating the well-being of participants in non-formal education activities, and implementing active learning.

The current volume appeals to a wide audience, including teachers, parents, students, and education specialists, as well as researchers and community members working with youth and children. Moreover, this volume appeals to an international audience, as the contributing authors are from various countries, including the USA, Indonesia, Italy, Romania, and Spain. The interdisciplinary and global perspective presented in the current volume makes it not only valuable for the educational field, but unique, compared to similar publications in the field.

Dr. Daniel Mara is a Professor in the Department of Teacher Training within the Faculty of Social and Human Sciences, at Lucian Blaga University of Sibiu, Romania. Dr. Mara holds a PhD in Psychology, and his research focuses on inclusive education, intercultural education and teacher training.

Dr. Margareta M. Thomson is a Professor of Educational Psychology in the Teacher Education and Learning Sciences department at North Carolina State University, USA. Dr. Thomson holds a PhD in Educational Psychology and Learning Sciences, and her research focuses on teacher and student motivation, STEM learning and professional development. Recipient of prestigious research awards, Dr. Thomson presented at numerous conferences and published in top tier journals in her field.

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THEORETICAL AND PRACTICAL APPROACHES TO NON-FORMAL EDUCATION

Interdisciplinary Examinations into Various Instructional Models Geopolitical, Environmental, and Health Risks for Sustainable Governance

Daniel Mara
& Margareta M. Thomson
(editors)

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Interdisciplinary Examinations
into Various Instructional Models

Edited by

Daniel Mara, PHD

and

Margareta M. Thomson, PHD



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Preface

The current volume compiles recent research describing theoretical and practical approaches to non-formal education and examines several unique views about learning and instructional modes. Non-formal education responds to the needs and interests of a large number of learners who want to be involved in enjoyable and resourceful activities.

In this collection of work, the contributing authors tackle the topic of non-formal education from a variety of disciplines, such as computer science, psychology, education, science education, literacy, music, art, and social studies by sharing original perspectives, and proposing novel educational approaches. The book chapters present insights into designing and carrying out non-formal education activities, operational management strategies related to non-formal education, activating and creating the well-being of participants in non-formal education activities, and implementing active learning.

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CHAPTER EIGHT

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Learning in Non Formal education

Ira Nurmala

1. Learning in Theories

Learning is part of human life. People continue learning in their daily life, through school, workplace, through communication with other people, also through observation. From all of these learning experiences, people continue to observe, read, imitate and try these new knowledge, attitude or behavior that lead to sustainable and functional changes in their daily life.

In order differentiate the changes due to circumstances and changes due to the learning process, Djamarah (2002) identified the following changes that resulted from learning experience.

1. The changes must be felt, which means that the learner understand the changes in their knowledge, attitude and skills are the result of their learning.
2. The changes are functional, which means that these changes are useful to solve their daily problems in life that continuous and dynamic.
3. The changes are positive and active, which means that there are positive improvements in the knowledge, attitude and skills of the learners
4. The changes are not temporary, which means that these changes are permanent and can be accessed anytime by the learner

5. The changes are overall, which means that the changes are not only in knowledge, but also in attitude and skills.

In general, we can differentiate learning model based on three categories. They are Behaviorism, Cognitive Information Processing (Cognitivism), and Constructivism. Behaviorism believes in relationship between stimulus and response. Some examples of Behaviorism are The theory Law of Contiguity, Connectionism theory, Classical Conditioning and Operant Theory. Cognitivism believes that learning need to have a process of understanding and retention of information. Some examples of cognitivism are Piagets Cognitive Developments, Vygotsky's Social Cultural Theory, and Information Processing Approach. Constructivism believes that new knowledge can be constructed based on own personal experience. Some examples of Constructivism are Theory Gestalt, Bandura's Social Learning Theory & Social Cognitive Learning Theory.

The theory Law of Contiguity, Guthrie emphasizes on the correlation between stimulus and respond. The respond is constant and will not be strengthen by giving stimulus repetitively. Repeated stimulus is still recommended but the aim is not to strengthen the correlation but to find the correct respond to that stimulus.

Connectionism theory of Thorndike believes that neural connection will occur in learning. This connection allows people to create the matching stimulus and response through a series of trial and error. He stated that there are three laws about learning process, law of exercise, law of effect and law of readiness. The law of exercise comprises of three components, rule of usage, rule of not using and rule of timing. These components emphasize the connection between stimulus and response. The law of effect states that the response will be learnt if it resulted in satisfactory to the stimulus. This law emphasizes the connection between learning and satisfactory responses to stimulus. The law of readiness stated that the action will be taken if the person satisfied with the process of learning and if the person is ready to carry out the action. It means that this law emphasizes the connection between the readiness and the action taken after the learning process has been done.

Classical Conditioning from Pavlov believes that behavior can be reinforced by reinforcement that he called as classical conditioning. Pavlov believes that human and animals are the machines, that will generalize a similar response when reinforce by

similar things. For example when a kid afraid of a physician (usually wear a white coat), the fear will be generated whenever they see people in the white coat. Another example, when people said lemon, the mouth will automatically water hearing the word lemon (Erişti & Akdeniz, 2016)

Operant Theory of Skinner interested in behavior that may occur although there is no presence of external stimulus (operant conditioning). He believes that human created behavior in order to response to their surrounding since human is seen as a blank page when they are born. The theory believes that the human behavior is affected by the reinforcement to strengthen the behavior and that the reinforcement is given after the behavior (operant behavior).

Piagets Cognitive Development developed by Jean Piagets. This theory believes that in order to learn, our cognitive going through 4 stages of learning, they are the sensorimotor, preoperational, concrete operational, and formal operational stages. The sensorimotor developed by the children at the age of 2 years old, where they started to make manipulating the world around them to “think”. Preoperational stages is experienced by the children between the age of 2-7 years old where they use symbols to represent their discoveries. Concrete operational phase is experienced by children at the age 7-11 years old where their explanation started to focus and logical. The formal operational stages is experiences by youth from the age of 11 to adulthood, where they stated to develop the ability in abstract thinking.

Vygotsky’s Social Cultural Theory believes that learning is occurred at 2 level, first at the social level and second at individual level. At the social level, the students learn from interaction with others or between people (interpsychological) through voluntary attention. This information then will be integrated into the mental structure (intrapsychological). This means that in order to learn, the individual need help from others to provide a step ladder or scaffolding although they are cognitively prepared to learn this new information.

Information Processing Approach believes that there are three aspects in processing the information, they are: 1) Information, Memory and Thinking; 2) Cognitive resources (Capacity and speed of processing information); and 3) Mechanism of Changes (encoding, automaticity, strategy construction, self-modification).

Gestalt theory believes that learning is a mentally active process of individuals to acquire, remember, and using the knowledge. This means that the behavior of an individual can't be measure without looking at mental process such as motivation, intention, and beliefs. According to Gestalt theory, in learning individuals need to have a good relationship with their environment. This interaction will create perception, imagination and new insight that will contributes to the problem solving.

Bandura's Social Learning Theory & Social Cognitive Learning Theory are believe that people is learning by observing others. Social Learning theory stated that individuals learning from observation, imitation and modelling of other individuals in their environment. Social Cognitive Learning Theory is also believes that individuals learn by observation, understanding, and predicting in changing behavior.

2. Types of Education

Education is the word that familiar to our society especially in the context of transferring knowledge, improving skills or gaining new skills. Education has been defined in many ways from the theoretical sense into a technical sense. Education means any effort (act or experience) that changes the mind, the character, or physical ability of the one who received the education.

These acts or experience transmitted by the society to the next generation through a certain institution or through a set of instruction either formal or non-formal (Ololube & Egbezor, 2012). In a way, education is seen as the process that enable individual to learn through assistance or guidance (Nelson, Cushion, & Potrac, 2006). It also means that in order to deliver the knowledge, values and skills in a context of education, there are need to assembly measurement in a systematic way to observe the changes of intellectual, psychic, physic, affective, and socio-professional point of view (Melnic & Botez, 2014).

Many theorist differentiate Learning as Formal and Non-Formal (some theorist call as Informal), also Incidental (as subset of Learning Non-Formal). In general, experts in education has differentiated the types of education into formal and non-formal.

Some other experts also stated that in a non-formal education there is also informal education and indigenous (traditional) education. They are different in the input, process and output.

The essential differences may be existing between the pedagogical circumstances whether the process is based on organized actions or only onto spontaneous influences (Melnic & Botez, 2014). According to Marsick, Watkins, Callahan, & Volpe (1990), formal and Non-formal learning are distinguished based on the degree of control by the learner. Another differences also whether the process is developed within a framework that represents an institutional or non-institutional character (Melnic & Botez, 2014).

Formal education means that the process of transferring knowledge, values and skills is delivered through a systematic, organized education model, with a structure according to a given set of laws and norms (Melnic & Botez, 2014). It includes a rather rigid curriculum to achieve a certain competency as the output (Melnic & Botez, 2014).

These formal education institutions (school) may be fully funded by the state or government in some countries and they allow and certify private school systems to provide a comparable education alongside these formal public institutions. Whether state or private own schools, the teachers who deliver the knowledge and skills need to be qualified and certified. These formal educations usually become a standard of basic education and mandatory for the youth in most countries ranging from elementary to high school (Ololube & Egbezor, 2012).

A higher formal education may have different standard depending on the need of the society or stakeholders of the competency needed for the workplace. Formal learning education require candidates to acquire the competency as the output of the coursework with fixed curriculum by following guidelines from admission, attendance, until graduation that culminates in certification (Nelson et al., 2006).

Non-Formal Education are the other process of transferring the knowledge, values and skills that are given outside these fixed system depending on the demand of the society. Non-Formal Education may be in the form of Indigenous or traditional education that the purpose is to transfer the beliefs, rules and customs from one

generation to another mainly through verbal or oral transfer (Ololube & Egbezor, 2012).

Non Formal Education may also include an informal education that includes all experience outside of classroom in daily life where learning takes place. Informal education can take many forms from education at home, in after-school programs, community-based organizations, museums, and libraries (Ololube & Egbezor, 2012).

Although Informal Education is different than formal education, it may also contribute to the advancement of formal education through the visits to scientific fairs and exhibits, listening or watching Radio/ TV programs on educational or scientific themes, reading texts on sciences, education, technology in journals and magazines, participating in scientific contests, and attending lectures and conferences (Melnic & Botez, 2014).

In general, the main difference between Formal Education and Non-Formal Education are in the content, type of influence, factors that involved in the education, categories of activities, way of achieving, effect, advantages and disadvantages that their offer (Melnic & Botez, 2014).

Formal learning is typically highly structured, a classroom-based, and organized by a particular organization and Non-Formal learning can occurs in the workplace and in collaboration with others in a non-routine situation (Marsick et al., 1990).

Non-formal learning can be encouraged by organization but mostly occur in daily life where individual learn from and through experience in particular situation. Therefore, Non-Formal Education should complement or supplement or alternatively provide alternative to require knowledge, values and skills that are not address in the formal education system (Taylor, 2006).

3. Non-Formal Education (NFE)

In the 1960s, the term “non-formal education” was introduced to signal a need to create out-of-school education in order to respond to new and different demands for education (Belle, 1982 in Tolppanen & Aksela, 2013). Although NFE initially created for those that can’t afford to get a formal education, NFE now is seen as the type of

education that facilitate learning that are not accommodated in formal education.

Formal education is easier to identify than Non-Formal Education due to the wide scope and the purpose of NFE is to complement, supplement or alternatively provide alternative to the formal education (Taylor, 2006; Ololube & Egbezor, 2012). The most easily notable differences are that non-formal education happens outside of school, is usually voluntary and learning is usually not evaluated (Eshach, 2007 in Tolppanen & Aksela, 2013).

the expected skill competencies of professionals and expanded corresponding curriculum adjustment needed in order to fill the gap between degree program and demand of the professional work. NFE should be able to have adequate contents, instructors and methods of delivery to serve this purpose. NFE providers and organizations need to understand these needs and create learning opportunities based on the need of their professional members.

Non-formal education (NFE) basically refers to “any organized systematic educational activity carried on outside the framework of the formal school system to provide a selected type of learning to particular sub-group in the population (adults, youth or children)” (Ihejirika, 2000 in Ololube & Egbezor, 2012). It means that NFE take place outside of an organized school setting. It also means that NFE does not require student attendance since the flexible curricula and methodology capable of adapting to the needs and interests of students (Melnic & Botez, 2014).

Fordham (1993) in Ololube & Egbezor (2012) stated that there are four characteristics associated with non-formal education: They are Relevance to the needs of disadvantaged groups, Concern with specific categories of person, A focus on clearly defined purposes, and Flexibility in organization and methods (Melnic & Botez, 2014).

NFE can take many forms but the main purpose is for adult literacy and continuing education programs needed in either workplace or daily lives. NFE covers programs to impart adult literacy, basic education for out-of-school children, life-skills programs, work-skills programs and general culture programs (Ololube & Egbezor, 2012).

NFE flexibility allows people to choose the types of learning and how these learning achieved suitable to their need (tailor-made).

This implies that NFE as an educational system is often decentralized and unstructured depending the need of community with no central or bureaucratic office to manage its affairs (Taylor, 2006).

However, However, some governments establish departments that are explicitly responsible for NFE such as adult education or lifelong learning within the Ministries of Education in Mongolia, and the Ministry of Women, Family and Community Development in Malaysia (Latchem, 2014).

Examples of NFE include but not limited to coaching conferences, seminars, workshops, adult education / professional education, the apprenticeship system, continuing education, in-service programs, on-the-job training programs, personnel and professional development, refresher courses, staff development programs, worker and student industrial training, co-operative programs, extramural classes, external and extension degree programs, and outreach and off-campus programs such as weekend sandwich courses (Nelson et al., 2006; Ololube & Egbezor, 2012).

Non-formal education also includes Community mobilisation and development such as rural development training, manpower resource training, youth camps, holiday programmes, mass mobilization campaigns and community health education (Amirize, 2001; Egbezor & Okanezi, 2008 in Ololube & Egbezor, 2012; Latchem, 2014).

The wide range of scope of NFE require stakeholders to work together in providing services that coordinated activities by public institutions, public-private partnerships, employers, trade unions, media organisations, civic social groups, NGOs and international agencies (Latchem, 2014).

There are need to develop the human resources to work in a setting of Interprofessional education to facilitate trust and cross-sectoral collaboration in addressing the complexities knowledge, values and skills in NFE. The importance of ensuring quality in the learning methods and materials also becoming essential in any NFE (Latchem, 2014).

One of strategies to maintain updating knowledge for professionals is through community of practice as one forms of NFE. Communities of practice is ideal for administering knowledge by giving practitioners the freedom to acquire the knowledge they need

and share this knowledge with other members of the community (Etienne Wenger, Richard McDermott, 2002).

Communities of practice can be developed as part of an organization but also can be develop outside organization to help professionals discuss current issues or to solve current problem in their daily work. The membership in community of practice is voluntary based on the purpose that the individuals need in advancing their professionalism (Nurmala & Pathak, 2019). Domain of knowledge is usually become the common ground of the members because it validates the purpose and value of the members. Having the same domain of knowledge, the members are encouraged to contribute and participate in the discussion and to present their ideas (Nurmala & Pathak, 2019). Communities of Practice helps its members in learning to help deciding which information is worth sharing, to pursue a certain activity, and to recognize the potential in tentative or half-baked ideas (Nurmala & Pathak, 2019).

For those having geographical limitation to meet regularly, may joined an online community of practice. Electronic communities of practice have the potential to enhance learning because it provides a way to store information electronically rather than memorizing it. The convenience in looking for the stored information easily through gadgets also one advantage of joining the electronic community of practice.

4. Goals/Objectives of Non-Formal Education

NFE has many objectives especially to bridge the gaps between what is given in the formal education with what is needed in their daily life or in their professional works. NFE helps people to gain knowledge and skills to socialized by giving them a social control. The social control is needed for your people to develop to be a “good citizen” that will help them later in life for employment and productive contribution to their society (Ololube & Egbezor, 2012).

These skills and contribution in turn can be a way to reduce social inequalities that benefit not only the individual, also benefit the society and the economy (Ololube & Egbezor, 2012). Therefore, The changes that resulted from NFE also in a way contributes to the

formation and the development of human personality (Melnic & Botez, 2014).

Nurmala (2019) in her study found out that health professionals have several reasons to participate in informal learning as part of NFE. The reasons are stated by health educators that prefer to learn informally than learning on formal education opportunities. Health educators said that they prefer to learn informally because of the following reason:

1. Ability to discuss issues with fewer distractions
2. Dialogue and brainstorming
3. More open to engage in discussion, ask questions and get an understanding
4. More honest/direct about failures whereas formal organization tend to discuss success only
5. More relaxed environment to express ideas/solutions/questions
6. Insights on "what works here" and how people will respond to a change
7. Provide more confidentiality
8. More practical and oriented to a specific task and intended outcome
9. More time for discussion from personal experiences
10. Real life and pertinent experience rather than book-learning experience
11. More enthusiasm, commitment, energy

There were three interrelated themes that emerged from their study about the non-formal learning activities among health professionals (Iseminger & Donaldson, 2012). These three themes were the following:

- 1). Engagement in authentic work activities
- 2) Learning from mentors; and
- 3) The use of physical and social resources and tools

Health professionals primarily learn from their daily work related activities. In order to support the Non-formal learning in the organization, the role of the supervisor in the organization is to give continuous support and provide positive feedback for their public health professionals.

However, the availability of these Non-formal learning opportunities was not always guarantee that the learning process was

experienced by health professionals unless they possess the following skills (Tennant and McMullen, 2008 in Choy, Billett, & Kelly, 2013).

1. How to analyze experiences;
2. The ability to learn from others;
3. The ability to act without all the facts available;
4. Choosing among multiple courses of action;
5. Learning about organizational culture;
6. Using a wide range of resources and activities as learning opportunities;
7. Understanding the competing and varied interests in the shaping of one's work or professional identity.

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