



Acquiring the key competence of a sense of initiative and entrepreneurship

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1. Introduction

This document is one of the products of the YEDAC project, a EU funded project focusing on the promotion of the key competence of entrepreneurship among teachers and students/pupils in primary and secondary education.

The world is changing and Europe is changing with it. Within Europe schools have to adapt to the challenges of the new developments and equip future generations to provide the answers needed to the arisen circumstances, or rather to lead Europe to back to its strengths and beyond. In this article some of the trends Europe is facing are made explicit, furthermore a few more specific issues playing a part in education are outlined. The European Commission promotes policies to facilitate lifelong learning among European citizens in order to involve all Europeans in the process of developing Europe to meet the challenges of the future. Entrepreneurship is seen as one of the key competences of lifelong learning process that is assumed to serve as the engine of the developments needed. This competences, referred to as a sense of initiative and entrepreneurship is further elaborated in this article, based on an analysis of literature as well as on discussions among the project members of the YEDAC project. Entrepreneurship is need under the circumstances. That is the first message in this article; Secondly we state that if that is the case we will need competent people with a sense of initiative and entrepreneurship. We will then outline the history of views on learning and teaching and how we nowadays think education may best contribute to competence. Eventually we will focus on the specific features of entrepreneurship as a competence and describe some of the contextual and methodological requirements this brings for schools and teachers.

2. Europe in a state of Flux

Growing pace of knowledge production

Knowledge production shows an ever increasing pace. The number of publications and the technological progress made show a pace that no longer allows for the traditional approaches. What pupils and students learn while at school already partially is out of date when they complete their studies. Of course there will always be a need for basic knowledge and skills, but the debate about what that includes will prove to be continuous. Increasingly there will be an additional competence needed in self regulated learning. The European Union has repeatedly stressed the role of education and training for the long term competitiveness of the European Union (European Commission, 2007a). Each student will have to be prepared for a life in which change is the rule and stability the exception. Teachers will have to facilitate these processes of learning how to learn and how to engage in life long learning.

New technologies and the risk of computer illiteracy

The developments show their own dynamics in which some people take part and others don't. During the past decade, Information and Communications Technologies (ICTs) have become available, i.e. accessible and affordable, for the general public. However, a gap remains between users and non-users or between "haves" and "have-nots" (Eurostat, 2005). In the new century the division of knowledge seems to become the core issue. In order to take part in modern life people will have to be competent in the multiple ways of communication and information sharing as made available through new media. Those that loose touch with modern technology may get disconnected and at risk of deteriorating into a marginalized group. They may become the new disadvantaged.

Mobility and internationalization

New member states joined the European Union and more are still to come. Mobility can assist in ensuring that EU citizens 'work to live' and improve their quality of life, as well as assist in strengthening social cohesion within Europe and assuring the sustainable development of European society in general (Tom Vandenbrande, 2006). Increased mobility enriches the cultural scenery in each of the member states, but it also shows transition problems. New challenges of getting acquainted with each others educational systems and levels, new challenges of division of work and new challenges of other ways of cross cultural communication and cooperation arise. Europe solved many of such problems in the past and probably will do it again, but it takes efforts and time. Teachers will have to play an important role in this process of mutual adaptation.

Cultural issues

With the ongoing unification of Europe, citizens at the same time often feel the need to emphasise their more local or regional identity. The more centralization, the more this need appears to arise. The position of Europe in the world brings with it that people from elsewhere around the globe seek their future in Europe. Though policies are not always very welcoming still quite a few people enter the union each year. They will also have to integrate or find their place in the European "salad bowl" as it is referred to (to distinguish it from the American melting pot). Again education and teachers within it will play a major part in this process of cultural integration and co-existence.

New position in the global economy

Europe develops a more and more shared identity. With the introduction of the Euro Europe has gained a stronger economical position in the world. Other economical nuclei begin to develop as well and the competition will increase as a consequence. The European Commission, as a consequence, sets as its target to turn Europe into one of the most knowledge productive societies. This implies a big challenge to society in general and education in particular. Teachers will be vital payers in these matters.

Health hazards

The quality of food has risen but the quality of its consumption has not. Many countries are having problems related to that. Over consumption, too much junk food and too many sweets not to mention the many beverages cause over weight and related other problems. The use of drugs and alcohol is still not under control. So many measures are being taken to reduce the health hazards of modern life styles. As for many problems again the politicians often turn to educators. Schools and teachers take a responsibility in reducing the problems.

Changing moral standards

The position of churches declined. The traditional social structures within society tend to alter. After a long period of individualization the present generation shows a more diverse image of what is considered morally adequate. The role of families in moral development and education seems to decrease. Increasingly parents expect schools to contribute to the development of values, norms and attitudes. Schools, though often reluctantly, see themselves forced to do something. Safe schools, social competence projects, increasing co-operation with youth organizations are only a few of the examples that might be given to support this trend. Again it is teachers who are expected to play their part.

Environmental issues

Worldwide we see environmental issues: global warming, pollution, exhaustion of natural resources to name a few. Europe has its own challenges in these matters. Reduction of the use of energy, clean energy sources and preservation of our natural environment play a major part in the present political and other debates. Schools prepare student for a future that will have to be sustainable. Society and schools within it are facing huge challenges.

The issues mentioned require strategies to find proper answers to guarantee a prosperous, healthy and peaceful future for Europe. The European Commission promotes the idea that education, schools and teachers may play a major part in meeting the challenges the world sets to Europe, its member states and most important, its citizens.

3. Issues in Education

Shortage of teachers

In many countries the teaching force is shrinking. The baby boom generation of teachers is at the verge of leaving the profession. The number of available teachers will not be enough to replace the present teachers. This is true in general and even more true in some disciplines such as in math and science, or other subjects in which employment elsewhere (in companies or industries) offers better perspectives. Maybe the financial crisis of today will slightly change this situation. Still the shortage of teachers is a severe and urgent problem.

Feminisation

The teaching profession has gradually turned into a profession that is mainly executed by women. The consequence of that is that children at a young age already begin to perceive the profession of being a teacher as a female occupation. That way the prophecy fulfils itself and even more girls and less boys consider to choose to become teachers.

Gottfredson (1996) describes that the age at which children determine that an occupation is either a male or a female vocation is as young as between 6 and 8 years old. Here education is facing a great challenge to turn education into a more balanced situation in which both boys and girls find a perspective.

Decreasing status of the profession

In many sectors of education a decreasing attractiveness and status of the teaching profession is reported. Several governments have taken measures to raise the salaries or implement other measures to promote the profession again. Schools must provide attractive work situation to teachers, so teachers' sense of well being will grow and as a consequence they will radiate this feeling to their target groups. Thus teaching may again turn into the kind of occupation students would like to consider as their own future job.

Increasing bureaucracy

Teachers and schools experience a growing burden of paper work. Tests, assessments, self evaluation, accounting, portfolio's, monitors, all administrated in high tech administrative computer systems become more and more common in schools. This takes a lot of the time of teachers and the requirements are still only getting stricter. It is time now to reconsider whether this is mainly a task teachers should do. Maybe increased support is needed. The professionals themselves should spend their time more on the analysis of all that is registered and evaluated so improvement and change may be based on such analyses. That is what professionals do. Schools may have to consider re-organising according to these lines, or if it is not up to the schools to do so, education authorities should consider it.

Ageing professionals

A major fraction of teachers will leave the profession in the coming ten years. The teaching workforce is ageing. A considerable number of countries already have an old teaching force, with 49% of teachers in upper secondary education in Sweden aged 50 and over. Moreover, recent signs point to a worsening of the situation in several other countries, such as Germany (OECD observer, 2001). Their replacement will be a great problem. It will not be just a matter of convincing young people to become teachers, it will also require policies to make the school a place in which new young professionals may come to work and develop themselves. Schools will have to provide a work learning environment to their staff. Schools are bound to turn into learning schools that show learning is their core business at all levels.

In order to be able to meet the challenges identified in the previous chapter, school and teachers need are facing a few internal challenges as well. Not only Europe or the member states within it, but also the schools in Europe have to deal with these challenges in order to find the strength to face and find answers to the world wide developments the world confronts them with.

Digital divide

Schools are facing an increase of the use of computers and social media. This applies to the processes of learning and teaching as well as to the broader day to day life. At the same time we see that teachers take part in this digitalisation of society to different extents. Some intensively work with new media both in their professional and their private life; while others are still relatively inexperienced in these matters. Future generations will have to be prepared for a world in which digital work and communication in whatever form is part of their lives. Teachers still have some catching up to do here.

The issues mentioned above show that for education to contribute to the entrepreneurial competences of students, schools will need to work on their own situation as well. Schools need to develop into places that inspire students, to develop a sense of initiative, to help them believe in their own ability to make things happen, in various fields and domains of life. For education to promote entrepreneurship a two level approach is needed, focussing on professional development of teachers and on creating the appropriate learning context for student to acquire the sense of initiative and entrepreneurship needed.

4. Lifelong learning

Key competences

The sections above underline the importance of schools playing a part in resolving the problems Europe is facing. At the same time the second sections makes it clear that schools and teachers are having a few internal problems that require solutions as well. Europe and the European educators as well as the learners need competences to develop themselves individually and collectively to enable Europe to regain and maintain and possibly strengthen its position in the world. The European commission wishes to support this process by giving to lifelong learning at all levels (learners, teachers, schools, society).

The European parliament, the European Commission and the Council of Europe agree on the importance of eight key competences for Life Long Learning .

The European Framework for Key Competences for Lifelong Learning identifies and defines eight key competences necessary for personal fulfillment, active citizenship, social inclusion and employability in a knowledge society:

1. Communication in the mother tongue;
2. Communication in foreign languages;
3. Mathematical competence and basic competences in science and technology;
4. Digital competence;
5. Learning to learn;
6. Social and civic competences;
7. Sense of initiative and entrepreneurship;
8. Cultural awareness and expression.

Each of the competences mentioned is assumed to include generic elements such as critical thinking, creativity, initiative, problem-solving, risk assessment, decision-taking, and constructive management of feelings . From the competences mentioned above the last five are assumed to be transversal, implying that instead of just being separate competences they by nature are assumed to be included in all other competences. This means that nay competence one focusses on includes specific aspects as well as the generic elements mentioned and the transversal competences.

In the Yedac project we are focusing on the competence nr. 7: a sense of initiative and entrepreneurship. But as stated above it inherently has to cover the other aspects as well.

In the next section we focus on the concept of a sense of initiative and entrepreneurship. In line with the paragraph above, this however implies that the generic elements mentioned as well as aspects of the other transversal competences will be included.

Before going into the details of the competence of entrepreneurship, we will infirst focus on the concept of competence as such in the next section.

5. History of learning

Towards competence oriented learning

In this section an outline is given of how theorists of learning perceived learning processes over the last decades and how this led to the idea of competence oriented learning and the importance of it

Man and his smartest inventions

Throughout time man often has compared himself with his own smartest inventions (Vroon and Draaisma, 1985), be it a steam engine, a radio, or a computer. Twenty-five years ago, in their book about metaphors, Vroon and Draaisma indicated that 'in recent times' the human mind is often compared with computers. However computers show an evolution and as a consequence so did our perception of our own mind and maybe so did our mind itself.

The early seventies

In the early seventies behaviourism was beginning to lose its position (Lecas, 2006). The time of mechanical metaphors, simple ideas of mechanical minds, memory drums, programmed instruction made place for a much more cognitively oriented approach. The days of programmed instruction, in which learning was perceived as synonymous to being trained, and a matter of conditioning involving rewards or reinforcements were over. The personal computer was introduced and became fashionable and invaded in all our offices in schools and universities.

The late seventies, early eighties

Psychologists started to think about the human mind as a personal computer, as a system that stores information, processes information, that retrieves information and that function better when the information stored is well organised and structured. The cognitive revolution took place. Cognitivism of course existed before, but now this approach became the dominant approach. Now that learning was assumed to be basically an information processing process, people began to use metaphorical concepts such as long term memory, short term memory. The human being and his metaphor approached each other. In a way one could argue that a person is not only compared to an information processing system; people actually are information processing systems (Lindsay and Norman, 1977).

The late eighties

Soon it appeared that computers were not just information processing systems; they could also be much more creative than people had anticipated. Artificial intelligence no longer was just science fiction; it started to become more and more a reality, so psychologists realised that the human brain might be far more constructive than they had assumed thus far. The cognitive approach was evolving into constructivism in those days. In the late eighties the cognitive view shifted towards a more constructivist one (Valcke, 2007). Knowledge in that approach is not just absorbed and stored; knowledge is a personal competence that is self constructed. It is an integrated entity of knowledge, skills and attitudes, that allows the individual to act in a situation. Constructivism was a theory developed long ago, but the significant thing here is that it suddenly gained support in this era.

The early nineties

The computers developed rapidly and the Internet was introduced in organisations and homes. Suddenly computers appeared to be more than just processors or constructors; they appeared to be social interactive tools. Researchers, authors, journalists discovered that email allowed them to work closely together with colleagues all over the globe in a constructive way. It proved once more and more convincingly that learning was more than individual construction of knowledge. Knowledge construction to a high extent appeared to be a social activity, in which individual and collective

progress go hand in hand (Palinscar, 1998). That is when constructivism turned into social constructivism. Again, of course Vygotsky had thought up all of this long ago, but now it became commonly accepted.

The late nineties

In the early nineties the Internet was still very much limited to storing searching and downloading information (Google) and to electronic mail. The attention of psychologists was drawn into two directions. One was inspired by the internal structures of computers and networks.

That is what led to theories of connectionism in which the actual brain structures of neural connections became the object of studies.

Other psychologists were focussing on the external links and connections and turned to connectivism in which learning was conceptualised as a matter of connecting to the right people as sources and resources of learning. Connectivism emphasizes the necessity of sharing knowledge and finding the right sources and persons to connect with (Siemens 2005). *Connectionism* is very much focussing on the neuronal functioning of the brain, while *Connectivism* is paying more attention to communication and information technology and the potential these have for human learning.

The turn of the millennium

By the time we reached the turn of the millennium paradigms had been changed and challenged so often that a kind of postmodern eclecticism set in. Like the computer, which had turned into a multitasking multimedia tool, the human brain was believed to be of a similar multi levelled structure with many underlying mechanisms and a variety of theories to explain them.

The second decade of the millennium

Today another profound development shows its impact on the way we work with computers and on how we think about learning. For a long time computers were perceived as sources of information, or channels through which sources could be found. Increasingly, however, computers today are used to upload information. Wikipedia is a good example of this trend. A person puts information on the web, other persons add theirs, again other person upgrade the information or enrich it with their views or inputs and when the first person types the same thing into Google a next time he or she sees clearly that the knowledge has grown without his or her involvement in the meantime. In a way you might argue that learning takes place at a level beyond the individual. Knowledge was produced, or created. The seat of that knowledge may not primarily be the human brain. Learning has turned into knowledge production and creation. Has man been taken over by his smartest invention? For now the balance is that we see that learning itself evolves in such a way that without being involved in learning ourselves all the time we will lose touch with developments in various fields and with learning itself. As for the content of our work and of our profession that was always a well-known fact. One had to attend refresher courses, or read books, but this short history of learning shows that learning itself is in such a permanent evolution that it requires a permanent re-orientation. It is our conviction that teacher educators, who's core business it is to think about learning, to promote learning and to optimize learning have a special responsibility in these matters.

Learning 3.0

The learning environment as provided by computers more and more proves to be responsive to the personal individual web history of the user of the web. This implies that increasingly the users will each be confronted with a learning environment of their own that differs from that of others. This implies that the contextual component of competence becomes more and more important to be considered. Society moves in a direction in which we all operate in a rich but personally focused work-learning environment. For matters of teaching and learning this implies that learning increasingly has to become a mutual process rather than a one or two way process. This again requires even more complicated (sub)competences in each of the key competence areas identified.

Definition of competence(s)

The historical development in views on learning indicate that individuals increasingly will have to be competent and what is more be competent in lifelong learning in order to refresh, maintain and upgrade their competences permanently.

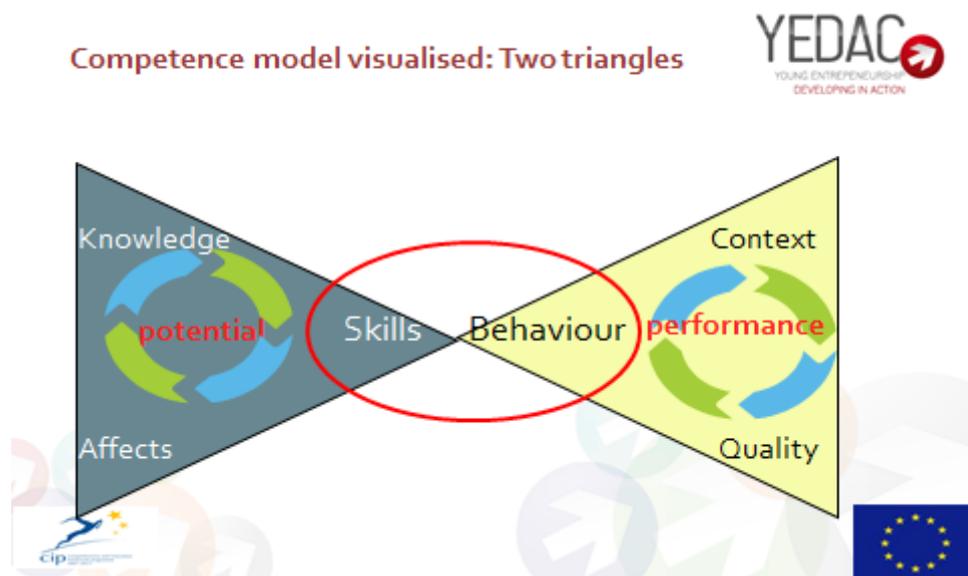
Competences as defined by European bodies, as well as by educational experts throughout and beyond Europe, consist of three interrelated ingredients:

- a. a knowledge component (the understanding part),
- b. a behavioural components (the overt behavioural repertoire) and
- c. a value component (including values, beliefs and attitudes).

Competences consist of a combination of skills, knowledge, attitudes, and behaviours required for effective performance of a real-world task or activity. A competence is defined as the holistic synthesis of these components. At another level a competence again may be divided in three components or aspects. It is the ability of a person to show:

1. a particular behaviour in
2. a particular context and with
3. a particular quality.

This is a formal way of describing competences. In more down to earth language this implies that what matters is not only what we know about things, but more important is what we are able to do with this knowledge, and whether we are able to go on developing our abilities. Does education make learners knowledgeable, or does it make them competent, that is the question.



The components of competence

The ellipse in the middle of the scheme includes the actual behaviour that shows the level of control over a particular competence. The components in the left triangle (composing someone's potential) allow a person to show the intended behaviour in the right triangle. There the learner demonstrates his/her acquired competence (performance). In the next section we will turn back to a sense of initiative entrepreneurship as the competence we focus on in the YEDAC project.

6. A Sense of Initiative and Entrepreneurship

In this section a further elaboration of entrepreneurship as a competence is presented. In order to make this elaboration the following steps have been set:

- Each of the components of the model have been elaborated based on an in depth study of literature;
- Based on the lists of components thus gathered the YEDAC project partners discussed among themselves and with other the core competences they felt to be the heart of the competence under investigation;
- These finding all have been brought together in the original model consisting of the two triangles, as outlined in one of the previous sections.

The thus identified and elaborated profile will serve as a basis for further action within the YEDAC project. It may be considered a fundament on which plans for construction of teacher training course will be based. It is both the profile that may be directing the choices an formulation of gals as well as an inventory of sources from which course content may be derived. Eventually it is a useful tool to serve as a source of ideas for assessing competences of teachers and students in this domain.

Knowledge

Field expertise
Marketing expertise
Domain expertise
Political expertise
Management know how
Social organisational know how
Basic fiscal and financial know how

Skills

Leadership skills
Social skills
Analytical skills
Management skills
Commercial skills
Financial skills

Sense of initiative and entrepreneurship

Refers to an individual's ability to turn ideas into action. It includes creativity, innovation and risk-taking, as well as the ability to plan and manage projects in order to achieve objectives. This supports individuals, not only in their everyday lives at home and in society, but also in the workplace in being aware of the context of their work and being able to seize opportunities, and is a foundation for more specific skills and knowledge needed by those establishing or contributing to social or commercial activity. This should include awareness of ethical values and promote good governance (European Commission 2006).

Attitudes

Perceptive
Sensitive
Positive
Energetic
Open
Creative
Convincing
Adaptive/flexible

YEDAC COMPETENCE PROFILE



7. Competence oriented learning

In this section we move from ideas on what competences are in general and entrepreneurship as a competence in particular to competence oriented education. Competence based learning and competence based education do not consist of traditional teaching situations. They are based on the idea that the learners learn by experience and discovery. This concept has an impact on how learners may be educated. The idea is that learners need to be actively involved in the learning situation. They learn best in meaningful contexts and in co-operation and interaction with others and with their environment. Thus they enable themselves to acquire knowledge, construe knowledge and check and cross check their newly constructed ideas with those of others. Of course this implies no denial of the importance of teaching; it emphasises the necessity of teaching in a highly responsive and learner centred way without neglecting the obligation of showing learners new horizons and perspectives and enthusiasm for things they may never yet have heard of.

Key features of competence based education

Competence based learning requires an approach to education that differs from the traditional approaches to teaching. In competence based education one tends to stress the importance of powerful, or rich learning environments, that enable students to engage in meaningful learning processes. The most distinctive features of this approach may be summarized as follows:

- *Meaningful contexts*
For learning to take place it is recommended to create or to look for meaningful contexts in which students will in a natural way experience the relevance and the meaning of the competences to be acquired.
- *Multidisciplinary approach*
Competences are holistic and as a consequence the educative approach needs to be integrative and holistic as well.
- *Learning by developing*
The philosophy of competence oriented education has pervaded our views on learning these days. Learning is conceived as a process of extending ones own knowledge in interaction with ones environment, rather than as a process of absorbing the knowledge others try to transfer to you. The consequence of this view is that educative processes may better be active and creative. By focusing on actually making models, products, guidelines, rules of thumb, reports, or other tangible outputs the learning easily and naturally will turn out to be productive. This as opposed to learning processes that focus on information processing after which the actual application of knowledge will have to be awaited.
- *Cooperative, interactive learning (with peers, teachers and heritage providers etc.)*
The basic idea behind competence based education is to help learners to develop and construct their own knowledge and seek ways to make optimal use of other people's competence in their learning itinerary. This is what social constructivism is about. Co-operation and interaction are both domains of learning as well as vehicles of learning in other domains. If learning is supposed to be self initiated, self regulated, and aimed at developing personal competences, the educative approach must allow for diversity in needs and related to that in goals and objectives. This requires an open approach in which education includes dialogues between learners and educators about expectation, needs, goals, choices etc.

- *Discovery learning*
Open learning processes require learning that may be characterized as active discovery as opposed to receptive learning. This does not imply that learning content should not be made available and accessible. It means that the way of acquiring this knowledge or these competences, could not be just a process of providing information, but should always be embedded in a discovery based approach.
- *Reflective learning*
Competence based learning requires apart from a focus on the key competences, also an emphasis on the learning processes as such. By reflecting on ones own needs, motivation, approach, progress, results etc. one develops learning competences/strategies that may be considered meta-competences. The competence meant here usually is referred to as the process of “learning to learn”.
- *Personalised learning*
In the competence oriented theories learning is conceived as a process of constructing ones own personal knowledge and competences. Information, knowledge, strategies, only become meaningful for a person if they become an integral part of ones own personal body of knowledge and competences. In education this implies that learners need to be able to identify with the contexts, the persons, the situations and interests that are included in the learning domains involved.

Epilogue

In this article the urgency of lifelong learning as well as of the specific development of entrepreneurial competences was stressed and explained. This urgency has three backgrounds. One is the fact that world wired trends urge Europe to rethink its position and its ways of maintaining and strengthen that. The second background reason is the fact that education is facing a few challenges of its own that need to be resolved in order to allow schools to play their parts in promoting the position of Europe, its members states and its citizens. A third background may be found in the fact that views on learning and teaching have led us in the direction of competence oriented approaches in which initiative, creativity and decision making are generic key elements. An entrepreneurial mind-set; a sense of initiative, the drive to make things happen, in brief entrepreneurship includes all of that. Therefore Entrepreneurship needs to be developed; needs to be developed as a competence with an emphasis on performance, on the ability to actually make things happen.

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