LEARNING TO LEARN – A METHOD IN ACTION

Literature Review // Synthesis Report

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This report has been produced in the framework of the two-year LEARNING TO LEARN project.

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Introduction

Between November 2008 and October 2010, a European network of seven organisations has worked together to develop, implement and analyse innovative approaches in the field of non-formal adult education that aim to develop the competence that enables learners to plan, organise, implement and assess their own learning, in particular within the framework of self-directed learning.

The project considers *learning to learn* as *the* key competence area for lifelong learning and, therefore, wants to support educational staff to acquire and develop competences and methodologies they need to foster *learning to learn*. It received financial support through the Grundtvig Action of the Lifelong Learning Programme of the European Commission.

The project began with desk research to compile literature reviews on understandings of and approaches to *learning to learn* in order to explore related concepts, theories and practices. Six literature reviews were produced, investigating dimensions of *learning to learn* in English, German, Italian, Lithuanian, Slovenian and Spanish discourses. This synthesis report summarises the main findings.

Learning to learn remains, despite the increasing political and academic attention it enjoys, a slippery and contested notion (James et al. 2007: 20) with multiple connotations. Its conceptualisation is characterised by much confusion and it lacks a solid theoretical foundation.

Across the different language domains, little research exists to date on *learning to learn* in adult education[1]. Most of the available research work has focused on *learning to learn* amongst school students and young people in formal and non-formal education. There is no conclusive evidence and no agreement as to whether and how the findings of research related to young people can or cannot be transferred to the context of adult education. The reviews show, however, that in youth **and** adult education *learning to learn* is predominantly understood as a method-in-action: people have to engage in the activity itself to learn about it.

Learning remains at the core of the *learning to learn* discourse, and this synthesis report consequently returns to contemporary understandings of learning. In doing so it responds to problematic issues that had become clear through the literature reviews and attempts to increase theoretical clarity by explicating the concepts of learning that underpin the various frameworks of *learning to learn*.

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[1] Fevre et al. point out that there has been little research into learning that is not institutionalised or accredited, and thus a great deal of learning goes on but is virtually unnoticed. (2000: 64)

In this attempt to anchor the divergent understandings of *learning to learn*, the report introduces a range of approaches to conceptualising learning, in particular those frameworks which seek to overcome the segmentation of theories and theorists between cognitive learning theories, on the one hand, and situated learning theories, on the other hand.

These integrative frameworks, which embrace cognitive psychological and social cultural perspectives – some in connection with exploring *learning to learn* – start from the observation that understanding of learning as *either* a purely individual *or* an exclusively social perspective, however suited such perspective may be in pursuit of particular aspects, inevitably falls short of the mark.

The acknowledgement that learning is a complex phenomenon calling for integrated and not for segmented approaches may seem common-sensical to educational practitioners – who typically work at the crossroads of cognitive and situated approaches, but do not necessarily overtly reflect on the significance of their practice in this respect.

This paradigm shift towards integrated perspectives drawing on a variety of disciplines carries transformative reconceptualising potential for capturing innovative resolutions with respect to incongruities and contradictions between theory and practice.

On the whole, the outcome of the literature reviews suggests that plenty of room remains for theory development rooted both in recently emerging holistic understandings of learning as well as traditionally holistic approaches of educational practice in (non-formal) adult education/learning.

The research component of the *learning to learn* project will return to this challenge in 2010 with a report outlining the main findings in response to the central research question of the project in exploration of *learning to learn*: "How is learning competence acquired in selected (non-formal) adult education settings?"

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On terminology

The European Union has described *learning to learn* as one of eight areas of key competence[2] adhering to "the ability to pursue and persist in learning, both individually and in groups." (European Communities 2007: 10)

Learning to learn, however, has – across the domains of policy, research and practice – acquired a wide range of meanings, resulting in a prominent yet fuzzy notion. There are various claims, definitions and understandings of what constitutes *learning to learn*, and what it really is – some of them competing, others complementary.

In academic writing, *learning to learn* is commonly described as a notion that encompasses both activity and aim, both process and goal (e.g. Candy 1990, Smith 1990, Claxton 2003, Chisholm 2006). There is no evidence to conclude that the aim is more important than the process – or vice versa.

The political connotation of *learning to learn* as a competence[3] has nonetheless frequently led to strategies narrowed down to learning *how* to learn. Notwithstanding the potential validity of a theoretical argument for this approach, there is no empirical substantiation – in fact, not even circumstantial evidence – to argue that *how* to learn is any more important than *what* to learn, *why* to learn, *when* to learn, *where* to learn, *with whom* to learn or *whether* to learn[4].

Beyond the generally shared understanding of *learning to learn* as encompassing a process <u>and</u> describing a goal, there is neither a singular definition nor a unified approach to what *learning to learn* is or what it should comprise.

Amidst this conceptual multiplicity, Philip Candy introduced – with one of the first pieces on learning to learn and in an attempt to distinguish process from outcome – the use of *learning competence* and *learning competence development* for capturing the outcome and process aspects of *learning to learn* across learning domains (Candy 1990: 56).

This report usually refers to the terminology as originally introduced by the different authors. When used, *learning competence* refers to the meaning of *learning to learn* as a <u>goal</u> – the possession of the competence, whereas *learning competence development* refers to the meaning of *learning to learn* as a <u>process</u> – the acquisition and construction of the competence.

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[2] The eight key competences comprise the *European Framework for Key Competences for Lifelong Learning*, introduced at http://ec.europa.eu/education/lifelong-learning-policy/doc42_en.htm.

[3] Competence is, in this context, understood as the proven ability to use knowledge, skills and personal, social and/or methodological abilities (European Qualifications Framework).

[4] There is, on the other hand, plenty of evidence showcasing that the traditionally exclusive focus on knowledge – what to learn – and its recent expansion to skills – how to learn – is not sufficient to embrace the complexity of (lifelong) learning.

O this learning, what a thing it is!   William Shakespeare, *The Taming of the Shrew*

Definitions and discourses

During the last decade, the idea of learning has enjoyed increasing prominence not only in numerous policy areas, but also in various fields of research. There is, however, no generally accepted understanding of how to best approach the topic, and no universally accepted definition of the concept either: "Definitions of learning and learning processes are indisputably historically and culturally variable." (Chisholm and Demetriou 2006: 1)

Two very wide definitions may serve as a starting point to explore learning:

> Illeris defines learning broadly as "any process that in living organisms leads to permanent capacity change and which is not solely due to biological maturation or ageing." (2007: 3)

> Livingstone defines learning generically as "the gaining of knowledge or skill anytime and anywhere through individual and group processes." (2005: 3)

Both authors use their definition as a vantage point to develop a conceptual understanding of learning in an attempt to overcome the segmentation of learning theories and theorists.

Predominantly, the discourse has been marked by a dualist view of learning as either individual or social, represented by **cognitive** learning theories, on the one hand, and **situated** learning theories, on the other hand[5].

The cognitive perspective approaches learning mainly as a psychological matter, and aims to explore how human beings process information and construct new knowledge, acquire new skills or form new understanding. Main founding theorists include Piaget and Chomsky.

The social perspective approaches learning from the social dynamic of learning in the context in which it is situated, and aims to explore how knowledge, skills and attitudes are constructed through social interaction, often seen as participation in communities of practice. Main founding theorists include Vygotsky and Bernstein.

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[5] With the neurosciences, a third distinct area of research has recently added its voice and perspective to the multi-faceted discourse on learning.

In addition, several schools of thought exist in or are complementary to these areas, including but by no means limited to the often-cited tripod of behaviourism, constructivism and socioculturalism.

In recent years, attempts have increased to develop understandings of learning that embrace cognitive, psychological and social cultural perspectives – some such attempts notably in connection with exploring and discussing *learning to learn*.

Illeris has attempted to outline the main areas of the understanding of learning, maintaining that a comprehensive understanding of the extensive and complicated processes underlying learning can only be gained by extending the focus of analysis beyond the nature of learning itself to all the conditions that influence and are influenced by the processes of learning (Illeris 2009: 7).
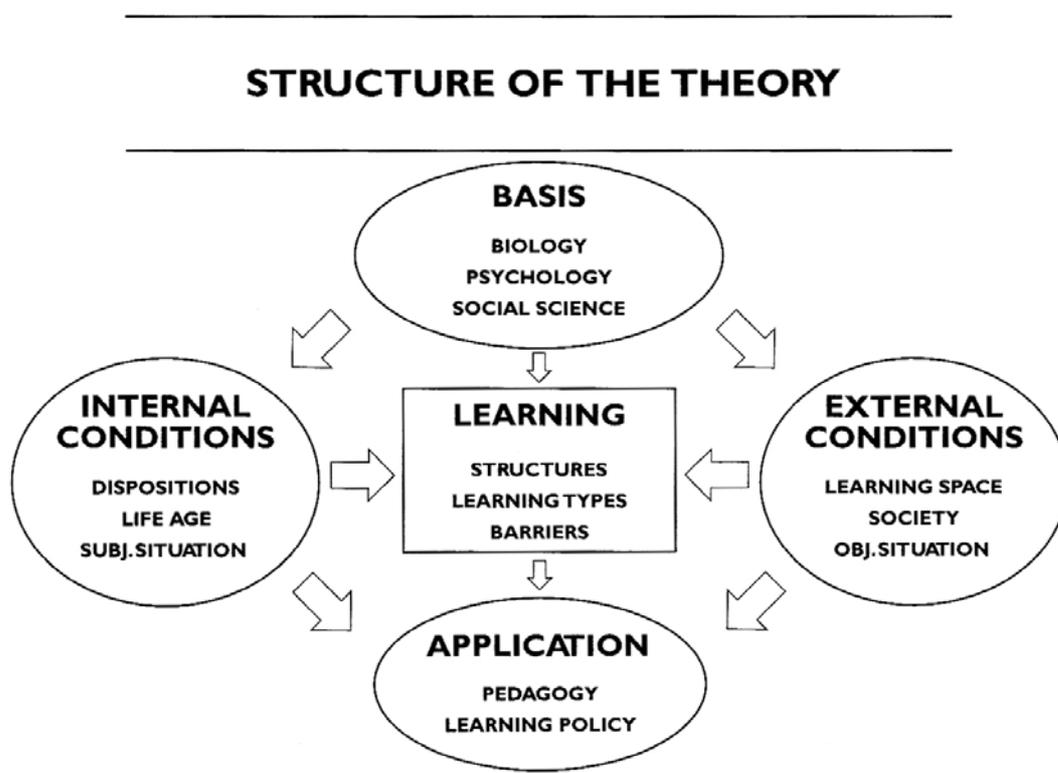
Figure 1: The main areas of the understanding of learning (Illeris 2009: 8)

Many of the authors searching for a comprehensive view on learning take as their point of departure that it is not enough to limit the understanding of learning to either a purely individual or an exclusively social perspective, arguing that learning is "a complex phenomenon, a fuller understanding of which is to be achieved by focusing on both individual and social processes, together with the relations between human subjects and their social worlds" (Chisholm and Demetriou 2006: 1).

Through such an approach seeking for complementarity, it is argued, it could be better understood how learning takes place and under which circumstances learning processes are most effective – thus making a contribution to understand better what *learning to learn* is and how it takes place.

Illeris, in what many learning theorists consider ground-breaking work in connecting traditionally separate discourses, constructs a model of learning that takes into account social understandings of learning – captured through interactions between learners and their environment – and cognitive approaches to learning – captured by the acquisition process of learning – which results in the three dimensions of learning, embedded in and framed by societal context. These three learning dimensions, Illeris argues, "must always be considered if an understanding or analysis of a learning situation is to be adequate" (Illeris 2007: 25)[6].

Figure 2: The three dimensions of learning (Illeris 2007: 26)

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[6]   Illeris not only used his encircled triangular understanding of learning shown in Figure 2 to map different approaches and understandings of learning; he also attempted to develop his own model, to be located at the centre of the triangle – see figure 5 on page 12.

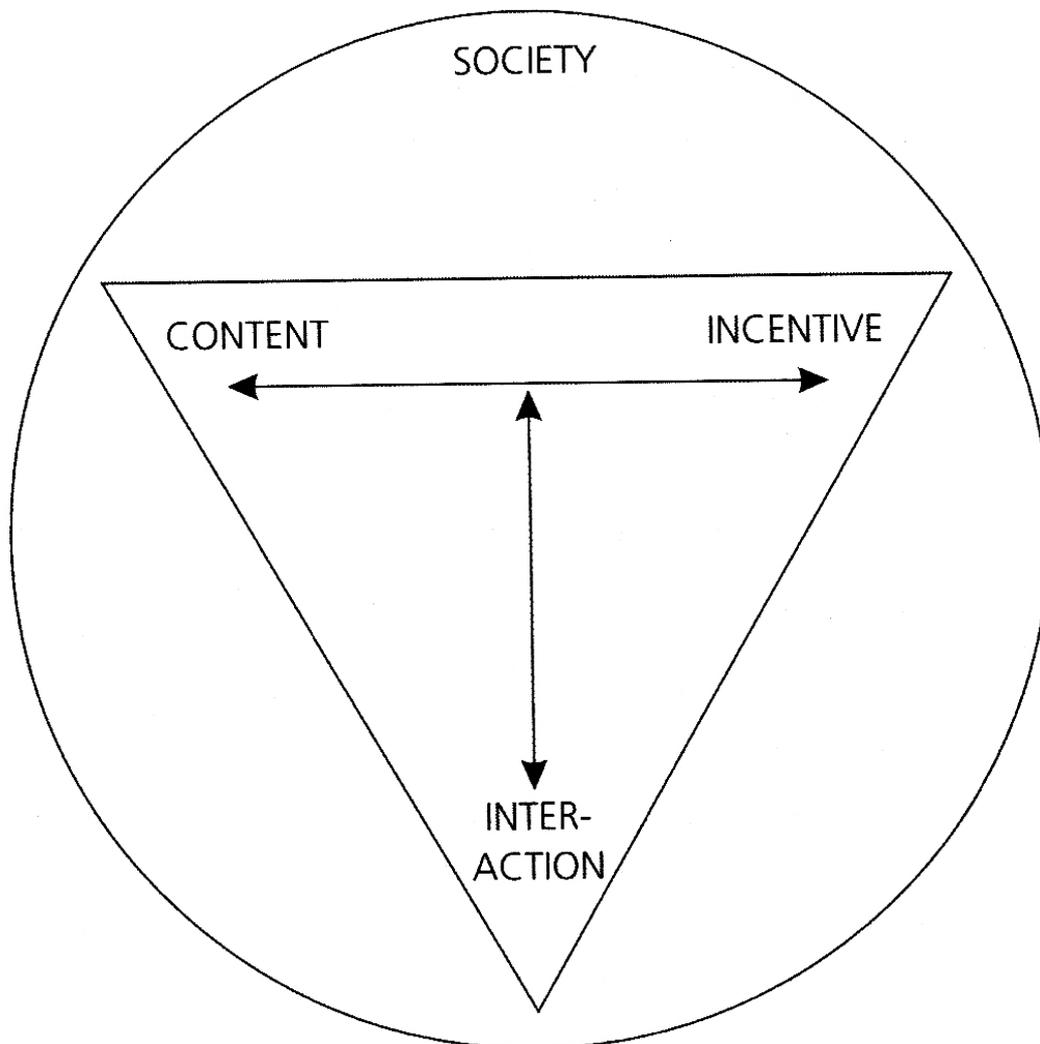To many educators in (non-formal) adult education this may seem commonsensical, but in learning theory such comprehensive approaches are comparatively new and certainly rare, and remain disputed. Most researchers do not (yet) engage in conceptual bridging, many view it suspiciously (if at all), and some authors contend that the two conflicting paradigms of learning – learning as acquisition and learning as participation (Sfard 1998) – are largely incompatible (Alexander 2007).

No educational practitioner, however, would dare to only look at the context in which learning is situated, or to exclusively consider the perspective of the individual learner. It may often be an unconscious or unreflected decision, but educational practice is commonly placed at the crossroads of cognitive and situated approaches – even more so when exploring *learning to learn*.

Consequently, this synthesis report concentrates on what some have described as a conceptual upheaval (Sfard 1998): the intersection between the cognitive metaphor of acquisition that views learning as an individual process of acquisition, and the socio-cultural metaphor of participation that views learning as a situational process of construction.

In confirmation of much educational practice in (non-formal) adult education/learning, empirical research has also shown that one-sided theoretical approaches favouring or ignoring one of these two metaphors lead to theoretical distortions, and ultimately to undesirable and ineffective practices.

Hodkinson et al. argue that, within further education, a multitude of aspects influence learning. Their empirical research has shown that none of these is universally pre-eminent, that each factor is influenced by the others, and that "it was the relations between them that influenced learning." (2007: 29)

- the positions, dispositions and actions of learners (students)
- the positions, dispositions and actions of educators (tutors)
- the location and resources of the learning site
- the syllabus or course specification
- the assessment and qualification specifications
- the interrelationships between learners and educators
- the range of other learning sites students are engaged in
- the approaches of management and procedures at the learning site
- the wider vocational and academic cultures
- the wider social and cultural values and practices.

Next, some of the emerging comprehensive approaches at the intersection of cognitive and situated understandings of learning will be introduced.

Three dimensions of learning – Knud Illeris

Illeris not only used his model of learning introduced above to map different approaches and understandings of learning. He also attempted to develop his own model, to be located at the centre of the triangle spanned by the three dimensions of learning. Figure 3 illustrates his claim – and quite usefully also locates many theorists of learning in his arguably useful, though certainly not exclusive or universally valid or accepted, framework.

CONTENT   *developmental psychology*   INCENTIVE

PIAGET   NISSEN   FURTH   ROGERS   FREUD
KOLB   DAMASIO   HERON
                                      GOLEMAN
        DEWEY   ERIKSON
BANDURA
           MEZIROW   ZIEHE
           BROOKFIELD
                            LORENZER
VYGOTSKY   SCHÖN
                    LEITHÄUSER
          ARGYRIS
              KEGAN
ENGESTRÖM   ★
activity theory   *socialisation theory*
            JARVIS   BECKER-
     HOLZKAMP   WENGER   SCHMIDT
       LEONTJEV
           WILDEMEERSCH
            FREIRE   NEGT
       LAVE
         BRUNER   ALHEIT
           GERGEN
           USHER
         BOURDIEU
         GIDDENS
         BECK

INTERACTION

Figure 3: Positions in the tension field of learning (Illeris 2007: 257)

Figure 4 substantiates his assertedly comprehensive approach to learning, arguing that learning content (the 1st dimension) serves to construct meaning and ability and develop personal functionality, that incentive (the 2nd dimension) secures the mental balance of the learner and develops personal sensitivity, and that interaction (the 3rd dimension) provides impulses to initiate learning, serves personal integration and builds up the sociality of the learner.
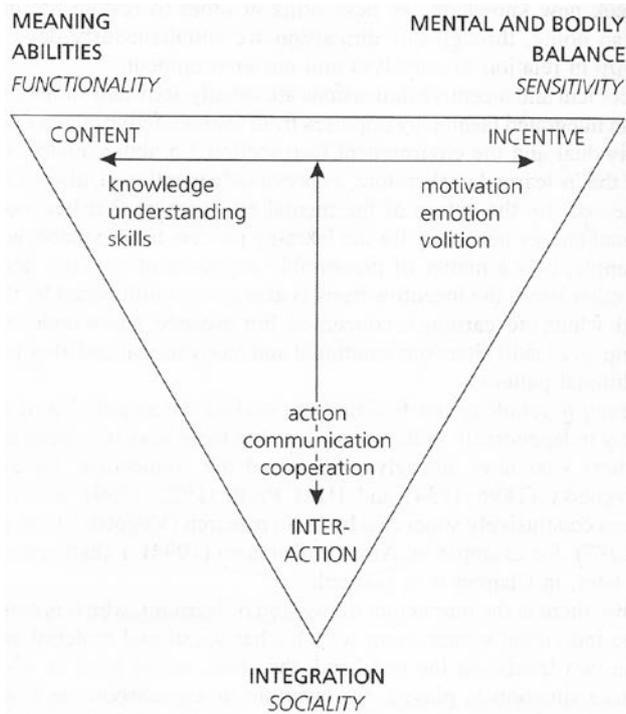
Figure 4: The three dimensions of learning (Illeris 2009: 10)

In response to criticism that, in departing from a constructivist point of view (and Illeris admits that much, 2009: 12), he failed to fully consider the situational aspect (Hodkinson 2007: 37), the three dimensions of learning were later complemented with a second triangle of interaction.

In doing so, Illeris contends that situatedness has a dual nature, in that learning is situated both in the social context of the immediate learning environment as well as in larger societal contexts, which determine values, norms as well as structures.
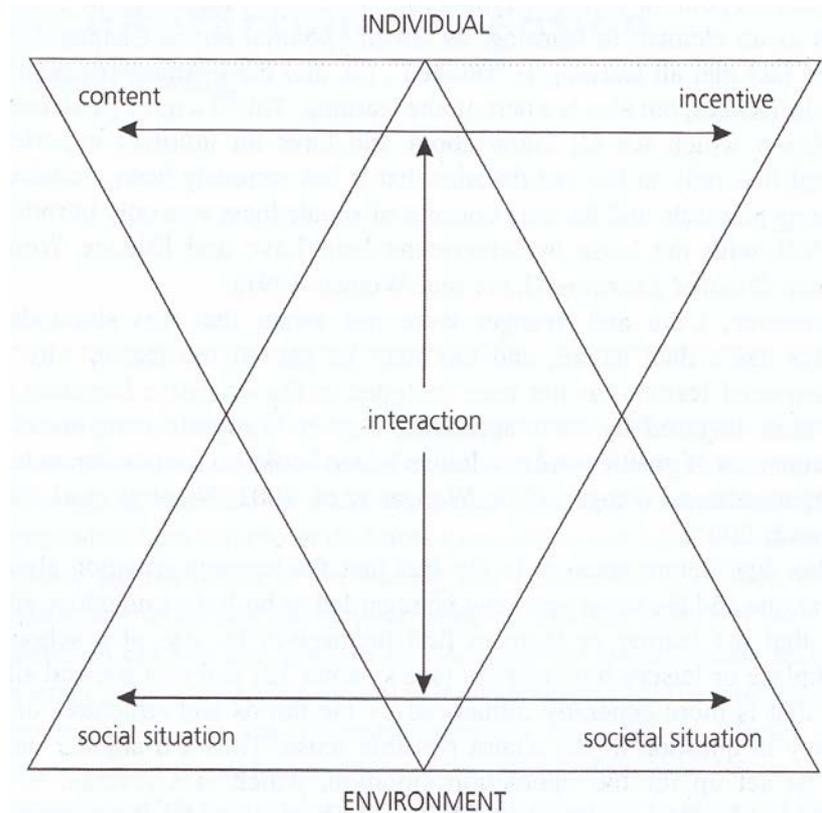
Figure 5: The amended model of learning dimensions (Illeris 2007: 98)

Four processes of learning – Lynne Chisholm and Andreas Demetriou

In their attempt to develop complementary perspectives on *learning to learn* by combining arguments and insights of cognitive developmental psychology and the sociology of education, Chisholm and Demetriou identify four processes which might not always be explicitly observable, but which are demonstrable in some measure. These processes are embedded in their understanding of learning as a process which is, from the very beginning, "a socially-embedded experience and process that takes place through the medium of individual subjects, operating through their cognitive, affective and practical capacities, and that expresses itself in the substance of social relations and dynamics" (2006: 1).

- **Acquiring new knowledge and modes of action**
  People learn – individually or collectively – something hitherto unknown.
  The learning content could be factual, analytical or technical.

- **Amending existing knowledge and modes of action**
  People modify or extend what was previously known or understood.
  They learn how to know and to do something *better* than before.

- **Restructuring and reconnecting existing knowledge and modes of action**
  People re-structure, re-evaluate and re-connect new and old knowledge.
  They learn how to know and to do something *differently* than before.

- **Routinisation of knowledge and modes of action,**
  People practice novel ways of understanding and acting, until
  it has been internalised and can be enacted without reflection.

A theory of learning cultures and a cultural theory of learning – Hodkinson et al.[7]

In seeking to develop a theoretical framework for understanding learning both from the perspective of the learner and that of the learning situation, Hodkinson et al. argue that a theory of learning cultures – detailing how and why situation influences learning – and a cultural theory of learning – explaining how and why people learn – can effectively integrate theoretical work addressing either cognitive or situated aspects of learning.

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[7] In their work, Hodkinson et al., while acknowledging the ambiguity and difficulty related to the notion of culture, adopt Raymond Williams broad definition of culture as "a particular way of life, whether of a people, a period or a group" to contextualise their argument (Raymond 1983, quoted in Hodkinson 2008: 33).

Their contribution contends that a learning culture should not be reduced to the context or environment in which learning takes place, but should rather be understood as the social practices through which people learn.

This understanding of learning culture is complemented by a cultural theory of learning, which contends that learning should not be understood as either participatory processes or as processes of embodied construction, but rather as becoming. By learning as becoming the authors attempt to capture the duality of learning, which can change and/or reinforce that which is learned, and which can change and/or reinforce the learner's schemes of perception, thought and action.[8] In their view, learning as becoming "transcends individual situations and learning cultures, but is always situational." (2008: 41)

Their theory, Hodkinson et al. argue, helps to refocus some of the key questions about learning. In their view, some commonly asked questions (such as how to best achieve learning transfer or which ways of learning are best) can now be recognised as unhelpful, while generally neglected questions can be shown as more important than assumed.

At least two of these currently neglected questions relate strongly and directly to educational practice in (non-formal) adult education/learning:

> What can be done to enhance the likelihood of
> valuable learning in any given learning culture?

> What is, or should be, valuable learning in any particular
> learning culture, or for any particular group of learners?

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[8]   Pierre Bourdieu has described these schemes of perception, thought & action as *habitus*.

On learning competence: conceptualising learning to learn

No matter which particular conceptual understanding of learning one favours: learning competence is a decisive aspect from the point of view of educational practice, including (non-formal) adult education. By considering research findings on what learning competence entails, more informed approaches could be designed to support the development of learning competence.

Learning to learn

Learning competence, or the capacity to learn, is increasingly referred to as *learning to learn,* a concept of growing political, educational and academic interest, in particular in connection with the notion of lifelong learning – but **"a slippery and contested concept"** (James et al. 2007: 20) nonetheless.

The European policy context

The European policy context embeds *learning to learn* in the attempt to develop a competitive, dynamic, knowledge-based economy and considers it a key competence for lifelong learning, defining it as

> "the ability to pursue and persist in learning, to organise one's own learning, including through effective management of time and information, both individually and in groups."
>
> (Council 2006)

Their definition of *learning to learn* as a competence (also predominantly referred to in the report from Slovenia) continues in an attempt to include elements from both socio-cultural and cognitive psychological traditions, by explicating that

> "This competence includes awareness of one's learning process and needs, identifying available opportunities, and the ability to overcome obstacles in order to learn successfully. This competence means gaining, processing and assimilating new knowledge and skill as well as seeking and making use of guidance. Learning to learn engages learners to build on prior learning and life experiences in order to use and apply knowledge and skills in a variety of contexts: at home, at work, in education and training."
>
> (Council 2006, Hoskins and Fredriksson 2008)

In the context of the CRELL[9] Learning to Learn Network, Bryony Hoskins and Ruth Crick argue that *learning to learn* can be understood as a competence entailing

> "that complex mix of knowledge, skills, values, attitudes and dispositions which support the individual in becoming a lifelong learner engaging with learning opportunities throughout the life span, both formally and informally."

> (2008: 9)

Lynne Chisholm

In the framework of the same CRELL network, Lynne Chisholm has explored an understanding of *learning to learn*, which – linking to the definition introduced above which had been put forward as part of the European policy framework – addresses both social and individual aspects of learning processes.

She observes that

> "'Learning to learn' is a difficult idea to grasp: at first sight, it refers to no substantive content (contrast with 'learning foreign languages', where the substance is immediately identifiable). It only explicitly refers to a process: learning – but then it does so by doubling back on itself: learning to learn. The phrase is utterly self-referential, in which both elements refer to the how and not the what."

> (2006: 1)

Chisholm contends that this makes *learning to learn* a case where content and method are inseparable: "the phrase [learning to learn, ed.] repositions process (learning) as content (to learn): the what is the how." (Ibid., original emphasis)

She further identifies three aspects of what she characterises as "a mixture of acquiring competences and developing qualities" (2006: 2) which can only be found in the flow of learning as social practice – the capacity to engage in learning action, the capacity to generate one's own learning processes, and the capacity for critical reflection and analysis of one's own learning experiences.

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[9]   CRELL is the European Union's Centre for Research on Lifelong Learning.

University of Helsinki

The University of Helsinki, in the framework of the project LEARN rooted in secondary formal education and likewise connected with the CRELL network, has taken a cognitive approach and defines _learning to learn_ as

> "the ability and willingness to adapt to novel tasks, activating one's commitment to thinking and the perspective of hope by means of maintaining one's cognitive and affective self-regulation in and of learning action." (Hautamäki et al. 2002: 5)

"Learning How To Learn" Project

The _Learning How to Learn_ Project of the Teaching and Learning Research Programme (TLRP) in the UK chose to place its emphasis of _learning to learn_ on learning autonomy, which Ecclestone (2002) has described as threefold in that it entails procedural autonomy, personal autonomy and critical autonomy.

> "We concluded that 'learning how to learn' is best understood as referring to a collection of good learning practices […] that encourage learners to be reflective, strategic, intentional and collaborative."

> (James et al. 2007: 28)

These practices, the authors contend, may not come naturally to learners, but could be introduced in ways that result in learners taking responsibility for their own learning. (Ibid.) This approach, rooted in learning autonomy and responsibility, is also prevalent in the Spanish discourse.

Robert Smith and Philip Candy

Following several conferences in the late 1980s, Robert Smith—Professor of Adult Education at the Northern Illinois University—published the first comprehensive treatment of _learning to learn_ in 1990[10], a topic which had until then been treated somewhat atomistically. In the book "Learning to learn across the life span", Smith brought together researchers from various disciplines and across continents to provide a synthesis of "what we now know and can reasonably infer from research, theory building and practice" (1990: xiv).

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[10] While their contributions through the book "Learning to learn across the life span" are less recent, their work not only remains valid but also continues strongly to influence the understanding of _learning to learn_ in adult education, mostly through standard works such as Dorothy Mackeracher's "Making sense of adult learning" (2004), who heavily draws on Candy and Smith.

One of the authors in this book, Philip Candy – then Associate Professor at Queensland University of Technology in Brisbane, Australia – starts his chapter on "How people learn to learn" with the observation that "learning is both a lifewide and a lifelong phenomenon" (1990: 30). Noting that there is no satisfactory and widely agreed definition of *learning to learn* yet, he analyses various understandings of the notion (including Säljö 1979, Kolb 1981, Smith 1982) to extract a number of what he describes as "apparent features of *learning to learn*" (1990: 34), which he captures as a lifelong process which is:

- developmental in that learning conceptions evolve over time and with experience and become gradually accessible for systematic analysis,
- permanently fluid in that the applicability of acquired attitudes, understandings and skills largely depends on the specific context,
- multidimensional in that the meaning of both generic and context-specific components change dependent on the underlying concept of learning.

From these characteristics, Candy argues that "if learning means roughly 'an interpretive process aimed at the understanding of reality,' then 'learning-how-to-learn' means something like '**an interpretive process aimed at understanding how to interpret and understand reality**.'" (1990: 37)

Related understandings of learning to learn & learning competence

Learning to learn is by no means the only way of capturing the ability to learn. Other approaches to decoding learning competence include deliberative learning, meta-learning, second-order learning, self-directed learning and transformative learning.

Deliberative learning

Michael Eraut, in his discussion of informal and non-formal learning, suggests that there are three types of learning: implicit, reactive and deliberative (see figure 6).

Time of Focus	Implicit Learning	Reactive Learning	Deliberative Learning
Past Episode(s)	Implicit linkage of past memories with current experience	Brief near-spontaneous **reflection** on past episodes, events, incidents, experiences	**Discussion** and **review** of past actions, communications, events, experiences
Current Experience	A selection from experience enters episodic memory	**Noting** facts, ideas, opinions, impressions **Asking** questions **Observing** effects of actions	**Engagement** in decision-making, problem-solving, planned informal learning
Future Behaviour	Unconscious expectations	**Recognition of** possible future learning opportunities	**Planning** learning opportunities **Rehearsing** for future events

Figure 6: The three dimensions of learning (Eraut 2004: 5)

Learning to learn is generally associated with what Michael Eraut captured here – as part of the above typology of non-formal learning – as deliberative learning. He argues that—while learning is a fundamental characteristic of human beings and therefore learning of some kind is always going on—deliberative learning contributes to **significant changes in capability or understanding.** (2000:12)

The focus on deliberative learning should, however, not be misinterpreted as a value judgement. Recognising the significance of informal learning, Eraut's argument merely contends that implicit learning happens without an intention to learn and with no awareness of learning at the time it takes place.

Considering the second dimension of time in Eraut's typology, it becomes clear that implicit learning and reactive learning can become deliberative learning through systematic review and reflection at a later stage of what will then be past episodes.

Another way of exploring learning competence is to understand it as metalearning, which Sorensen described as "learning of meta-knowledge about learned knowledge, i.e. learning about how one learns; learning about one's own learning, thinking and acting" (Sorensen 2006: 49).

Novak and Gowin (1984) argue that metalearning should be closely associated with meaningful learning – as contrasted with rote learning – a concept which they derived from the work of David Ausubel in the 1960s.

When learning meaningfully, individuals relate new knowledge to concepts and propositions they already know – in rote learning, however, new knowledge is often acquired simply by memorisation.

Figure 7 illustrates the variations of learning from almost rote to highly meaningful and from reception learning (teacher-centred information provision) to discovery learning (learner-centred autonomous exploration).
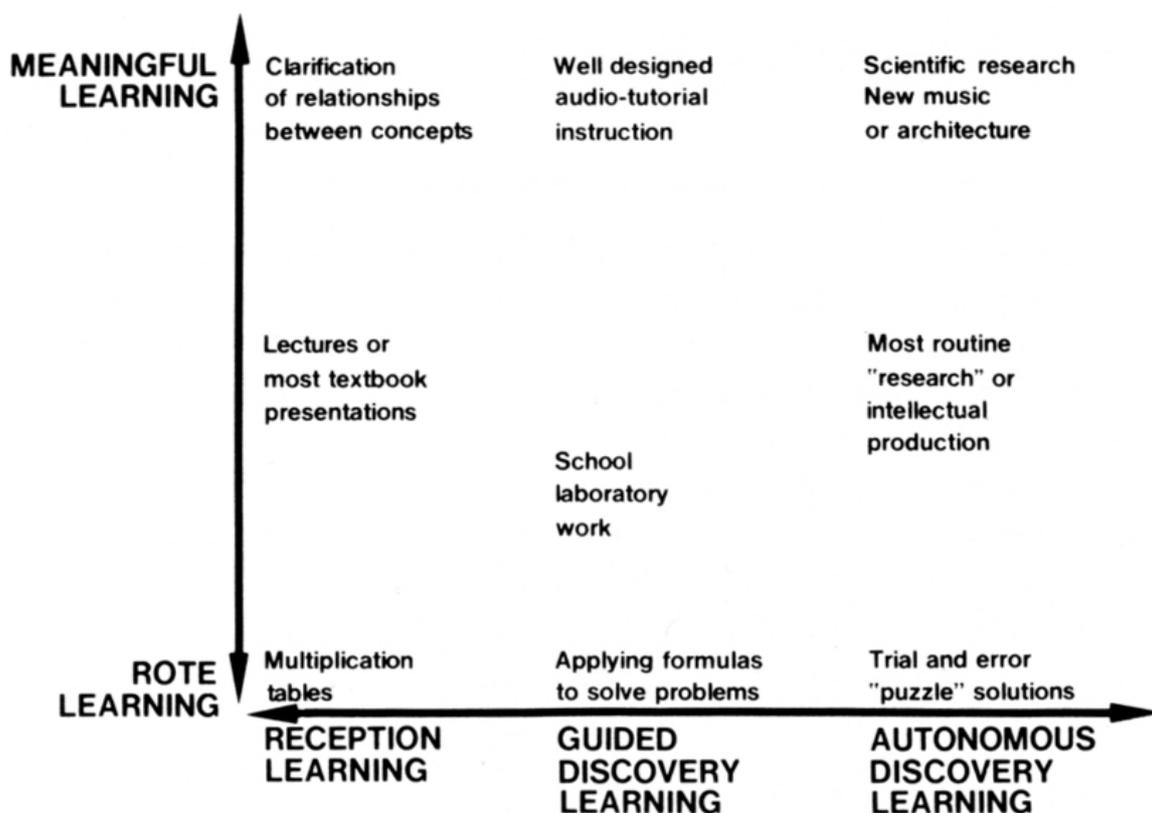

Figure 7: From rote to meaningful learning (Novak and Gowin 1984: 8)

See also Alberici's approach (Bortini 2009: 4) and Weinert's approach (Reich 2009: 4) to learning to learn as a meta-competence as well as Pukevičiūtė's approach to meta-learning (Ragauskas 2009: 2).

Second-order learning

A less recent approach to learning competence was developed by Dearden, who focused on the concept of second-order learning (1976: 70):

> "How is learning how to learn different from learning how to ride a bicycle, make a dovetail joint, or use a telephone? In both cases, there is a 'learning how to' which suggests some skill as the object of learning. But 'learning how to learn' is not specific in the way that learning such skills as how to ride a bicycle are specific. Learning how to learn is at one stage further removed from any direct specific content of learning. It might therefore reasonably be called 'second-order' learning. There could be many such comparably second-order activities, such as deliberating how to deliberate, investigating how to investigate, thinking out how to think things out, and so on."

Self-directed learning

Self-directed learning is

> "a form of study in which learners have the primary responsibility for planning, carrying out and evaluating their own learning experiences" (Merriam and Caffarella 1998: 41).

According to Malcolm Knowles – one of the pioneers of self-direction in adult education – self-directed learning describes a process

> "in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes" (1975: 18).

Kidd observed that the purpose of adult education has often been identified as "making the subject a continuing, 'inner-directed' self-operating learner" that possesses the ability to access and select from diverse learning resources (1973: 47).

Brockett and Hiemstra describe self-direction in learning as "a way of life" in which learners have authentic control over all decisions having to do with their own learning (1991: 18).

According to Mandl and Krause (2001), self-directed and self-regulated learning require not only metacognitive skills but motivational skills as well. In their view, learners have to be able to

- **prepare learning:** Planning and preparation of the own learning process needs different strategies. The learner has to formulate learning aims, plan learning times, set priorities and as well plan breaks and changing working styles. Furthermore learners have to be able to activate attention and remember prior learning processes and existing knowledge.
- **actually learn:** For the actual learning process the learner needs strategies for the processing of relevant information and has to be able to connect information with existing knowledge and experiences and on that basis transfer it into individual knowledge. Furthermore learners need to be able to reduce the acquired knowledge to the essential elements and structure it meaningfully.
- **regulate learning:** Monitoring the learning process is an essential element of self-regulated learning. The learner has to be able to control the attention, select adequate learning strategies, identify errors, diagnose difficulties and their causes and adapt learning activities accordingly.
- **evaluate learning outcomes:** For the evaluation of the learning outcomes learners need to be able to compare their results with the learning aims and give feedback on the learning process and results to him-/herself.
- **maintain motivation and concentration:** Besides cognitive and metacognitive skill learning motivation has a central role in self-regulated learning. In order to maintain learning motivation learners need to be able to control their feeling, handle success and disappointments appropriately and delay wishes and desires that are not linked to the intended learning aims.

See also the related concept of self-regulated learners as described by Barry Zimmermann and others (Mrgole 2009: 12, Reich 2009: 2) as well as the understanding of learning to learn as uncovering and strengthening learning potential as described by Wompner and Fernández (Romera 2009: 3).

Transformative learning

The concept of transformative learning was developed in the late 1970s by Jack Mezirow, Professor of Adult Education. The theory aimed at recognising a critical dimension in learning that enables adult learners to recognise and reassess the structure of assumptions and expectations framing their thinking, feeling and acting:

> "Transformative learning is defined as the process by which we transform problematic frames of reference (mindsets, habitats of mind, meaning perspectives) – sets of assumption and expectation – to make them more inclusive, open, reflective and emotionally able to change" (Mezirow 2009: 92).

In the context of transformative learning, frames of reference are understood as structures of culture and language that provide meaning to our experiences by attributing coherence and significance – or incoherence and insignificance. These frames represent our own horizons, which selectively predispose our intentions, beliefs, expectations and meanings.[11]

Robert Kegan has further developed the theory by introducing a distinction between informational kinds of learning – learning aimed at increasing one's fund of knowledge or one's repertoire of skills – and transformational kinds of learning, which involves the development of a capacity for abstract thinking that enables learners to recognise, value, question and change their *ways of knowing*, described by Mezirow as 'frames of reference' (Kegan 2009: 42).

> *See also Paolo di Rienzo's understanding of learning to learn as a heuristic educational construction of epistemological transformation. (Bortini 2009: 4).*

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[11] According to Mezirow, frames of reference have three components and two dimensions, namely cognitive, conative and affective components and the habit of mind (first dimension) and resulting points of view (second dimension).

<u>Learning to learn *vs.* related concepts</u>

Cristina Stringher, in Aureliana Alberici "The possibility to change – Learning to learn as strategic resource for life" (2008), attempts to define the borders of *learning to learn* by mapping and comparing it to related concepts of learning competence development. While certainly not undisputed, the distinctions made can be helpful in structuring discourses on *learning to learn*.

<u>Learning vs. learning to learn</u>

According to Gibbons (1990) learning is an increase in the person's knowledge, ability, capacity or tendency obtained in whatever way, age or circumstance. According to Kolb (1984) learning is a process creating knowledge through transformation of experiences. According to Bateson (1972) learning is based on a transformation, and transformation is a process that can be transformed itself.

Based on these 3 definitions of learning, *learning to learn* is a change of second level regardless of whatever conceptual category of learning used as first level. Therefore it can be useful to see learning and *learning to learn* as a continuum, starting from simple learning (as described by Pavlov) to more general learning, from facts to complex processes generating new knowledge and competence.

<u>Meta-cognition vs. learning to learn</u>

While recognising the importance of meta-cognition, Gibbons considers learning to learn going beyond for three reasons. Meta-cognition privileges formal learning while the "natural" and "personal" dimension in *learning to learn* are equally important; meta-cognition considers learning and meta-learning as cognitive functions of thinking while *learning to learn* includes also emotional and intentional dimensions; meta-cognition studies are often targeting school settings and abilities for the school curriculum while *learning to learn* must be framed in the life-long learning perspective.

<u>Cognitive styles, learning and studying strategies vs. learning to learn</u>

If learning is experience transformation, *learning to learn* could be a process generating knowledge about learning by means of transforming learning experiences. It becomes then necessary to try out different ways and strategies of learning in different contexts. The cognitive style can be described as a constant tendency to use a defined group of strategies. This definition implies that there is a relation between learning styles and strategies, intelligences and personality. Studies have identified techniques for cognitive and emotional strategies as well as studying tools. *Learning to learn* should take all that into account but it is not about techniques.

Self-directed learning vs. learning to learn

Self-directed learning is defined as a process in adulthood where individuals take initiative to diagnose their learning needs, to set learning objectives, to identify human and material resources to achieve them, to put in place strategies for using such resources and to evaluate the degree of achievement of the set objectives (Knowles 1990). In this situation the individual covers the two functions of the learner and the teacher. With respect to this definition, self-directed learning can be one of the outcomes of *learning to learn* as self-directed learning is an intermediate step of self-directed cognition and because *learning to learn* does not include only the cognitive aspect but also the emotional-motivational ones. In addition, however, self-directed learning does not necessarily include the social dimension of learning that is absolutely relevant in and inherent to *learning to learn*.

Intelligence vs. learning to learn

Montessori (1912) described intelligence as the capacity to distinguish facts and to create an order. Gardner (1999) reminds us that human beings are able of using at least seven different methods to know the world. Goleman (1996) links *learning to learn* and emotional intelligence by listing the necessary ingredients for learning: trust, curiosity, intentionality, self-control, connecting, communication, cooperation. He also says that these ingredients all belong to emotional intelligence. In traditional terms intelligence is often considered as the ability to learn and therefore learning more difficult subjects requires that the individual masters learning to learn. Other authors, in line with Vygotsky (1978), take into account the "zone of proximal development". The learning potential is a combination of natural predisposition and by the extension of the proximal development zone. With this definition the learning potential is used as a synonym of *learning to learn* because the predisposition to learn better quantifies the capacity of the intelligence to act and in action or acted out.

On learning competence development: working with learning to learn

Following on from the review of different perspectives on learning competence, how people actually learn to learn – how learning competence is developed – becomes the centre of attention.

At the beginning it should be noted that much more has been done on *learning to learn* in the domains of formal secondary school education and non-formal youth education. How different the learning of younger and older people really is remains disputed: based on his differentiation between 'task-conscious learning' and 'learning-conscious learning' – both common to younger and older persons – Alan Rogers argues that

> "the uniqueness of adult teaching lies not in the different ways in which adults and children learn, but in the sense of identity that learners bring to their learning" (2003: 5).

While only few studies have been done on adult *learning to learn*, there are others who also contend that adults show the same patterns of learning as children and young people, and argue for a transferability of findings:

> "Even though learning may seem different for adults, there is no evidence that it is different. That evidence could perhaps be found some day, but for now we do not have it. And the evidence that we do have points toward learning being the same for adults and children (Cromley 2000: 190).

Dearden contends that *learning to learn* – for younger and older people alike – can never be universally empowering in that it would enable people to learn everything by themselves for the rest of their lives. He argues that *learning to learn* attempts to capture a class of learning strategies which can, once mastered, facilitate related but more specific sequences of learning (1976: 71).

All literature reviews seem to show that there are as yet few clearly elaborated theories of how learning competence is developed yet, and that conceptual confusion about the acquisition and development of learning competence remains widespread.

This outcome of the reviews underlines that there is plenty of room for theory development, rooted both in recently emerging holistic understandings of learning as well as traditionally holistic approaches of educational practice in (non-formal) adult education/learning.

<u>Reinhard Zürcher – Development of *Lernkompetenz*[12] through informal learning</u>

In this study, Zürcher (2007) outlines the didactics of informal learning utilising the example of a training project for long-term unemployed adults in the framework of an ESF-funded project by the association Bikoo, in which criteria for low-threshold learning opportunities as well as educational mentoring were analysed and the nexus of informal learning and formal qualification investigated

Throughout the project, learners were engaged by means of a comprehensive human development concept and guided by mentors. The work of these mentors included social activities, psychological attendance as well as adult education provision aiming at the development of a comprehensive learning competence.

Zürcher (2007) highlights the positive effects of combining structured, formal learning in courses with less structured, more informal learning at the workplace. He maintains that linking experiences made and knowledge gathered in practice to existing theoretical concepts is a transformative competence.

This competence is developed and strengthened by the stimulation of reflexive thinking processes and the discussion of specialist background knowledge. The conceptual focus point is on the steering and organisation of the learning process.

On that basis Zürcher (2007) contends that the didactic approach of informal learning has to create framework conditions in which learners can follow their interests and aims – different from "standard" training or courses, **the context has to guide the learning process.**

Zürcher (2007) argues for using the actual educational biography as the foundation for the necessary *situated* learning as a low threshold entry point, rather than a consideration of existing knowledge and actual interests, which remains on the surface.

By making learners aware of their own learning successes and disappointments, the disposition for learning is reconstituted and further learning is embedded within the larger life context. As a consequence, motivation rises and learning becomes more sustainable. Step by step, more demanding contents are implemented and the modality of adoption is slowly approximated to praxis.

These processes have to be accompanied and guided individually and demand a learning environment that enables **individual learning paths**.

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[12] Note that *Lernkompetenz* has also come to be used as the German term for *learning to learn*, while its literal translation would actually rather be *learning competence*.

<u>Franz Hofmann – Can learning be learnt at all?</u>

Hofmann (2000) poses the basic question whether it is possible to train or teach learning at all. On the basis of the different research fields taken into consideration, he describes a set of possible answers. However, he concludes that the increase in learning competence has been recognised as an important aim in different disciplines.

He identifies the following different factors concerning the development of learning competence that need to be observed; these are described below.

- The development of a cognitive structure with a high degree of differentiation and support for metacognitive competence has the effect that advanced learners (having more learning competences) are advantaged compared to those with lesser learning competence.
- The development of learning strategies as well as the reflection on experiences when these learning strategies have been (more or less successfully) applied.
- The use of explorative learning strategies has to be handled carefully and needs to take into account the inner differentiation of the group, i.e. people motivated for learning and those afraid of failures, as these groups differ considerably in their development process towards increased learning competence.
- Assistance in the development of a positive motivational readiness for learning, which is especially important for people having unsuccessful learning experiences.
- A certain quality of assistance from the educator for people working in phases of individual work: During phases of explorative learning people should only be counselled and supported in recognising their next step in the development process.

Overall Hofmann (2000) concludes that for the practical application of different factors that support the development of learning competence hardly any didactic recommendations have been developed. This is especially true for the factors which may be ascribed to the field of meta-cognition (e.g. development of differentiated cognitive structure, learning and application of learning strategies and reflection on practical experience).

Malcom Knowles – 5 steps

Malcolm Knowles – one of the pioneers of self-direction in adult education – has translated the idea of self-direction to a five-step model through which self-direction could be taught and learned. It was developed in 1975 and entails

- diagnosing learning needs,
- formulating learning needs,
- identifying human material resources for learning,
- choosing and implementing appropriate learning strategies, and
- evaluating learning outcomes.

Ralph Brockett and Roger Hiemstra – Personal Responsibility Orientation

Departing from the concept of self-directed learning as well, Brockett and Hiemstra developed the "Personal Responsibility Orientation" model. It views self-direction not only as self-directed learning, but also as learner self-direction – both of which are embedded in societal contexts.
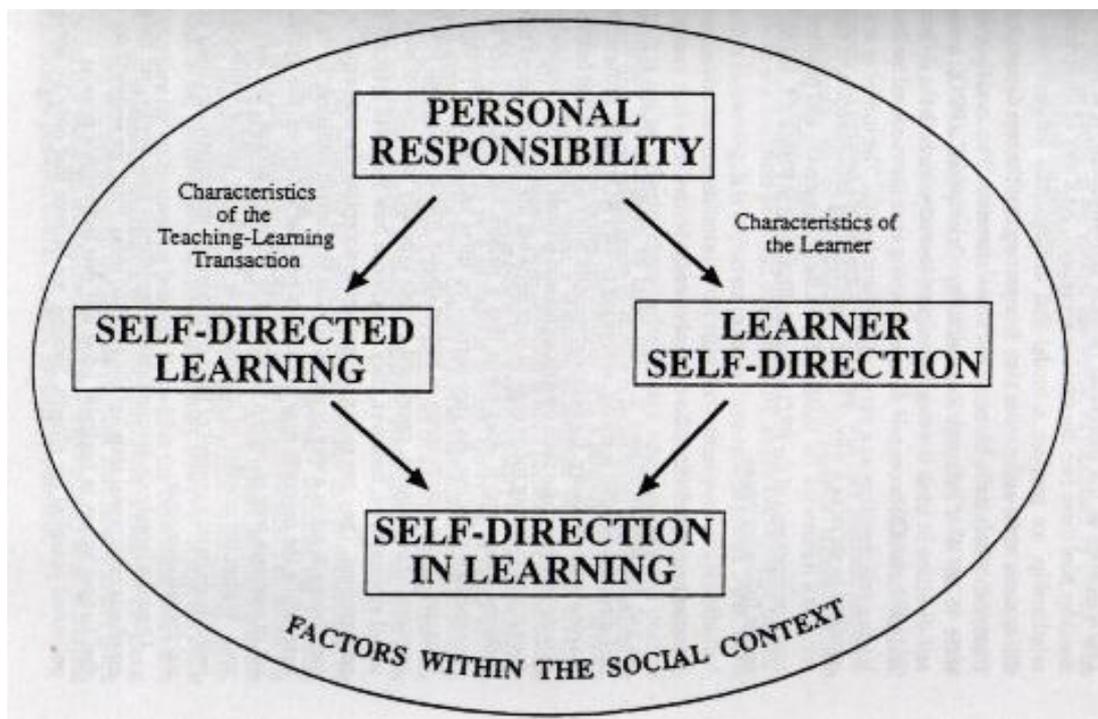

Figure 8: Personal Responsibility Orientation Model (Brockett and Hiemstra 1991: 25)

Daniele Mattoni – 8 steps for learning to learn

Mattoni understands *learning to learn* not only as the development of learning capacities, but also as the improvement of learning potential. He embeds his approach in Gregory Bateson's five types of learning and Robert Dilts' five neurological levels.

The eight phases of learning how to learn – understood as the unlocking of learning potential – are

- planning,
- mirroring,
- knowing yourself,
- observing yourself when learning,
- changing frameworks,
- listening,
- transforming your believes, and
- being playful and creative.

According to Mattoni, progression through the phases happens sequentially. With every advancement from one phase to the next, the capacity for self-regulation is increasing based on the sequence "**remembering – understanding – applying – analysing – evaluating – creating.**"

Virginija Jūratė Pukevičiūtė – learning to learn competence development

Virginija Pukevičiūtė departs from learning levels (following Gustav Bergmann and others) and describes *learning to learn* as meta-learning (see above) that encompasses one's own self-organised learning process, the management of this process and both self-control and self-assessment of one's own learning activities.

As main factors for fostering learning to learn, she identifies

- awareness of the importance of learning to learn;
- the ability to setting up learning objectives;
- the ability to choose relevant learning strategies;
- the ability to choose adequate learning techniques;
- the ability to organise self-assessment of learning outcomes;
- the ability to conduct a meta-cognitive analysis.

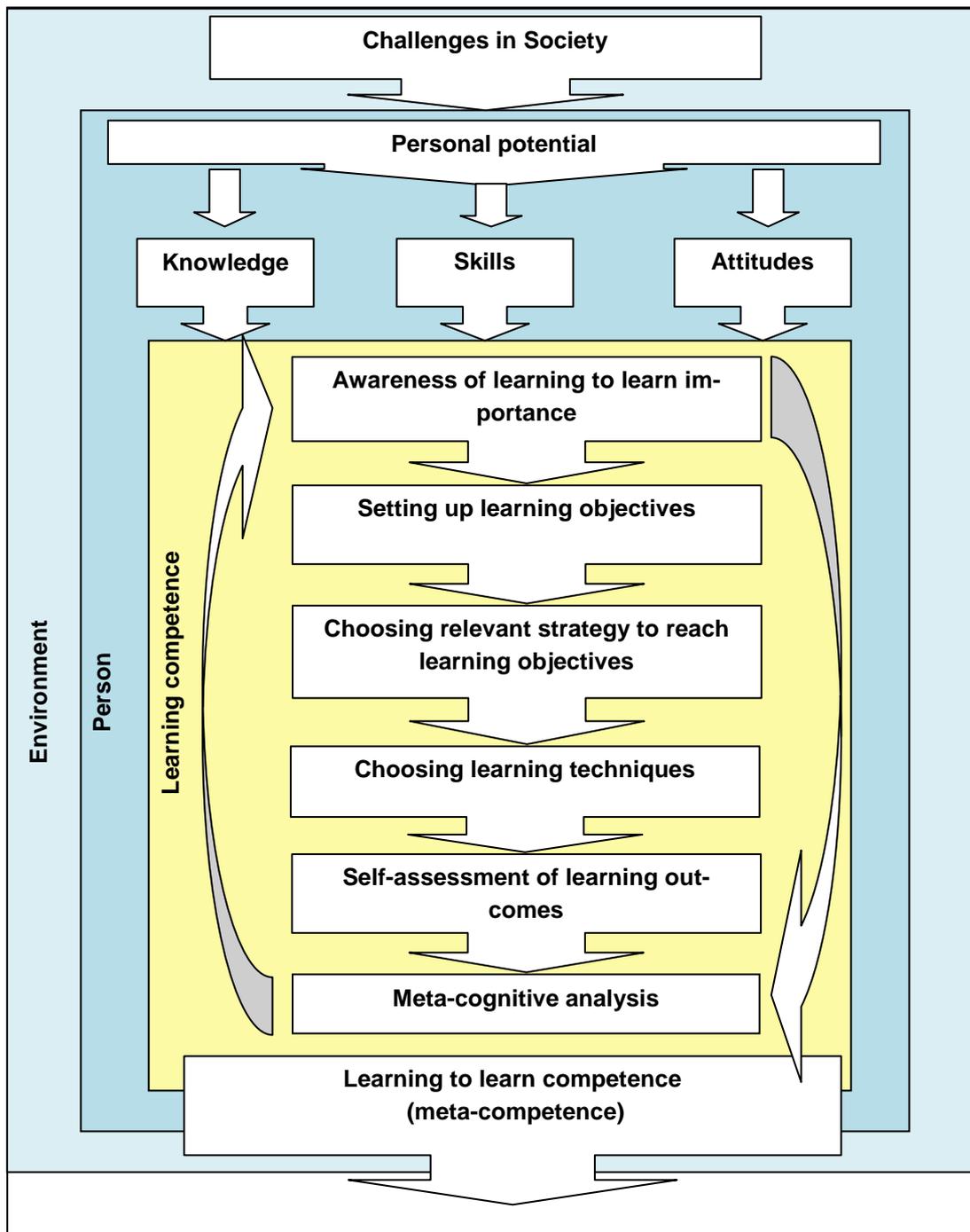Starting from here, Pukevičiūtė has developed the model shown in Figure 9.

Figure 9: Learning to learn after Pukevičiūtė (Ragauskas 2009)

Günter Pätzold – Support for self-organised learning

In an attempt to capture the main stands of German research on supporting the development of learning competence, Pätzoldt identifies direct and indirect strategies in support of self-organised learning represented in Figure 10.
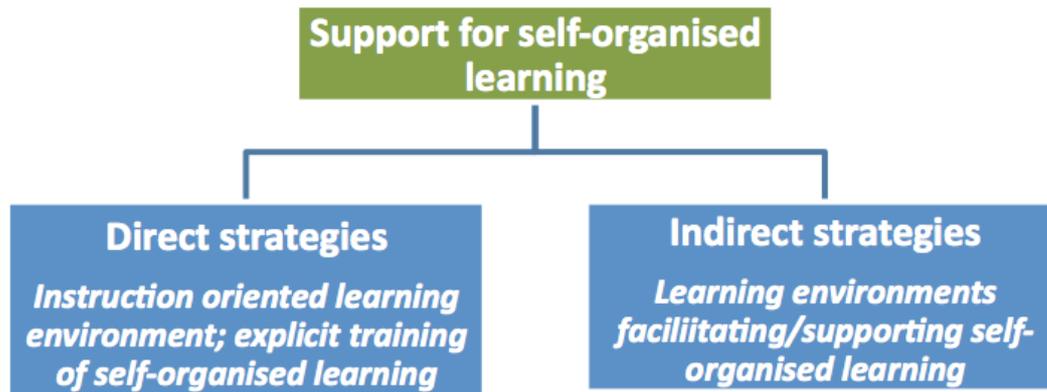
Figure 10: Support for self-organised learning (Adapted from Pätzold 2008)

Direct strategies include:

- Training of a comprehensive set of learning strategies
    - Strategies to positively influence the learning (e.g. self motivation, time management, concentration, handling of fear and stress)
    - Strategies for the acquisition of knowledge (e.g. recognise important aspects, information processing)
    - Control and self-reflection strategies (e.g. control own understanding and skills; control learning processes)

- Transfer of a training on learning strategies
    - Sensitisation for the use of the strategies
    - Development of strategies
    - Systematise, broaden and event. correct strategic knowledge
    - Apply strategies and evaluate them taking into account their usability for personal learning

Indirect strategies include:

- Constructivist learning environments and explorative training concepts
- Increasing degrees of freedom for self-regulation
- Individualisation of the training (independent learning paths, individually adapted speed of learning progress, individual selection of media, learning materials and methods)
- Provision of learning aids (advance-organiser)

<u>Heinz Mandl and Ulrike Krause – Learning Environments</u>

Mandl and Krause (2001) suggest supporting the development of learning competence (respectively the three components they split learning competence into: self-regulatory competence, cooperative competence, and media competence) by means of a problem-oriented learning environment.

In contrast with the direct support of learning competence (e.g. by specific trainings), the creation of learning environment is a more indirect approach. They are not mutually exclusive – they can complement each other.

The learning environment that they describe is shaped by a constructivist approach, an active position of the learner and a reactive role of the educator: Whereas the educator has the role of a guide, coach, counsellor and delivers learning offers and support, the learner has space for active knowledge construction.

Reinmann-Rothmeier and Mandl (2001) outlined the following principles for such a problem oriented learning environment:

- Learning via situated and authentic problems;
- Learning in multiple contexts;
- Learning by using multiple perspectives;
- Learning in a social environment;
- Learning by using new media.

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