Marcin Rojek, Joanna Leek, Petr Svoboda

# Exploring the virtual world of learning across generations

## Information and communications technology for the educational support of immigrant youth

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# Introduction

The idea for this book came about as a result of the ICT Guides project, which was funded by the Erasmus+ programme.[1] The project was carried out in 2015–2018 in Gothenburg (Sweden), Berlin (Germany), Madrid (Spain) and Sheffield (United Kingdom). The cities identified for the project all have a relatively high percentage of young school students with immigrant backgrounds. This group of Europeans in particular are at risk of early school leaving, and are over-represented in terms of unemployment.

The book addresses the issue of information and communication technology (ICT) use in an educational environment, and presents research results from the ICT Guides project. In order to discuss how ICT can be used as a means to prevent early school leaving among immigrant youth, this book explores the literature on how learning can be understood in the intergenerational context (Chapter 1); what the challenges are in preventing early school leaving (Chapter 2), and the prospects for ICT in education (Chapter 3). Finally, we present the findings of an empirical study on intergenerational learning with the use of information and communications technology (Chapter 4).

As reports[2] on youth in Europe show, young immigrants are most at risk of social exclusion. Employment is a strong protective factor against the risk of poverty, and – as identified in the EU 2020 strategy – one of the most important targets for a smart, sustainable and inclusive Europe. Immigrant youths suffer from having an incomplete education, partly because of the economic crisis in Europe, and partly because of the military conflicts and strife in places such as Syria and Afghanistan.

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[1] Programme: Erasmus+; duration: 07/12/2015-31/08/2018; coordinator: SDFUTB – Sektor utbildning, SDF Västra Hisingen Göteborgs stad (Sweden); partners: Sheffield City Council (United Kingdom), DGI-CM – Dirección General De Inmigración, Comunidad De Madrid (Spain), SENBJF – Senatsverwaltung für Bildung, Jugend und Familie Berlin (Germany), University of Lodz (Poland). The project was funded with support from the European Commission, No. 2015-1-SE01-KA201-012232. This publication only reflects the views of the authors, and the European Commission cannot be held responsible for any use made of the information contained herein.

[2] Examples include Eurofound, NEETs – Young people not in employment, education and training: Characteristics, costs and policy responses in Europe, 2012; European Commission. Commission Staff Working Paper – Reducing early school leaving. Accompanying document to the Proposal for a Council Recommendation on policies to reduce early school leaving, 2010. European Commission 2020. A European strategy for smart, sustainable and inclusive growth. 2010.

Our findings highlight the fact that ICT-supported learning is a significant sociocultural platform for knowledge exchange, at the same time reducing intergenerational and cultural distance. It helps work toward the common good, creates a sense of belonging and ensures mutual support, and encourages better understanding and harmonious coexistence between young immigrants and older citizens. The function of ICT in intergenerational learning is changing, from serving as its catalyst to facilitating its participants' learning about each other.

With this book, we want to submit our activities and results for international assessment in the hope that the results of our experience will be helpful in the future implementation of similar projects.

The Authors

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We would like to offer our sincere thanks to Linda Malmsten, coordinator of the international ICT Guides project, and all the project partners for their active involvement. Thanks also to all the project's participants, including the youths and adults that took part in the ICT courses and gave their time to share their experiences with us for the study.

Chapter 1

# Intergenerational learning in contemporary education – a theoretical justification of the ICT Guides project

Marcin Rojek

# Introduction

Study of the subject of learning is a complex matter, mainly undertaken in the fields of psychology and pedagogy, but also various other sciences. For example, biology, neurology, medicine, sociology, cultural studies and economics. This multidisciplinary approach has caused an increase in the subject's complexity, which can be seen in the nearly innumerable number of original and overlapping, new and refurbished concepts and theories of learning, as well as in the focus on the study of learning in educational practice. Learning has ceased to be a process reserved for childhood and youth, and has begun to be consciously pursued by people throughout their lifetime, from early childhood to late old age. Similarly, the process has expanded spatially, that is, it has ceased to be identified only with school, and has become a characteristic of all human spaces, such as the home and workplace, in public spaces and online.

The purpose of this first chapter is not to provide critical analysis of theories or the construction of new ones, because there are many separate scientific works devoted to this. Instead, its main aim is to present the generally-accepted knowledge of the subject of learning, and based on that, build and present the concept of intergenerational learning as used in the ICT Guides project's assumptions, and in practical educational activities.

## 1.1. Learning in preference to education

The first attempts to analyze the practise of learning were made in a philosophical context as part of the study of knowledge, which was treated as a result of learning. In his Theaetetus dialogue, Plato argued that knowledge is true belief, or convictions justified by earlier experiences and reflections. Almost two thousand years later, the Cartesian concept of the mind as an autonomous individual and John Locke's concept of tabula rasa created opposition to the scientific thinking of the individual and society. Thus, a strict division was introduced between humans as individuals and humans as a collective (society). It was soon noted that a person's environment is the basis for formation of their qualities and means of survival. Therefore, the need also arose to create synergies between people and their environment. The answer to this need was the

phenomenon of learning. Learning appeared as an integrational mechanism, which explains how individuals behave, what regulates their behaviour and how it does so.

Nowadays, learning is an interdisciplinary field and the subject of intense and ever-growing interest from researchers in various sciences and fields of knowledge. It is also highly appreciated by practitioners in formal and informal education, such as teachers, educators and social workers. This increase in research interests and the social importance of learning was noted in the middle of the last century by American psychologist, outstanding researcher and expert on the subject of learning, Ernest Hilgard, who explained this situation in the following way:

> The scientific study of learning is carried on primarily by psychologists. Psychology's claim to the field was staked in part by masterly pioneers such as Ebbinghaus (1885), Bryan and Harter (1897, 1899) and Thorndike (1898). Those who have followed in their footsteps have been primarily psychologists. Professional educators have been welcomed educational psychology as a foundation science upon which to build their practices, and studies of learning have gone on concurrently in laboratories of general psychology and laboratories of educational psychology, which interplay between pure and applied fields. Under the circumstances, it is very natural for psychologists to feel that the study of learning belongs to them.
>
> In addition to historical reasons, there is another basis on which to account for psychologist's interest in learning. This is centrality of learning in the more general systems of psychological theory. A scientific, along which the desire to satisfy his curiosity about the facts of nature, has a predilection for ordering his facts into systems of lows and theories. He is interested not only in verified facts and relationships, but in and parsimonious ways of summarizing these facts. Psychologists with a penchant for systems find a theory of learning essential because so much of man's diverse behaviour is the result of learning. If the rich diversity of behaviour is to be understood in accordance with a few principles, it is evident that some of these principles will have to do with the way which learning comes about (Hilgard 1956: 1).

The role of learning has always been greatly appreciated, but it is only modern man who has begun to realize that one can learn not only at school, but also (and perhaps above all), outside school, thus becoming a being that accomplishes by acquiring knowledge. Furthermore, the conviction that learning does not end with the completion of a formal (school) education is burrowing deeper and deeper into the social consciousness. Learning lasts a lifetime, is a necessary condition for adults to keep pace with rapid technological, social and cultural changes, and above all, to cope with social and economic demands. Of these latter, the most important include competitiveness on the labour market, entrepreneurialism, the ability to operate on the free market in an atmosphere of uncertainty, and a readiness to change jobs or professions. Thus, the phenomenon of learning is now characteristic not only of a person's school days, but also throughout their life. The learning renaissance, both during and beyond school, has already begun. It is a process aimed at making huge qualitative changes in education, and is a difficult and irreversible process. We are now standing in the twilight of the primacy of teaching over learning (at least, outside of school), due to the low effectiveness of 'teaching' compared to the enormous potential of 'learning'.

Peter Jarvis (2006: 13–17), a prominent researcher and expert on learning, argues that it occurs through stimulation of human senses by their external environment, both natural and physical, social and cultural. This contributes to the integration of the individual with the world. Over the centuries, a different understanding of learning has appeared that generally fits two perspectives: the psychological and pedagogical.

From the psychological perspective, learning is the emergence of a relatively permanent change in the behaviour of individuals (behaviourism), or assimilation of messages indicating the process and adaptive nature of learning (the cognitive approach). From a psychological point of view, even if learning occurs in relation to one's surroundings, and so has the character of an internal mental process in the mind of the individual learner, it still results in behavioural changes or acquisition of new knowledge, skills and habits. The pedagogical perspective points to the more humanist nature of learning and its relationship with school. In this perspective, learning is associated with a specific type of attitude to knowledge and to life, which requires personal commitment and initiative. Pedagogical learning is the more powerful figure in comparison to its original, psychological counterpart. It is frequently planned with the intention of achieving a particular purpose, for example, solving contemporary educational issues such as behavioural problems, lack of motivation for learning, a lack of desire for self-improvement, prevention of addictions and early school-leaving. This kind of learning is accompanied by the use of various symbolic systems, including language, concepts and theories.

Learning is not the only activity undertaken deliberately to assimilate knowledge or acquire skills. According to the world's leading educational researchers, learning is a mechanism of general human development, a kind of continuous response to events in order to achieve a sense of control over life (Biesta et al. 2010: 6). Today, there are many epithets, definitions and concepts of learning. In the intention of its creators, each new theory or concept of learning is designed to overcome the limitations of the previous theories. Two British learning researchers – Sarah-Jayne Blakemore and Uta Frith – postulate that the multiplicity of the concept of learning and great interest in the research on it, should lead to the establishment of a new interdisciplinary science dedicated to learning, drawing on the achievements of neurophysiology, psychology and pedagogy. In their view, it must also take into account the fact that learning lasts a lifetime (Blakemore, Frith 2008: 190).

The first step towards solving our research questions is to present the current understanding of intergenerational learning, as it was applied in the ICT Guides project. The human being is thus an individual fulfilling themselves through the acquisition of knowledge. In contemporary culture and society 'a learning renaissance' is clearly visible. This applies to the learning of youths, adults and seniors, as well as to formal and informal learning. It is a process aimed at making a huge qualitative change in education for certain people and institutions (e.g. schools), and for some it will be difficult, but

once started is irreversible. Nowadays, we can see the signs of the end of the supremacy of teaching over learning, because of the low effectiveness of teaching compared to the high potential of learning. In contemporary considerations about education, emphasis is placed on the fact that people should learn from each situation that occurs in their life, and draw conclusions from it for application in the future. This is because 'human life – development – learning' forms a distinctive ontological-anthropological triad determining humanity. Learning is therefore more important to becoming, rather than being a human. The worth of a person is thus defined by their learning. To paraphrase the famous quote, you could say 'I learn, therefore I am'. To undertake research on the practise of learning it is essential to familiarize oneself with the different points of view on the process. Analysis of the scientific literature shows that the term 'learning' has become fashionable and is being increasingly used. A multitude of kinds of learning have appeared, with a multitude of definitions of learning and types of learning. These include learning from biography (one's own and others); life-long learning; general learning (vs. partial learning); learning by work; incidental learning; learning by tests and mistakes; involuntary learning; learning by imitation; unintentional and intentional learning; learning by uncovering; observational learning; learning from memory; cognitive learning; learning by relations; learning to learn oneself; learning by strategy; planned learning; organized learning; self-learning; associative learning; conditional learning; learning by rule; 'all or nothing' learning; series learning; selective learning; subliminal learning; intergenerational learning, and many more. Some of these are only presented as intuitive and colloquially understood slogans, while others seem to form a prospective field of inter-disciplinary research. It is quite difficult to obtain an overview of the current understanding of the topic of learning while sticking to only one perspective. According to various authors, the learning process can be understood as:

- A process of reacting to external stimuli and responses (Edward Thorndike, Ivan Pavlov, John Watson, B. F. Skinner, Edward Tolman).
- Cognitive development based on the computational process of acquiring and storing data (Kurt Lewin, Jean Piaget, Kurt Koffka, Wolfgang Kohler).
- Acquire a way of representing 'recurrent regularities' in their environment effecting the concepts, categories and problem-solving procedures invented previously by national culture, as well as the ability to 'invent' these things for oneself (Jerome Bruner).
- Controlling, modelling and imitating others (Albert Bandura).
- Interaction between the learner and the environment, in order to acquire mind tools (Lev Vygotskij, Aleksei Leontiev, Aleksander Luria, Max Wertheimer, Wolfgang Köhler, Theodor Adorno).
- Transforming external mental structures into internal structures that allow the expression of beliefs and opinions (Jack Mezirow, Paulo Freire Jürgen

Habermas, John M. Dirkx, Robert D. Boyd, J. Gordon Myers, Rosemary R. Ruether).

- Interaction between cognitive, emotional and social processes (functionality, sensitivity and integration) effecting the acquisition of knowledge, skills and competences (Knud Illeris).

The above are just a few examples of what learning is. But they are enough to prove that the scope of our understanding of this process is quite broad. Taken together, all of these perspectives cover a wide range of:

- Types of learning (acquiring information, skills, habits, developing abilities and attitudes).
- Forms of learning (learning by trial and mistake, by imitation, discovering and activities).
- Learning conditions (age, environment, motives, stimuli, abilities).
- Learning results (increase in knowledge and skills, development of abilities and attitudes.

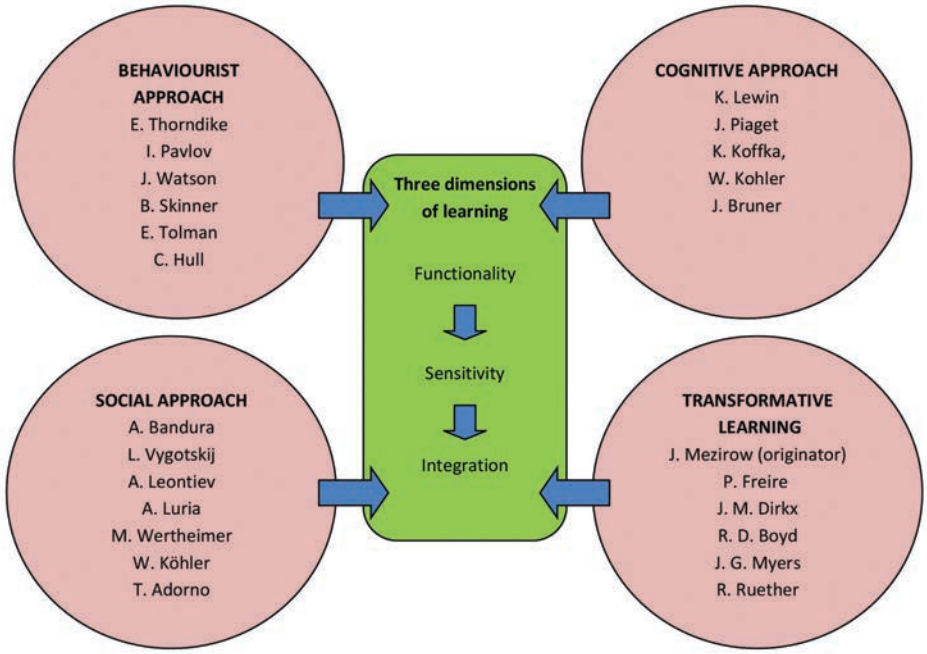


Figure 1. The main theoretical perspectives of learning
Source: original study

- Knowledge transfer – the consequences of learning information and skills and passing them on to others.

At the same time there is no one general, universal or most representative theory of learning. The modern understanding of learning is a conglomeration of theses from various theories, which can be conventionally included in the five

theoretical perspectives of/ approaches to learning given above. In the following subchapters, they will be characterized more closely.

### 1.1.1. The behaviourist approach to learning

The behaviourist view of learning was developed by Edward Thorndike (1911, 1931), who presented a theory of learning that incorporated the consequences of behaviour in the form of how the behaviour was reinforced. Thorndike then developed his 'law of effect', which stated that behaviours that are rewarded tended to recur, while behaviours that are punished or not rewarded tended to weaken the character. Later, Thorndike (1931) refined his law of effect to reflect the fact that he found that punishment did not weaken the stimulus-response connection, but rather led subjects to avoid the situation, or initiated feelings of anxiety or fear. The significance of this to the study of learning was summarised by Thorndike himself as "we may increase our confidence in positive rather than negative learning and teaching" (Thorndike 1931: 46).

Nowadays, behaviourism is perceived as a scientific approach, shaped on the basis of psychology and first appearing in the United States at the beginning of the 20th century. The leading representatives of behaviourism are Edward Thorndike (1874–1949), Ivan Pavlov (1849–1936), B. F. Skinner (1904–1990), John Watson (1878–1958), and Clark Hull (1884–1952). They sought to develop a theory of the preservation of organisms without considering what might be happening in their minds, which they considered unscientific. Instead, the behaviourists, aiming to explain human behaviour, made learning the central concept. Following Darling's idea that man is a continuation of animals, they assumed that the way in which both people and animals learn is similar, and involves experiences gleaned from the environment. To further examine this theory, they used strict research methods culled from the natural sciences. The result was the statistical recognition of the relationship between objectively measurable stimuli and the reactions they trigger. Pavlov and other behaviourists then used the same research methods in their own scientific work. The result was, amongst other things, the theory of conditioned reflexes, also known as the physiology of higher nervous functions. They assumed that learning takes place in the neural system. If learning causes a change in the behaviour of the individual, the reason is a change in the way their neurons (the most important cells in the human nervous system) are communicating. From a biological point of view, learning is the creation of new connections between nerve cells in the brain, or the stimulation of these connections. However, knowing what is happening between neurons is of little help if it is not embedded in a broader context, as it does not create a broader picture and as such is not subjectable to interpretation. Taking the neural theory of learning as a basis behaviourists have developed two main theories of how information from the environment is processed, explaining the relationship with changes in the behavioural potential of the individual. These two theories also constitute two methods of research on