In this article, the concept of competence is studied from the point of view of the semiotics of education. It will be claimed that it is a central key concept when we are trying to analyse the meaning of education. Educational action can be reasonably understood as an insecure and complicatedly mediated trial to affect another person’s competence. First, the recent discussion about the concept of competence and its relatives is shortly reviewed. Then, competence is analysed and defined according to Greimassian semiotic theory as a basic determining character of an acting subject. At the same time as competence is indispensably central for understanding the subjects of action, it is problematically empirically ineffable. This ineffability has a special meaning in education, where we must try to both plan our own educative action and evaluate the learning of the student according to these invisible features. It is proposed that in the recent discourse of education, the very popular use of the concept of competence is misguided and problematically mixed with its conceptual counterpart performance. From this viewpoint, the concept of competence should rather be connected to the ontological concept of disposition. The problem of multi-dimensionality of competence is considered with the help of the Greimassian conception of modalities to create a richer and more detailed picture of the role of competence in action, and especially in education.

INTRODUCTION

The main argument in this article is that the concept of competence—when rightly understood—is the most central key concept or foundation block not only for the semiotics of education, but also for semiotic theory more generally, and naturally for all theory and philosophy of education. Perhaps the most annoying obstacle for this argument is that the word competence
is currently already and increasingly used in educational discussion in very controversial and problematic ways. This discussion must be therefore briefly reviewed.

The term competence (and its near relatives such as competency, skills, capabilities, learning outcomes etc.) has been very much used, if not even overused, in the discourse of education for at least the last three decades, although the history of the concept stems back to Bloom’s famous taxonomy and still more importantly to European philosophy of Enlightenment, and probably even to Antique philosophy. The most recent use of the term is connected to economic and political pressures towards education. Firstly, there is the utilitarian requirement that education should produce as concrete merchandise as possible to labour markets. And the second follows from that as a requirement of measurability, because the merchandise of education is not (yet) sold straight to the market, but is resourced by public and private authorities, and it is of course in the interest of these authorities to shop around with different educational institutions to get the best human capital profit. Thus, for example, the common European education market area is now under construction. The concept of competence is thought to offer the required commensurable measurement instrument and consequently a planning and guiding instrument in educational politics (Lozano, Boni, Peris and Hueso, 2012).

Competence is a promising candidate for the product of education because it is something which is needed in the labour market, or at least is discussed in work and management discourses in addition to educational discourse (Mulder, Gulikers, Biemans and Wesselink, 2009). Unfortunately—or perhaps fortunately—there are deep problems and discrepancies in the definition of the concept of competence and its relationships to relative concepts like qualification, competency, attribute, skill, ability, capability, knowledge, attitude, value, etc. Also, the theoretical and ideological contents of the concept’s use have been an object of criticism.

My argument is that the possible usefulness of the concept of competence lies more in the analytical understanding and not, at least not directly, in the detailed measurement of the product of education. The promise of the semiotics of education lies in its possibility to help in understanding the meanings of education and educational action as meaning-mediated meaning-making. The concept of competence is central in understanding all action and thus an essential but neglected part of any viable theory of action. Nevertheless, it is a concept that is quite seldom used, even in semiotic theories other than the Greimassian.

SOME BACKGROUND TO AND RECENT DISCUSSION OF THE CONCEPT OF COMPETENCE

The current concept of competence has interesting ancient etymological roots from the Classical Latin *competere*: to be sound, capable, applicable; meet; happen at same time, coincide; *com*: together; *petere*: to seek, attack, aim at, desire (myEtymology.com). In 17th century German *Kompetenz*
meant a meeting, and from the 18th century on the adjective *kompetent* was generalised from jurisdiction to everyday use, meaning responsible or decisive (Grebe and Drosdowski, 1963, p. 350). This concept was brought to the area of education, and also more broadly to human sciences in the mid-1900s by American behaviourist psychologists Robert White and a little later David McClelland (Grzeda, 2005; Mulder, Gulikers, Biemans and Wesselink, 2009). There seem to be at least three different broad and established uses of the concept. The first is the behaviourist US tradition initiated by psychological studies about the personality characteristics behind superior performance (Winterton, 2009; Le Deist and Winterton, 2005). Central to this discourse is the concept of competency (plural: competencies) as behaviourally defined, task-based skills, and models for competency-based training (CBT). This thinking is then partly superseded by a more UK-centred Anglo-Saxon conception, which is broader and more functional, but still quite limited. Many writers regard continental German and French conceptions to be more fruitful because of their broader view on occupations instead of specific jobs and separate skills (Clarke and Winch, 2006; Wheelahan and Moodie, 2011).

Around the millennium, the European Union adopted competence as a central concept when trying to promote the education and especially lifelong learning of EU citizens (European Commission, 2006). A central part of this program is the so called ‘Bologna Process’ which aims at comparability of the studies, especially in higher education throughout the whole of Europe (Lozano, Boni, Peris and Hueso, 2012). Now, because of the problems with the concept of competence, a new tool called *learning outcomes* has been implemented. (Kennedy, Hyland and Ryan, 2009). Learning outcomes are ‘statements of what the learner is expected to know, understand and be able to do after successful completion of a process of learning’ (ECTS Users’ Guide, 2009). These statements should be measurable and formulated as clearly as possible, typically using active verbs describing what the student should be able to do. The thinking is that the qualification acquired from some study program should, on the one hand, correspond to the requirements of the labour market (i.e. competence) and on the other hand be explicitly described by learning outcomes. The learning outcomes are connected mainly to learning contexts, but not wholly, because especially in vocational education they are also used for so called competence-based qualification tests, where the student can show that she has acquired this competence outside formal education (Using Learning Outcomes, 2011).

It is hoped that the concept of competence can offer a common language and understanding between education authorities and the labour market and especially the management field. There have also been problems. Mainly because of the conceptual ambiguity of the concept of managerial competence, it has been suggested that it be replaced with the concepts of ‘managerial learning framework’ and especially ‘management career perspective’, as an indicator of managerial learning and performance (Grzeda, 2005). Chen and Chang (2010) take up, in addition to these ambiguities, the controversy between the viewpoints of competence as individual
employability versus competence as organizational sustained competitive advance. They also offer an interesting model of competence as an inter-play between individual potentiality and organizational core competence. In addition, this model contains a hidden versus visible dimension, where the hidden characteristics affect causally the visible characteristics, both individually and organizationally.

Perhaps the most severe criticism on the weakness and ambiguity of the concept of competence is addressed by Westera (2001) who suggests that the concept of competence should be altogether abandoned, at least by scientific educational discussion. According to him, there are two main problems. While competence is usually associated with successful performance in non-standard situations, it tries to give cognitive standards to behaviours that cannot be standardized. Secondly, competence does not offer any special new content in addition to the category of cognitive skills which are involved in coping with complex problems. One problem in his interesting analysis should be perhaps noted: he separates first the areas of skills, knowledge and attitudes as only determinants of human behaviour, then combines knowledge and skills with cognitive skills, seeming to leave out attitudes from the analysis. This is near to those views that competence is something that connects these three areas together.

The narrowly economic, utilitarian, individualistic, and ideological commitments of the discourse of competence have been criticized by many. One strong alternative that has been suggested is the *capabilities* approach (Lozano, Boni, Peris and Hueso, 2012; Wheelahan and Moodie, 2011). This approach was created by the development theorist and Nobel Laureate in economics Amartya Sen, and then developed, and modified especially to the area of education, by Martha Nussbaum (Sen, 2005; Nussbaum, 2003). One central difference between these approaches is that while competences have been seen as neutral tools for utilitarian individual happiness and collective competitiveness, capabilities are rather understood as ethically-loaded essential features of a human being (Wheelahan and Moodie, 2011; Lozano, Boni, Peris and Hueso, 2012). In a very Aristotelian manner, Nussbaum gives a list of ten central capabilities which are essential for a human being, including life, bodily health and integrity, senses, emotions etc.

Somewhat similar to the previous critique is the approach developed by Ron Barnett. In *The Limits of Competence* (Barnett, 1994), he analyses two contemporary and competing discourses of competence in the area of higher education: the new and dominating view of operational (work-based) competence, and the old and vanishing academic (discipline-based) competence. At the end of the book, he suggests that this contradiction could be overcome by a third view, which sees what he calls the ‘life-world becoming’ as the central task of higher education. In his later publications he has further developed this third alternative. He argues that our era is becoming one of ‘supercomplexity’, which means that not only are the systems of our environment as such growing more and more complex, but also the frameworks by which we orient ourselves to the world are themselves contested and in continuous change (Barnett, 2000a, 2000b). In this...
kind of reality, the key question is no longer skills (not even general skills) or knowledge, but the authentic being of the learner. The central categories in this being are qualities like carefulness, thoughtfulness, humility etc. (Barnett, 2004). He turns later to still more clearly ontological conceptions by separating dispositions and qualities. The latter are manifestations of the former, which are ontologically more fundamental categories. Examples of dispositions are a will to learn, a will to engage, a preparedness to listen etc. As a practical suggestion, he states that the process of becoming to know should develop these deeper dispositions and qualities of the becoming person (Barnett, 2009).

Some of those who have continued to use the concept of competence have also developed in similar directions as the above-mentioned critics. Mulder et al. (2009) talk about the ‘old’ and ‘new’ concepts of competence. The ‘new’ competence is an integrated set of capabilities, consisting of clusters of knowledge, skills and attitudes, and is a necessary conditional for certain performance and behaviour. A still more comprehensive view has been developed by Le Deist and Winterton (2005; Winterton, 2009) as a multidimensional and holistic model of competence, which should combine the different traditions in the field. He separates two axes: occupational versus personal and conceptual versus operational, and locates by cross-tabulation the four dimensions of competence. The first three are traditional areas of cognitive (occupational and conceptual: knowledge and understanding), functional (occupational and operational: psycho-motor and applied skills) and social (personal and operational; including behaviours and attitudes) competence. The fourth dimension, personal and conceptual is perhaps new, and he calls it meta-competence, meaning learning to learn.

We can see that, at least partly, the discussion seems to return to older roots. The structure of areas of cognitive functions, skills and attitudes is famous from Bloom’s taxonomy (Bloom, 1956), but it can be traced much further back to, for example, Pestalozzi’s view of education, which he saw as developing both society and the individual, and the latter as a whole consisting metaphorically of hand, head and heart. In addition to this personal and social holism, the idea of meta-competence is also clearly visible in the continental tradition of Bildung which developed the view of education as developing and overcoming prevailing situations and views (Kivelä, Siljander and Sutinen, 2012; Løvlie, Nordenbo and Mortenson, 2003; Pikkarainen, 2012).

Competence should therefore be seen as a concept which contains and somehow balances different sides of an individual person’s abilities and capabilities such as skills, attitudes, and cognitive functions. Additionally, it should connect and balance the views to an individual person on the one hand, and to the social and other environments of that person on the other hand. Thirdly, it should be connected to the deep essential or ontological features of a human being and it should help in planning, managing and measuring educational activities. Further, it should perhaps be applicable to the theoretical structures of scientific educational research and at the same time be usable in discussions between practitioners of education and man-
agement, politicians and the general public. Indeed, not any easy, if even a possible task for one concept; but let us anyway consider if the semiotics of education could cast some more light on this issue.

COMPETENCE IN SEMIOTICS: THE THEORY OF A. J. GREIMAS

Competence is a central concept in the semiotic theory of Greimas. He borrows it, with its counterpart performance, from the language theory of Chomsky. For Chomsky, linguistic competence is mainly the innate capability in the human being to learn to use human languages. He presumes in a very Kantian way that all languages are more or less structurally similar because of this innate competence common to all people. However, although all languages have this common basis, and at least every single language is similar to all users of that language, all the linguistic expressions that people produce are more or less different. Chomsky referred to these endlessly variable expressions by the concept of performance (Chomsky, 1965).

Greimas carefully avoids claiming anything about the innateness or ontological character of competence. Rather, he tries to replace and generalise the Saussurean concepts of la langue and parole with competence and performance respectively. Competence is something virtual which is actualised and realised in performance. He applies these concepts in all action instead of just linguistic or communicative action. ‘By contrast to performance, which is a doing . . ., competence is . . . “that something” which makes doing possible’ (Greimas and Courtés, 1982, pp. 44–45).

For us to understand any processes we witness as action, we must suppose that there is a subject with a certain competence who is causing the events of that process. So, if we understand some process as action, then we necessarily need to find the subject and presuppose the needed competence in that subject. Competence can therefore be seen as a special kind of feature or property of a subject, but unlike many other ordinary properties, like size or colour, the competence is not observable as such. Instead, competence can only be inferred from the action of the subject. In this sense, we can say that the overt action, performance, is a sensible sign referring to invisible competence.

Greimas stresses, especially in the context of education (semiotics of didactics or instruction), that competence must be understood in a neutral and formal way. Whatever a subject does—be it good or bad, valuable or worthless, superb or inferior—there is always a certain competence behind that action. So competence must be defined by its general structure and position, and not by the specific contents or standards as has been done in the discussion reviewed above. ‘The analysis of didactic discourse tries first to recognize the forms on which it is built: instead the research of the often implicit contents based on these forms belongs to the area of semiotics of cultures and ideologies’ (Greimas, 1979).

Why is the concept of competence so important for Greimas, unlike any other branch of semiotics? The reason can be seen in some of the basic
principles of his theory. Firstly, the research object of semiotics is any discourse i.e. a meaningful object or signifying ensemble (Schleifer, 1987, p. xix). If an object or whole is meaningful, i.e. it creates a felt meaning-effect, it has a structure, or rather is analysable by the structure of generative trajectory (Greimas and Courtés, 1982, pp. 132–134). In this trajectory there are different, deep and surface levels. One very central level is called narrative, and in it the meaning has a structure whereby some subject (or actant; see Greimas, 1976, 1979) is doing or trying to do something. It is always a question of some subject’s action—and her competence as a prerequisite of that action—in semiotics, but this subject and this action are strictly internal to the studied discourse for Greimas. In the action theoretical semiotic approach, which the present author has been developing (Pikkarainen, 2004, 2010), the subject who experiences the meaning-effect of the discourse is taken into account. The meaning is defined as an effect on the action of that subject, and then naturally the competence of that subject is determining the nature of that effect.

Why does competence not seem to be such a central concept in the Peircean tradition, which is another and clearly more popular branch of semiotics? That tradition can similarly be said to be interested in meaning or signification, which is called here semiosis. Further, similarly the sign exists in semiosis only as one corner of its triadic structure, just as the signifying whole exists only if it causes a meaning-effect. The other corners of the triadic semiosis are the object, something which the sign is about, and the interpretant which roughly corresponds to the meaning-effect. Semiosis as a process takes place so that the sign creates an interpretant which is in a similar relation to the object as the sign is. Especially in his earlier formulations, Peirce stressed that the interpretant is given birth in a subject, an interpreter. But nevertheless, the subject is not a part of semiosis and it seems that the nature of the interpretant depends only on the sign and its relationship to the object (e.g. Short, 2004). So it seems that at least the filtrating, but probably even the creative effect of the interpretive competence of the subject is unduly neglected. Of course, taking into account the character of the interpreter would give rise to a danger of psychologism for pure semiotics, but for the semiotics of education, the neglecting of competence is not even possible. Actually the idea of competence is referred to in the Peircean and pragmatist tradition with the concept of habit (Pesce, 2014, this issue).

THE ONTOLOGICAL POINT OF VIEW: COMPETENCE AND DISPOSITION

The Greimassian concept of competence as a formal placeholder for all invisible but existing, or supposed features, or something which makes it possible for a subject to act in the way she does, is quite distinct and lucid, but at the same time perhaps somewhat pale and empty. At this phase, we try—contrary to Greimas’ methodological ideas—to understand more by comparing competence to the ontological concept of disposition. Similarly,
disposition is often thought of as a normally invisible (or virtual in Greimasian parlance) character of an object, which manifests itself and becomes visible or actual only in some special situation; for example, the fragility of glass, which is invisible and virtual as long as the glass remains intact, but which manifests and actualises when something hits the glass. Here we can see a strong structural equivalence: both competence and disposition are things which at some time are invisible or virtual, and which at some other time are manifested and actualised. There can be at least one difference though: the actualization of the disposition is often thought to be caused by some external effect, like a blow in the case of glass and fragility. Instead we often think that competences become actualized as a performance when the subject decides to do something (cf. Maier, 2010).

It is quite typical to make a distinction between dispositions and the so-called qualitative, categorical or occurrent properties (Armstrong, Martin, Place and Crane, 2002; Choi and Fara, 2012). Contrary to dispositions, the qualitative properties—qualities from now on—are never virtual, but always, if present, they are actual. So all the normal everyday properties of objects like size, colour, weight, hardness, long-hairedness etc. are qualities. This common division is challenged by the ontological approach developed by C. B. Martin and John Heil, and this approach seems very fruitful especially for the philosophy of education (see Pikkarainen, 2013). Briefly, this theory states that all properties are at the same time dispositional and qualitative, or rather have both a dispositional and qualitative side. This means that the manifested disposition becomes a quality (fragility becomes brokenness) and every quality is a manifested disposition (redness is a disposition to reflect red light when lighted). So any object can only manifest such qualities for which it has dispositions, but on the other hand we can know about the dispositions of an object only after they have been manifested as qualities (Martin, 2002).

Still more important is the idea that causality can be defined by the manifestation of the dispositions. Martin calls this the ‘mutual manifestation of reciprocal dispositions view of causality’ (Martin, 1993). Every disposition requires reciprocally a disposition partner for manifestation, like salt needs water to manifest its solubility and water needs salt to manifest its solvability. The examples used are typically pairs or objects, but I believe that this view can be generalised and complicated so that there may be two or more principal partners, but many other objects which must somehow be present or connected for certain manifestations to take place. This gives an egalitarian picture of the causal relations: it is not so that some external forces cause something to happen to the certain object X, but what will happen depends on both X’s and the external objects’ dispositions. So we can say that a disposition is a readiness to manifest something in a certain environment. A disposition can manifest differently or not at all in different environments. So everything is able to manifest (i.e. do or be) more than it ever does. We can only know the dispositions that have been manifested.

This description of dispositions offers a useful structural similarity between dispositions and competences. We can think that action or doing is
a process whereby the subject causes something to happen to some object. Now, for that doing to be possible for the subject that certain suitable object must be present, just like the manifestation of some quality requires the certain disposition partner. You may want to open the door, but it is not possible for you if there is no closed door available (Pikkarainen, 2010). More generally it can be said that a certain kind of action is possible only in a certain kind of environment.

Dispositions and competences are both something belonging to the properties of some entity—object or subject—and the manifestation of them both is dependent on the environment of that entity. Properties can be seen as ways of being of those entities (Heil, 2003). So an object can have a disposition, for example fragility, as a part of its way of being even though it is still intact and even if it never breaks. In a similar way, a human being can have a competence, for example to sing in tune, even if she never sings. The breaking of the fragile object will eventually happen if the certain disposition partners are present (something hard enough hitting it with enough force). Similarly some environment can ‘make’ a human being sing, or at least when she decides to sing she will probably take into account the environment where it happens.

Even if competence and disposition seem very similar, for the sake of conceptual clarity we should try to keep them separate. Perhaps we could define competence as a special kind of disposition, or rather a complex composition of dispositions. Dispositions belong to all kinds of objects, being basically physical in their nature and manifesting as any observable or measurable qualities. Competences, however, belong to human beings and animals which are able to act. Thus, those bearers of competences can be also called subjects as well as objects. A competence becomes manifest particularly and exclusively as an action of that subject. The complexity of competences, as compared to dispositions, gives rise to the fact that they can become manifest in very different and unforeseeable manners in different or even in almost similar situations. So it at least appears to be more or less possible for the subject herself to control how a particular competence is manifested in a certain environment.

SKILLS, KNOWLEDGE, ATTITUDES ETC.: MODALITIES AS DIMENSIONS OF COMPETENCE

Greimas regards his (re)invention of the conception of modalities as his greatest achievement, the ‘third revolution’ in the development of semiotics (Tarasti, 2012). Briefly and generally, a modal structure means that one signifying object (typically a linguistic expression) determines another one. A basic or canonical case is action where the statement of doing—or physical doing of a subject—modalizes the statement of being—or the properties as ways of being of an object. Logically this basic modalization as action (performance) is always preceded by another one, where the being of the subject as its competence modalizes its action as performance. (Greimas and Courtés, 1982, p. 193–194.) This latter modalization as such
is always reflexive: only the subject’s own competence determines her own action; but we must of course remember that also the environment, containing the object and things, determines the action of the subject, at least its results and degree of success.

Modalization is an important structural principle of any signifying whole. We can even think that the whole world, as a more or less deterministic historical process, has this structure where always the previous events modalize subsequent ones. So we must of course ask how it is that the subject has just that kind of competence at that moment—naturally the competences change just like other properties. I will return to this question of competence change later but now we will concentrate to Greimas’ view of (internal) overmodalizations of competence (Greimas, 1987, pp. 121ff; Greimas and Courtés, 1982).

Greimas differentiates two types or rather levels in the concept of competence. The first level is called semantic (though ‘neutral’ could be a more descriptive expression) competence and it refers just to a certain type of action, for example the competence to calculate equations, or the competence to ride a bicycle. The second, and much more important and interesting level, is called modal competence. This refers to the particular modalization of any semantic competence. There are four main types of such modalities and they are called:

- /wanting/
- /having-to/
- /being-able/
- /knowing/

We can think that a plain semantic competence is something that can be manifest in action simply randomly, if at all—as with the example of singing above. Someone who can ride a bicycle may ride sometimes or never, and thus we can never know if she has that competence really. That competence may not affect or determine her action in any way. We must of course remember the role of the environment: if no bicycle is available, then she cannot perform riding, but even if there were one, she may rather walk and not ride. But if her riding competence is modalized by wanting then it is very probable that she will manifest her competence and perform riding when it is possible. Perhaps a totally unmodalized competence is in practice not even possible, but it can be thought of as an extreme case.

It must be noted that these kinds of modalities can also modalize being. For example, a subject may want something to be in a certain way, she can even want to have some certain competence herself. In a discourse some object can be modalized as desirable etc. These modalizations do not of course change things directly but as they change the meanings of the things, they can affect the action of subjects and thus indirectly change the state of affairs. The most basic and common semiotic modalities of objects are the opposite terms of good and bad, where the former usually makes the objects also desirable, and the latter makes them undesirable.
This conception of modalities of competence has a close relationship to modal logic. The semiotic modal structures can be formally described in a similar way as in logic. Let us mark the subject with \( x \), modality with the capitalized first letter of its name (/wanting/ = \( W \), /having-to/ = \( H \), /being-able/ = \( A \), /knowing/ = \( K \)), the modalized doing with \( \mathcal{D} \) and negation with \( \neg \). Then we can see that there are four different cases for every modality:

- \( x \mathcal{D} W \): \( x \) wants to do \( \mathcal{D} \).
- \( x \neg \mathcal{D} W \): \( x \) does not want to do \( \mathcal{D} \).
- \( x \mathcal{D} \neg W \): \( x \) wants not to do \( \mathcal{D} \), wants to avoid doing \( \mathcal{D} \).
- \( x \neg \mathcal{D} \neg W \): \( x \) does not want to avoid doing \( \mathcal{D} \).

While negation in logic typically means not true and is bound to binary values of truth, here it rather can be interpreted as a relative lack of a gradually quantitative modality. This means that someone can want something more or less. So any modality can be stronger or weaker. All four modalities form these four cases and for any doing they can together form different combinations where one or more modality may be strong and others not so significant—or all can be strong. So we can get, for example, these kinds of modalizations:

- \( x \mathcal{D} W + x \mathcal{D} A \): \( x \) wants to do \( \mathcal{D} \) and is able to do \( \mathcal{D} \) (so probably doing will take place).
- \( x \neg \mathcal{D} W + x \neg A \neg \mathcal{D} \): \( x \) does not want to do \( \mathcal{X} \) but cannot help doing it (she is forced, perhaps by addiction etc.).
- \( x \mathcal{D} \neg W + x \mathcal{D} H \): \( x \) wants to avoid doing \( \mathcal{D} \) but she has to do it (here desire and perceived duty are in contradistinction and the stronger will win).

Greimas classifies modalities to virtualizing (\( W \) and \( H \)) and actualizing (\( A \) and \( K \)) on the one hand and to exotactic (external, \( H \) and \( A \)) and endotactic (internal, \( W \) and \( K \)) on the other hand (Greimas and Courtés, 1982, p. 195). Tarasti in his remarkable theory project of existential semiotics (Tarasti, 2012, pp. 328–329) situates these modalities in a model which aptly describes the basic tensions and determinants of growth or the Bildung process. In this Z-formed model \( H \) refers to social norms and values, and \( K \) to social roles and institutions. \( W \) is connected to individual and bodily primary energy, and \( A \) to individual identity and personality. The social and individual sides are connected by \( K \) and \( A \). From these two important starting points, I have formed the following model of the characters of modalities and their relationships (Figure 1):

<table>
<thead>
<tr>
<th></th>
<th>Conative</th>
<th>Alethic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual and immediate</td>
<td>1. Wanting</td>
<td>2. Being-able</td>
</tr>
<tr>
<td>Social and mediated</td>
<td>4. Having-to</td>
<td>3. Knowing</td>
</tr>
</tbody>
</table>

**Figure 1:** Model of the Characters of Modalities and their Relationships
/Wanting/ is the original internal conative force in every living being, which makes us do what we do. It can be triggered by needs and/or environmental stimuli, and its content and strength changes according to the subject’s state and experiences. The phenomenon of wanting is often referred to with the terms motivation, will, choice, volition, intention etc. It is important to note that wanting as such does not realize the doing wholly or at all, but rather at most the attempt to do. The realization of the doing in the wanted way requires the second modality of /being-able/. We can presume that repeated attempts to do something in the absence of being-able and without any success will lead to vanishing (negation) of the wanting, and on the other hand successful being-able will lead to the habit of doing and the strengthening of the modalized competence. A strong habit to act in a certain way in a certain situation can be seen as a primitive form of belief. These beliefs can then expand to /knowing/ by the social activity of observing the actions of others, which by a comparison of beliefs leads to a form of dialogue and argumentation.

The phase of knowing makes it possible for the individual subject to separate and compare the desires, needs and states of herself and other members of the society. So her own immediate desire in some situation can come into contradistinction with a certain doing which she knows that she /has-to/ do as member of society. The /having-to/ do i.e. a duty can win and transcend the contradictory /wanting/ only if in the subject there has been formed, in addition to this special desire, a stronger general desire to do her duty. This stronger desire can displace temporarily, and perhaps also convert, the individual immediate desires in repetitive actions. So I claim that the development and change of modalities can be best modelled as a cycle or spiral rather than a double way Z as in Tarasti’s model, where the social and individual extreme poles seem like anchors between which every change happens, but they themselves do not change.

The traditional dimensions of competence: knowledge, skills and attitudes—or head, hand and heart—can now be seen and restructured as combinations of these modalities. This restructuring will also help us to better understand the wholeness of the competence. Attitudes, skills and knowledge are not separate competences or competence areas, but rather components in one and the same whole competence. We could say that skills without knowledge are blind, knowledge without skills is empty, and both knowledge and skills without attitudes are inert and ineffective. This view stresses that knowledge and knowing as cognitive action is really action which requires skills and attitudes just like with any material action. The latter respectively requires and formats knowledge and skills, and will not take place at all without a right attitude, i.e. wanting and having to do.

COMPETENCE IN RELATION TO TEACHING AND LEARNING

The behaviour and action of a human being therefore depends, on the one hand, on her environment and, on the other hand, on her competence. In
education, we are trying to affect the future action of our students. Because
the action depends either on the environment or on competence, we can
respectively affect it by causing changes either in the environment or in
competence. My claim is that only the latter is called education. Often we
are trying to affect the future action of people by making changes to the
environment of this action, but this activity should rather be called plan-
ning, design, policy or something else, but not education. In education we
of course make changes in the environment of our students, but this takes
place usually in special, temporary environments, and is thus meant to
affect only their current action. We hope that in these temporary educa-
tional environments our student’s competence will change so that they
would act in good and rational ways in their future environments over
which we have no direct control.

We can therefore define education, or rather teaching, as an attempt to
bring about changes in someone’s competence. How then can this change
happen? Competences do change, but what is the mechanism whereby this
happens and how could it be controlled. Probably they change in at least
three ways: possibly just by chance, because of the natural maturation
processes of the body and through the subject’s own action. The first way
is by definition uncontrollable. The second has its own deterministic
unfolding which can mainly be affected only either by causing unhealthy
perturbations or by attempts to prevent and cure them. This latter is the core
area of medicine. Only the third way, the change of competence through the
subject’s own action, is the activity area of education, and it is traditionally
called learning.

The basic structure of the learning process can be described by the next
schema:

- At time 1 the subject x has a competence C1 which makes it possible
  for her to perform doing D1.
- At time 1.1 x performs D1 and that will cause her competence to
  change to C2.
- At time 2 x has a competence C2 which makes it possible for her to
  perform doing D2.

Now, if the teacher wants to teach to the student the doing of D2, i.e.
create a competence C2, she must first know or guess what doing D1
could possibly cause in the creation of C2. Then she must know or
guess that the student has a competence C1 which will only make it
possible for her to do that D1. If the student does not have C1, she may
possibly do something like D1 which will however not create C2. To
know whether the student has acquired the C2, the teacher should make
her do D2 etc. If these doings and their environments are defined strictly
and simply enough the teacher’s inferences could be quite reliable,
but when we talk about such competences which are required in certain
occupations or general competences such as multicultural communication
and understanding, or healthy living, then the teacher is absolutely in
trouble.
Even if our student does some required performance D2 in a certain environment, we still cannot know what she would do in a different environment. If her competence C1 is different from what we think, she will understand the environment and our requirement differently from what we presume. Then she will be trying to do something other than what we suppose she is doing. All these problems are necessary and inevitable in education. If we further take into account all the dimensions of the competence such as the modalities, the picture will become even more complicated. Yet at the same time we will acquire more tools for our teaching (Hoffmann, 2000), because we can ‘make’ students do anything only by modalizing their environments and their meanings. The modalities will bring the emotions with them which offer one more challenge for teachers, but again also richness, contents and abilities to plan and experience education in a much more affordable way than the often so dry and sterile institutional teaching.

CONCLUSIONS

In conclusion we can say that the concept of competence seems to be a useful theoretical tool when we try to understand the basic structure of education and all action. In principle, this structure is simple: the action of a subject is determined, on the one hand, by her own competence and, on the other hand, by her environment. In action the subject causes effects on her environment, and this in turn affects her own competence. Any subject can directly affect only her own and other subjects’ environment but no-one’s competence and not even anyone’s performance. Every subject interprets her environment herself, and depending on her existing competence decides what she wants to do. Competence as such is always a wholly invisible internal condition of the visible action as performance. However, in education we must try to affect and evaluate that competence and it can happen only indirectly and insecurely by interpreting and inferring from the visible performances. The relationship of competence and performance is like that of an iceberg and its visible peak, with the difference that what kind of peak is visible at any time depends on the changing environment. That is why education in not so simple and secure in practice.

As for the requirement of critics like Barnett and his followers (Dall’Alba and Barnacle, 2007; Pio and Varkøy, 2012) that education—even and especially higher education—should develop the whole personality, the authentic being of the students, we can learn from the theory of modal competence that education is inevitably just that. Always when we teach some knowledge or skill as a bare semantic competence, we at the same time unavoidably teach also to the student that she either can do that or she cannot; and that she knows how and why to do that, or that she does not know; and that she has to do that in some situation, or she does not have to; and most remarkably that she does or does not want to do that. This all forms the basic and deepest way of being of a human as a subject of human action. Though it tends to be forgotten every now and then, this has been
the necessary core of our view of education at least from the days of Comenius.

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REFERENCES


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