

**TOWARD ENTREPRENEURIAL CAPABILITIES**  
**LEARNING DECISION MAKING IN A SYSTEMIC LEARNING ENVIRONMENT**

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**Abstract**

This article describes four researchers' continuum idea related to entrepreneurial capabilities, learning to make decisions, and learning from childhood to adulthood. Entrepreneurial education is seen as the development of entrepreneurial capabilities, where learning to make decisions is one capability.

This article breaks down the concept of entrepreneurial education through four different learning environments and methodological implementations. How does the learning of selecting that has commenced in responsibility work on lower grades continue on higher grades? How do entrepreneurial capabilities evolve through decision making-related selection and responsibility at the vocational second level, especially when entrepreneurship-related learning at the second level is often understood as part of the process of making a business plan? What is the role of entrepreneurial capabilities in adult education? How are entrepreneurial capabilities utilized in working life? The significance of entrepreneurial capabilities is realized in a deeper and broader sense when teachers working at different educational levels examine their own learners' decision-making processes as a continuum from one process to another.

Key words: entrepreneurial education, entrepreneurial capabilities, decision making,

## INTRODUCTION

### Why should one develop learning environments to promote entrepreneurial capabilities?

Entrepreneurship is an issue which today's learners will increasingly encounter in life (Ristimäki 2004, 9). Qualities that are useful for entrepreneurs, also referred to as entrepreneurial capabilities, are those that an individual needs during studies as well as later in life regardless of whether the person works as an independent entrepreneur or as an employee (Euroopan komissio 2004, 5–7,17; Remes 2003, 117; Suomen Yrittäjät ry). Entrepreneurship has been included e.g. in the framework of the curriculum of basic teaching already in 1994. This was done partly because of the economic depression, partly in order to meet the challenges of the increasingly complex and fast changes created by postmodern society (Kyrö 1998, 182–190). Learning that builds on old knowledge is no longer sufficient because the problems of the rapidly developing and innovative society are complex and require the production of qualitatively novel solutions. Tomorrow's citizen needs capabilities to continuously produce new models of thought and action. Changing the existing operating methods requires that action is examined reflectively and that the operating environment is influenced (Heikkilä 2006, 13; Kyrö et al. 2007, 16). Entrepreneurship enables the realization of an individual's rights and liberties e.g. because entrepreneurs have the possibility to choose their place of residence in an area that bears cultural significance to them, usually in their home region (see Hietanen 2009, 53; Mahlamäki-Kultanen 2005, 292–294, 310; Nurmi 2008, 170).

## CONCEPT DEFINITIONS

A publication made by the Ministry of Education on entrepreneurial education, *Guidelines for Entrepreneurial Education 2009*, opens up the term 'entrepreneurial education' to many educators in a broader sense; the aim is that the promotion of entrepreneurship will cover the entire system of education. The publication is meant to be a recommendation for networks of entrepreneurial education development, which means us educators both at home and at all stages of education. The publication outlines entrepreneurial education as follows:

Entrepreneurial education is a significantly broader concept than entrepreneurship as a profession. Entrepreneurial education as a concept also covers entrepreneurial training. It entails the active and resourceful individual, an entrepreneurship-oriented learning environment, education, and the cooperation of a network that supports entrepreneurship. Further, it encompasses a societal policy that supports active and entrepreneurship-oriented operation. Entrepreneurial education creates entrepreneurship at all levels of society. It also strengthens and creates new entrepreneurship. Entrepreneurial education is part of lifelong learning, during which a person's entrepreneurial capabilities develop and are completed in the different phases of education and learning. It concerns life management, interaction, and self-management skills, the ability to innovate, and readiness for change. The function of training and education is to support the development of entrepreneurship into a way of action, in which one's attitude, desire, and will to act combine with knowledge and expertise. – – The basis of an advancing society lies in entrepreneurial activity. Individual activeness and responsibility as well as an awareness of one's own action and other people form the basis of mental, physical, and social well-being (OPM 2009:7,12).

**Entrepreneurship** can be depicted from the perspectives of personality, behavior, and functionality. In this classification, personality emphasizes an individual's viewpoint, whereas behavior stresses the process perspective where new concepts are found and created. Functionality emphasizes economic activity (Cope 2005, 373; Cunningham & Lisher 1991, 47). Entrepreneurship is often linked with action-related properties, for example risk taking, innovativeness, and proactiveness (Heinonen & Vento-Vierikko 2002, 31). The ability to make

decisions is emphasized amidst the uncertainty, fast changes, and change management of the 2000s (Stähle & Grönroos 2000, 77).

In this article, entrepreneurship is considered to be action and behavior related to decision-making (Cope 2005, 373), in which an entrepreneur takes risks, makes trials, accepts mistakes, and receives feedback (Gibb 2005, 56). The involvement of personality means that a learner acts as an individual, and one's entrepreneurial capabilities are individual characteristics. An individual also decides where and how one sees fit to use these capabilities. Our research team noticed that the common denominators related to decision making and entrepreneurship are selection, responsibility, risk, difference, and dialogue, the development of which we examine as a continuum at different levels. Decision making is one of the many entrepreneurial capabilities, and it can be outlined as a practice.

## **FROM SYSTEMS THEORY TO A SYSTEMIC LEARNING ENVIRONMENT**

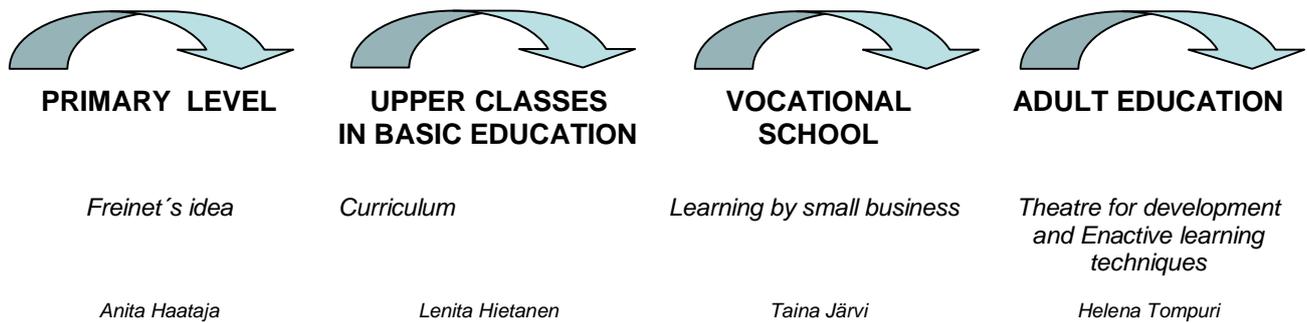
In the 1960s, the theory advanced in the areas of technology, biology, and design sciences. Bateson applied systems theory to social sciences. It has spread into social sciences, and studies on organizations cover several systems-theoretical approaches (Anttila 2006; Helander 2000; Stähle 1998). According to Stähle (2003), one can describe a system on the basis of its construction, operation, or function. The examination focuses on a system as a whole, and the most salient issue is the interdependence and interaction between the parts of the system. Senge et al. (2000) examine a system as any observable entity whose parts are dependent on one another due to constant interaction.

In the continuum model of decision making we use the term **systemic environment** to denote a whole formed by learning individuals in a systemic process of thought. This systemic way of thinking is a learning process that investigates organizational principles in people's reality (Sandelin-Benkö & Metsämuuronen 2006, 380). In our view, a learning environment in which learners can process the problems of everyday life arising from shared situations is systemic if the environment has been constructed to enable dialogue (conversation, good vibes, creative argument, and decision making). An organized system of interaction enables the participation of all learners in a jointly constructed whole. These systemic environments in our studies vary according to the age of the learners.

## **DECISION MAKING**

Decision making consists of three parts: the alternatives under examination, expectations pertaining to the consequences of action, and the possibility to assess the consequences (Hastie & Dawes 2001, 25–26; Baron 2000, 6). In accordance with the normative model of decision making we select the most usable alternative in conditions that are suitable for it. An unbiased examination of a decision helps to achieve a goal because it maximizes the usability of the decision (Baron 2000; 223, 243). Entrepreneurial activity entails the taking of risks, a desire for freedom, and action orientation (Koironen & Pohjansaari 1994, 33). In a decision-making situation, a risk means that there is a lack of usable information and uncertainty about the effects of the options (Lindblom 2004, 14, 17). A risk can be economic or it can be psychological, in which case it concerns self-esteem and a conception of one's own abilities. A social risk is related to communality and interaction (Ristimäki 2004, 30). Although decisions in a decision-making situation are made by an individual, they are affected by the situation, values, and the network in which the person operates (Palojärvi 2008, 58). Attitudes, opinions, and beliefs may, in fact, be the parts of information leading to a decision (Hicks 2004, 38).

## LEARNING ENVIRONMENTS OF THE DECISION-MAKING CONTINUUM



**Figure 1.** The continuum of entrepreneurial capabilities from primary level to adulthood (Haataja et al. 2008).

### Lower level of basic education (ideas of Freinet pedagogy)

Young learners should be allowed to develop their entrepreneurial capabilities in an interactive environment where action and thought merge. This is possible by creating a system of responsibility work that increases pupil's independent activity and opportunities to influence. Regular selection situations in a system of responsibility work make it possible to practise consideration and selection and, consequently, to learn to make decisions.

My own work as a teacher changed when I realized that my pupils, ever since the first grade, should be allowed to participate in and affect the formation of action in their learning environment by practicing personal selections, responsibility, and decision making in everyday school situations. I started to construct the system of my class into a more pedagogical one with an aim to follow Freinet's educational idea. It is based on an idea of a positive individual with an inborn interest in examining and experimenting on everything through trial and error (Freinet 1987; Freinet 2000; Starck 1996). I have collected my research material from an operating environment of this type by observing the work of first- and second-grade pupils in a system of responsibility work. My aim was to find out how entrepreneurial education can be realized with seven- and eight-year-old pupils in the lower stage of comprehensive school.

### Upper stage of basic education (The National Core Curriculum for Basic Education 2004)

The operating environment at the upper stage of basic education is based on the learning environment of music. The arrangement of this environment got started when I took part in the planning of the latest curriculum. This was preceded by my participation in entrepreneurial education projects and by the crisis of my professional status. I felt that a learner, that is, an individual with an individual's rights, sinks beneath a multitude of learning contents (see Hietanen 2009, 39–45). According to normative and national guidelines, learners have many rights, starting from guidance that suits their personal needs (VNA 2001 2 luku, 4§). My problem was how to observe the individual rights mentioned in the norms when dealing with large and heterogenous music groups that consisted of learners with quite varied skills.

During the curriculum reform, the implementation of entrepreneurial education in its natural form was emphasized in every subject. In entrepreneurial education projects, I had experienced that connecting entrepreneurship with the teaching of music is rather artificial and can only be implemented through project-like contents that deviate from normal teaching. I read the document *National Core Curriculum for Basic Education 2004* through the eyes of entrepreneurship. In addition to the concept of participatory citizenship and entrepreneurship, I found concepts necessary for an entrepreneur, i.e. entrepreneurial capabilities, in many places. When I wanted to strengthen the objectives of a learner as a basis for the music learning process, entrepreneurial capabilities seemed to work well as a starting point. I selected for the students such entrepreneurial capabilities that can definitely be found in the curriculum plan. The chosen capabilities are initiative, commitment, endurance, creativity, risk taking, tolerance for uncertainty, learning from one's mistakes, tolerance for change, ability to assume responsibility, problem solving skills, cooperation skills, target-orientation, and self-confidence (POPS 2004, 12, 16–17; Suomen Yrittäjät ry; VNA 2001, Section 2, 2§, 4§). I have collected my research material mainly during one school year from the music classes I have taught. The material deals with the working and studying of a group of seventh-grade pupils and an optional eighth-grade music group. The groups were chosen at random. The other parallel groups at our school studied in this way too, but only the chosen groups were examined.

### **Vocational second level (learning in a small enterprise)**

Entrepreneurship is a natural issue at the vocational second level. About 60% of entrepreneurs, for example hair stylists, accountants, construction entrepreneurs, electricians, and merchants, have received a vocational education (Suomen Yrittäjät 2006). Entrepreneurship is related to all vocational second level diplomas. The aim of this is to provide skills needed in carrying on a trade and entrepreneurial activity. Entrepreneurial studies often focus on business plans and accounting, although entrepreneurs must be able to make decisions, create networks, and cooperate in their daily work. Here, vocational second level research focuses on students' small-scale kiosk business. Learning takes place in the environment where the acquired skills are used. The students carry on small-scale entrepreneurship. In this type of an environment they share and develop collective and individual knowledge. They acquire authority to make work-related decisions, with risks included. The students are responsible for their decisions. They keep the kiosk as entrepreneurs and collect the profits. The teacher guides the business activities, acts as a coach, and supports entrepreneurial capabilities. The learning starts from what the students already know and have understood – not from what the teacher knows (Gibb 1997, 15). By following the operation and student interaction I analyze the interactive, decision-making, and operative skills that the students have acquired during the year. The questions of this case study are: What kinds of entrepreneurial capabilities do students acquire, how does it occur, and what is the role of the teacher in this process?

### **Adult education (theatre-based pedagogy, drama, and activating learning methods)**

In adult education, which in this article means working life and adult training, I approach entrepreneurial education from the starting points of theatre-based pedagogy (see Korhonen 2005, 6). My thoughts and conceptions of entrepreneurial education have evolved, expanded, and deepened while working on teachers' further training at the University of Lapland since 1997.

Theatre-based pedagogy has provided me with a different way to look at entrepreneurial education and given me faith in the fact that drama can be used in the learning of entrepreneurial capabilities. While writing this, I am pondering the following: How to use drama in adult education? What does drama contribute to teaching and learning methods and working life, among other things? How do we put learners' entrepreneurial capabilities into use in education and entrepreneurship? I

approach entrepreneurial capabilities in my study through the perspective and thoughts of theatre-based pedagogy.

### SYSTEMIC CONTINUUM OF DECISION MAKING

Entrepreneurial education enables the development of various types of entrepreneurial capabilities. Learning to make decisions is one of the most salient capabilities in a person's life. Examining it as one of the capabilities of the continuum of entrepreneurship from childhood to adulthood is done on the basis of the possibility to choose, responsibility, risks, difference, and dialogue. This development of decision making from childhood to adulthood is outlined in the following table.

**Table 1.** The development of decision making from childhood to adulthood (Haataja et al. 2009)

DECISION MAKING AS A SYSTEMIC CONTINUUM	PRIMARY LEVEL COMPREHENSIVE SCHOOL	UPPER CLASSES OF BASIC EDUCATION	VOCATIONAL SECOND LEVEL	ADULT EDUCATION
<b>possibility to make choices</b>	concrete and familiar, in regular everyday activities	personal and diverse, within a subject and in working	related to entrepreneurship and received from the outside	guided by expertise and enabled by situations
<b>responsibility</b>	tasks in a group	own and other people's work	shared entrepreneurial reality	own important role when working within networks
<b>risk</b>	experience of failure	learning from mistakes	tolerance for difference	intentional screw-ups
<b>difference</b>	courage to have a personal opinion	right to be me and equally important opinions	own strengths	seizing of expertise (the role of) an expert
<b>dialogue</b>	thinking aloud	conversation and listening	negotiating	creative arguing, good friction

#### Possibilities offered by choices

Pupils on the **first grade of basic education** are allowed to practice weekly the selection of responsibility tasks in their own basic group. After choosing the common responsibilities of the class, negotiating continues in individual, weekly responsibility groups where the shared tasks are agreed on. Teacher's guidance is necessary because collisions occur frequently, with some learners even daily at the beginning.

On the **upper grades** of basic education, learners are going through puberty. At this stage, they are excessively looking for their own self in situations of interaction. Learners are given greater challenges than before by increasing the number of decision-making situations in the form of multilevel alternatives. Self-knowledge is increased by guiding a learner into examining both the

music-related choices the learner has made and the entrepreneurial capabilities the learner has used in different situations and states of alertness.

**At the vocational second level**, alternatives are sought according to entrepreneurial activity. Therefore, the alternatives to be chosen are not necessarily available, but have to be searched for and assessed according to the problems faced by the enterprise. Entrepreneurship is an ongoing process and entails small- and large-scale alternatives in daily operation. Decisions between these alternatives are made together and alone, depending on the situation.

**In adult education**, alternatives are at hand in daily work, and learners make choices. In primary school, pupils are allowed to collide, but adults utilize their expertise to produce, alone and together, alternatives that also support decisions. The expertise and task of a learner affect the person's choices. Operation is influenced by common rules, expectations, hopes, and objectives. Expertise and situations guide decision making and the selection of alternatives.

## **Responsibility**

**On the lower grades of basic education** pupils learn responsibility by taking care of their belongings as well as the common belongings and tasks of the class. When engaged in responsibility work, each pupil can practice regularly the way to treat others in a friendly and polite manner and the way to state one's opinion in a courageous and responsible manner. In a short work reporting session, all pupils have the responsibility to memorize the things to be said and to practice presentation. While doing so, they are also expected to demand the proper attention of the others. The teacher's task is to observe and to give guidance, when necessary.

**On the higher grades**, responsibility is examined from a wider perspective than before. A learner is still responsible for the work of other learners. It means that a learner is expected to wait for his or her turn to play an instrument and to play at a volume that does not disturb the playing of others. A responsible learner takes actively part in ideation and discussions on the performing style and beat of a song and on other issues to be resolved together.

**At the vocational second level**, an entire group may have the responsibility for making a decision. In this case, the person who initiated a decision will prepare for and present the consequences of the decision. In a minor decision-making situation, an individual may be responsible for a previously-agreed task, for instance. For example, if someone has promised to take cash to the bank and has failed to do it, the following week's order may be canceled due to a lack of money. In joint meetings, students assess the effects of decisions on business, for example how to arrange work shifts in such a way that selling is possible when customers are on the move. Responsibility is always related to small-scale economic risks and their effects. Responsibility taken by an individual may affect the operation of the entire business.

**Adult learners** must assume responsibility for their decisions and acknowledge their roles when operating in networks. An individual's decisions affect the group and even the larger community. Learners are equally important regardless of their positions. Everyone is an expert in one's own task, and this must be respected.

## **Risk**

The **system of responsibility work** enables versatile situations in which failures are experienced. With young learners, learning to deal with risks starts from minor situations requiring tolerance for difficulties. In a new group, the selection of tasks is not always possible without an argument, in which case the members learn to clear the situation together. Sometimes a separate place is

needed to let out some steam. Performing often causes fear. One's own responsibility group helps to control fear and tolerate one's own failures.

When studying **music**, the situations entail an element of risk because songs change and are usually unfamiliar at first. This puts even rather advanced skills to the test. Learners may take part in playing and strengthen their acquired skills, but in order to learn new skill stages they must have the courage to take risks: they may not be able to perform at all or they may make mistakes at the beginning. Tolerance for mistakes and learning through them can be practiced by starting from skill stages that one finds the easiest and by strengthening each stage considerably before moving to the next stage.

At the **vocational second level**, risks are related to business decisions. What kinds of products should be on offer, what are the right quantities, and when should the selling take place? Am I sure that the task I promised to do will be accomplished regardless of upcoming obstacles? However, the effects of an accomplished task concern the entire group and its joint results. Do I have the courage to go to a bank alone although I do not know how to act there? What if the supplier refuses to deliver the quantity we ordered? For adults these are usually minor and solvable issues, but for a youth they are considerable tasks which must be learned and which affect everyone's operation.

**Adult learners have** the courage to voluntarily take risks if they get a chance to do so. The possibility alone does not guarantee courage if the environment condemns failure. A safe and trustworthy environment encourages taking risks, promotes learning, and accepts the weighing of one's own limitations and failure. "Screwing up" is recommendable and acceptable when it entails learning and the acknowledgement of one's limits. On the other hand, limits must be crossed if one wishes to learn.

## **Difference**

In the system of responsibility work in **primary school**, pupils learn to express their own wishes in situations of choice and to notice other pupils' differing opinions. Every child learns self-control through regular, familiar situations under the guidance of a teacher. The system of responsibility work is based on changing groups, which enables pupils to get acquainted with all of their classmates as individuals during the school year.

**On the higher grades of basic education**, differences between girls and boys are emphasized more than before due to puberty. For example in music boys hardly sing at all on the eighth grade because of their voice break, but choose an instrument instead. A music teacher must observe the difference between boys and girls in terms of singing, but everything else is done according to the principle of equality. All learners have the same right to search for their own learning paths and, for example, to receive equal guidance from the teacher – regardless of the skill stages they practice or master.

**At the vocational second level**, each learner is an entrepreneur, but the enterprise belongs to everybody. Individuals work together for a common cause. The utilization of difference could be seen in the background of decisions made as a group. A task is done by the one who can do it ("you do it 'cause you're so good at it"). Thereafter, the same person teaches or guides others. Also different types of roles surfaced in a group. Meetings were chaired by those who were also otherwise active and talkative. However, students also listened to more hesitant speakers when they were experts in a field or knew more about it than others. Difference was tolerated and utilized in view of shared entrepreneurship and the successful management of business.

**In adult education**, expertise can be seized in many ways; there are individual differences in the way learners act in different situations and roles. One learner may be an observer, whereas

another may express his or her view immediately. One must respect both learners, hear them and listen to them, and give them space for thought and time to act.

## Dialogue

**When children start school**, they are given versatile possibilities for development. Learners are guided to participate in a general discussion and to produce dictated text. When learning to read, learners practice decision making together. It is important to listen to and hear one another's ideas at first, to learn to express one's own thoughts, and to be prepared to even abandon one's own thoughts later on. It will soon be noticed that discussion entails the exchange of ideas, talking in turns. Everybody's input is equally important. The speech of the most skilled speaker is not the main issue; also quiet learners are allowed to join in.

Especially **on the higher grades of basic education**, when youths search for themselves, teachers should arrange possibilities for dialogue with all learners. It is important to listen to a learner's view and to understand its backgrounds even if one does not agree with it. Moreover, teachers should not force their opinions on learners (Pakkanen 2004, 241-247). In an evaluation situation a teacher is obliged to state his or her view on the learner's skills and to make suggestions for further work. A learner may even require a teacher to solve problems for him or her. Despite of this it is important that a teacher lest a learner make one's own decision, either independently or with peers. The teacher may present different alternatives.

Joint business-related decision making on the **vocational second level** is student-oriented. The need to discuss common issues emanates from students. Since students are engaged in common entrepreneurship, there is an inherent need for dialogue. Discussion is free and it has a goal, that is, there is a need to make decisions. Most decisions require everyone's opinion and a future-oriented intent that observes everyone's attitude, the group's support, and efficiency required in decisions to be made. The efficiency of decisions starts from the fact that everyone pays attention to one's own attitude and remolds it for a common cause.

In adult education, people should already have the ability to engage in dialogue. Genuine dialogue means that a person can argue creatively, learn from discussing, and state one's opinions while respecting other people's expertise. Good vibes, even positive arguing, is possible in a safe and trustworthy environment. The best kind of dialogue is spiced with serious playfulness. These dialogical properties and good vibes could be seen and experienced for example in the training on entrepreneurial education arranged for the executive directors of Lapland's 4H district. This training, realized through the methods of drama, was arranged in 2005–2006 (see Nuori yritysosaaja Lapista -hankkeet 2005–2006).

## CONCLUSION

We have created a model for implementing entrepreneurial education across the entire field of education. We have also expanded the teacher's view from the mere observation and strengthening of different forms of entrepreneurship (independent entrepreneurship, external entrepreneurship, organizational entrepreneurship) toward the acknowledgement and development of entrepreneurial capabilities, or thought and operating models, that form the very basis of everything. The task of the teacher, supervisor, tutor, mentor, and superior is to help learners acknowledge and practice these capabilities. The learner's task is to decide where and how to utilize one's entrepreneurial capabilities.

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