Piot, Thierry

The role of professional didactics in skills development for training and education professionals

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Valerie Cohen-Scali (ed.)

Competence and Competence Development

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Study Guides in Adult Education

edited by
Regina Egetenmeyer

Valerie Cohen-Scali (ed.)

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Preface

In recent decades, the term competence has become a keyword in the international discussion about education. This international discussion was accompanied by several national discussions, which mostly had a different emphasis compared to the international context. Especially in the European Union, competences became the central term in discussions about learning outcomes. Here, competences emerged as a counter-concept to the idea of qualifications – which are strictly bound to (national) educational systems. As the European Union, in the Maastricht Treaty, has agreed not to harmonise the educational systems of its member states, national differences tend to become more pronounced; thus qualifications cannot bring transparency and comparability to European education. Competence, in contrast, is a concept that can be used to compare people's knowledge and skills across national education and training systems.

To look at competences rather than qualifications means to shift the focus from educational input (length of a learning experience, type of institution, etc.) to the outcomes of learning processes. Competences as learning outcomes have nowadays been defined in almost all educational programmes. Furthermore, referring to competences highlights the fact that they can also be developed outside of educational programmes. Therefore, a variety of contexts became relevant that enable or constrain competence development. These contexts include the workplace, social class, family, and friends, for example. As a consequence, the validation – that is, the evaluation, recognition, and certification – of competences acquired outside of educational systems became relevant. To address this issue, a variety of methods and instruments were developed throughout Europe. On this basis, competences can support transparency and comparability in education and lifelong learning in Europe.

What is more, the term *competence* also serves to introduce a new didactic approach to adult education. The competence discussion helps strengthen

individuals' self-responsibility and self-efficacy as they engage in their learning processes. In other words, it is up to the learners to decide whether, where, when, and how they learn or not. Adult education programmes can merely provide contexts to facilitate learning processes and stimulate motivation. This is especially relevant in the education of adults, since adults are much more independent than children in their decisions about what and when to learn.

In this study guide, Valérie Cohen-Scali, Alain Kokosowski, Thierry Piot, and Richard Wittorski introduce the topic of competence development with a special focus on the working context. They give an insight into the Western backgrounds of the competence discussion and show the consequences of this discussion with respect to professionalisation and competence development in adult education. Furthermore, they present a variety of instruments for validating and evaluating competences. Finally, they raise the issue of competence management in adult education and highlight some of the changes in vocational education and training brought on by the competence discussion.

All of the authors are French researchers with special expertise in the area of competences. The study guide, therefore, gives an insight both into the European discussion and into the French discussion about competences. Valérie Cohen-Scali developed this study guide during her guest professorship at the University of Duisburg-Essen. By bringing on board her French colleagues, she created an interdisciplinary team of experts from psychology, human resource management, and education. As a result, the study guide provides an interdisciplinary perspective on the topic. Thanks go to Valérie Cohen-Scali for coordinating this study guide and to all the authors for their contributions to this volume.

Regina Egetenmeyer

1. Introduction

Valérie Cohen-Scali

Since the 1980s, questions around people in the workplace have been addressed more from the point of view of competences than the time match between an individual and a particular role. Approaching work through competences appears to be at odds with a tradition which conceives of work as the association between an individual and a task. This traditional conception of people at work emerged with the development of industrialisation in Europe and the United States in the nineteenth century. It was profoundly influenced by the principles of Scientific Management developed by Frederick Taylor, an engineer, who was invited into factories in the United States in order to help them introduce a more rational way of organising their work. Taylor's primary preoccupation was with the best way of doing a particular job, what an appropriate workload would be, and what fair payment was, with the aim of increasing workers' efficiency and performance. He carried out numerous studies (Kanigel, 1997) of the work stations of manual workers and made recommendations in order to provide workers with the most appropriate tools for the way they worked.

This conception of work as an activity was strengthened in the twentieth century with the advent of the Second World War, which prompted an acceleration in the development of occupational psychology. Military activities led, on the one hand, to the development of psychological evaluation tools to be used on soldiers, and on the other, to the creation of military equipment which was easier to handle and better suited to the morphology and cognitive abilities of its users. Later, social conditions at work came under intense scrutiny, addressing questions such as motivation, job satisfaction and supervision. Nonetheless, work as an activity continued to be perceived in terms of the relationship between the individual and the task.

This may have seemed relatively well suited to a context of stable industrial production, a booming socio-economic environment, and homogeneous demand. The 1970s are associated with the first world economic crisis linked to an increase in the price of fossil fuels. This was accompanied by a harshening of the socio-economic environment and an increase in unemploy-

ment in Western societies. Businesses needed to be more vigilant about the changes occurring in a more uncertain and complex environment. They also needed to prove that they could be more responsive and more flexible. Many national governments focused on vocational training to tackle the changes taking place. This meant training employees with inadequate skills and qualifications to carry out increasingly varied and changing activities, which often required a more extensive range of cognitive abilities.

From this point onwards, the traditional conception of work as a relationship between an individual and a relatively simple task no longer seemed appropriate. Researchers in sociology, psychology, and training reflected on other paradigms which might be better suited to defining the new reality. The term *competences* gradually came into common use. It was initially used by Chomsky in 1960 in relation to linguistics, as a document published by the European Centre for the Development of Vocational Training (Cedefop) explains:

> The use of the term 'competence' goes back to Noam Chomsky and was related to his creation of the theory of generative grammar as well as being part of his contributions to linguistics and cognitive psychology ... Chomsky distinguishes between linguistic competence as the speaker/hearer's knowledge of his language on the one hand and linguistic performance as 'the actual use of language in concrete situations' on the other hand. (Cedefop, 2009b, p. 108)

The term *competences* is used to describe the actual use of a particular aptitude in a given context. In the working environment, the term *competences* emphasises on the one hand, the role of the specific context of a particular activity as a determinant of the way a worker will approach a given task, and on the other, highlights the fact that work is essentially an individual and/or collective process of problem solving. According to Weinert, implementing competences in the workplace relies on the use of several processes: 'ability, knowledge, understanding, skill, action, experience, motivation' (Winterton, Delamare-Le Deist, & Stringfellow, 2006, p. 34).

Two terms are now commonly used in adult education: competence and competency. According to Eraut, there is a subtle difference between the two:

> There is a distinction mostly in the American literature between the term 'competence' which is given a generic or holistic meaning and refers to a person's overall capacity, and the term 'competency', which refers to specific capabilities. However even the word competency can be used either in a direct performance-related sense: a competency is an element of vocational competence, a performance capability needed by workers in a specified occupational area or simply to describe any piece of knowledge or skill that might be construed as relevant. (Eraut, 1996, p. 179)

Other, more specific shades of meaning are also found in the literature. For example, instead of generic competences, there are references to key competences:

> Key competences are context-independent, applicable and effective across different institutional settings, occupations and tasks. These typically include basal competences, such as literacy, numeracy, general education; methodological competences, like problem solving, IT skills, communication skills, including writing and presentation skills; and judgement competences, such as critical thinking. (Winterton, Delamare-Le Deist, Stringfellow, 2006, p. 33)

A series of other terms used in the literature on competences are defined in the box below.

Keywords: Knowledge, understanding, and capacities

Wittorski (see Chapter 3) defines a number of concepts similar to competences: knowledge (theoretical, action, and professional), understanding, and capacities.
A piece of knowledge can be defined as a socially validated and communicable statement. It is therefore a descriptive or explanatory statement about a given reality. Knowledge can be differentiated in a number of ways:

- Knowledge is described as theoretical when it is established and recognised by a given academic and cultural community at a given time (certain laws of fundamental physics, for example) as a dominant phenomenon, based on a *truth criterion*. Knowledge of this kind is disseminated through encyclopedias, textbooks, and specialist publications in the place and at the time concerned (in the form of slate tablets, papyrus or parchment rolls, papers or books, or files).
- Knowledge can be described as 'action' knowledge when a social community (made up of people who engage in the same activity) decide to validate a statement describing a sequence of actions judged, as a dominant phenomenon, to be 'effective' (*the criterion here is its effectiveness for action*, whilst the challenge is to organise effective local practices and produce a *social identity*).
- Knowledge can be described as 'professional' when an actual or prospective professional community decides to validate a statement describing a sequence of actions judged, as a dominant phenomenon, to be 'distinctive and legitimate' in order to have it acknowledged and recognised in the social arena (the criterion here is that of legitimacy and better recognition in the selected arena, whilst the challenge lies in social intelligibility and the production

of a *professional identity*). Knowledge therefore has a very strong social dimension, combined with an identified or codified process of formalisation.

The judgement or validation criteria mentioned here are not exclusive, but are dominant criteria for each type of knowledge (some theoretical knowledge, for example, may also be validated according to an effectiveness criterion).
Understanding, however, is a social construct which refers both to the process of internalisation and assimilation (transformation) by the individual of the knowledge and/or information passed on to them or which they contribute to producing, and the result of this process. From this point of view, understanding is on the one hand, the process (and the product) of comprehension and memory (i.e. what the individual retains in qualitative and quantitative terms of the knowledge passed on to them), and on the other, the process (and the product) of drawing conclusions from their actions by the individual, which constitute the value they derive from their experience. In this last case, experience, in the sense of 'known' experience, lies more in the subject identifying their modalities of action and the results they produce. Experience is therefore constructed primarily by a process which consists of deriving understanding from one's actions. Understanding therefore has a much stronger subjective dimension.
In the same way that there is a close link between competence and identity, there is a close relationship between understanding, knowledge, and identity. Effectively, knowledge and understanding constitute a communicative situation about or for actions and people, and act to some degree as 'markers' and 'foils' for identity.

Capacities are social constructs which describe a relatively transversal ability to take action. Capacities represent an acquired potential to take action: they are not in use at the point at which they are described but are nonetheless available to be brought into play when needed.

Whilst the notion of competence and research into competences is now widespread, particularly in the context of studies carried out by the European Union (published by Cedefop) in the area of Vocational Education and Training (VET), it must be said that guides to this area aimed particularly at students are rare. The aim of this study guide is to provide European students with an overview of competences and their development, as far as possible from a European perspective. Its objective is therefore both to describe the main theoretical developments in relation to the concept of competences, and to underline the way in which the European Union deals with the question of

competences at both a reflective and practical level in order to support the development of qualifications. The guide has been written by a number of French authors specialised in adult education and training, and tackles the question of competences from a number of different and complementary points of view, with an emphasis on VET professionals and activities.

Chapter 2 describes recent changes in the working environment that explain why competence-based approaches now appear to be particularly relevant in adult education.

Chapter 3 addresses competences from a theoretical perspective, given the imperatives of professionalisation for individuals and the continuous emergence of new activities.

Chapter 4 addresses the question of the transmission of competences and learning in the workplace, with a presentation of professional didactics.

Chapter 5 discusses options for evaluating and validating competences, identifying the evaluation methodologies and validation practices currently in use in various European countries.

Chapter 6 outlines the main features of management practices in relation to competences, which are currently emerging as a recent but major concern in major European businesses.

Chapter 7 focuses on changes in employment in adult education and training and the consequences of these changes on the competences of professionals.

The guide is designed to enable students to work independently or as a group, both inside or outside the classroom, by referring to the suggested exercises and tasks at the end of each chapter. The bibliography lists a large number of English publications and documents to help students gain a more detailed understanding of the theoretical aspects or explore practical illustrations and examples implemented in a number of European countries.

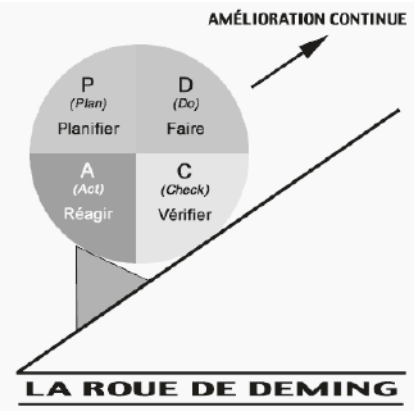
4. The Role of Professional Didactics in Skills Development for Training and Education Professionals

Thierry Piot

4.1 Introduction: From quality of service to the development of professional skills

The development of professional skills in training adults is seen as a central issue in the business and services sector. This situation stems, in part, from the Lisbon Strategy (2000), which aims to achieve economic growth in Europe driven primarily by innovation, based on the economic theories of J.A. Schumpeter (Karklins-Marchay, 2004). Innovation should be manifested primarily in the commercial services sector and be distinguished by the high quality of services produced, in line with the principle of the Deming Cycle (Shewhart, 1989).

Figure 2: The Deming Cycle



[THE DEMING CYCLE: CONTINUOUS IMPROVEMENT]

Source: Shewart, 1989[4]

4 Available at www.manager-go.com/pdca.htm

Achieving economic development is only possible if it is accompanied by specific efforts to educate and train not only young people but also adults, based on the principle of lifelong learning. The development of professional skills has therefore become a key issue in economic competition. Professional didactics provides a theoretical framework to help understand how skills are acquired and developed in adults; in practical terms, it can be used to lay the foundations for structuring adult training courses. The time when a basic education and initial vocational training were sufficient to work effectively in a particular job throughout one's working life has now gone: the rapid changes seen in the second age of modernity (Giddens, 1991) show that the individual must become a reflective practitioner (Schön, 1983), who is capable of analysing the various situations in which they operate.

In the first part of this chapter, we examine the notion of professional didactics, a theoretical framework designed to help formalise the problems of skills development in training adults. In the second part, we look in detail at the notion of activity, which constitutes the core of adult training. Thirdly, we look at professional activities aimed at other people, such as the work of the adult trainer.

4.2 Professional didactics: Objectives and theoretical foundations

This section explains the origins of professional didactics. First, it sets out its objectives in both theoretical and practical terms. It then outlines its theoretical foundations, which are based primarily on psychology and ergonomics.

Keyword: Professional didactics

Professional didactics is a research trend (Pastré, 2011) in adult education. In theoretical terms, it borrows from psychology and ergonomics. It aims to understand how adult learning develops in a work situation.

4.2.1 Origins of professional didactics

Professional didactics is a recent theoretical formalisation of adult learning, the origins of which can be found in a context of economic and social crisis, which has seen the decline of the industrial society and the emergence of a

service-oriented society over the last 30 years. Adapting large numbers of adult workers to new jobs raised the question of their training head-on. The knowledge acquired in the world of teaching and initial vocational training was not sufficient to respond to the challenges encountered. The experience acquired by adults, either in their professional environment or in their private lives (for example, through community commitments, responsibilities, and practices) their personal and social paths, and the fact that training often took place in the workplace, are all elements which indicate the importance of understanding how professional learning is constructed in a context of rapid economic and social transformation.

4.2.2 The objectives of professional didactics

The aim of professional didactics is to explain the genesis and development of professional competences.

Keyword: Competence

The notion of competence has been examined in numerous pieces of research in adult education. It can be defined as the functional, contextualised, and assessable action-knowledge of a person or group of people (collective competence).

The notion of *action-knowledge* refers to an actor who analyses their particular work situation in order to give it meaning, take decisions, and act in order to transform it. It is therefore more appropriate than the notion of know-how, which has more to do with executing a piece of work and implementing stable procedures, in which the possibility of using one's initiative is somewhat limited, as with Taylorian situations, which require a low level of skills.

The term *functional* refers to the relationship between the competence and the activity. Competence is not simply a capacity or a potential aptitude. In tangible terms, capacity is confirmed by the completion of a particular activity in a given context, which can be clearly described. Competence is functional in the sense that it is not virtual. It is not declared but can be deduced from performance. A useful point of reference can be found in the notion of linguistic competence as defined by Chomsky (1965): a young child becomes competent in terms of language when they produce previously unheard and pertinent statements in the communicative situation in which they find themselves, even if these statements are not strictly correct in terms of syntax.

Competences are therefore an effective resource, available to an – individual or collective – actor to perform a particular action, that is to say, an assessable result, through their professional activity.

The term *contextualised* refers to the ecological, situated dimension of any work activity. On the one hand, it refers in broad terms to the working environment through resources and constraints, whether these are technological, instrumental, regulatory, or human. On the other, it refers to the organisation of work, based on two important aspects analysed by Mintzberg (1978). The first is the approach to the division of labour within the organisation prescribing the work, whether this is horizontal, concerning the division of a single work activity, or vertical. The second is the coordination of working activities within the organisation, between peers, employees, and various partners. Finally, it concerns the working situation itself, which, most frequently – and particularly for the work of the trainer – comprises generic, relatively invariable, and stable elements, which combine to produce more dynamic, changing, and somewhat unusual elements. In training, for example, a programme may be the same for different groups of trainees, distinguished based on characteristics such as the level of previous training, involvement in training, the determination to progress, the meaning assigned to the training activity in their professional career by the trainees, and the resources, contexts, and objectives of the training.

The term *assessable* refers to the fact that action-knowledge based on competence helps to produce a result which can be assessed, compared, and measured over the long term. In this case, the notion of assessment takes into account the possibility of ranking (as in the case of a recruitment competition, for example) or certification (this is the case of the ISO standards approach at an international level). Action-knowledge is not only about achieving a result – it is difficult, for example, to demand that a doctor systematically cure a patient, particularly when it is a serious illness or one which they do not know how to treat – but may also refer to a more or less precise process, which may itself be subject to specific standards. To continue with the example of the doctor, the quality of their diagnosis and prescriptions can be assessed in the light of medical practices, technological options, and scientific knowledge at a particular moment and in a given context.

The practical objective of professional didactics is to contribute to educational engineering, which enables the effective development of professional competences amongst adults, whilst at the same time enabling the development of a professional identity within organisations and via fulfilling, instructive work situations.

4.2.3 The theoretical foundations of professional didactics

The main hypothesis in professional didactics is that human activity is organised into a network of basic organisational units, both cognitive (i.e. they are linked to the processing of information) and pragmatic, that is, geared to the success of the activity at the best possible cost for the individual, who is deemed to be 'relatively rational' in their choices. These organisational entities are in fact psychological entities, similar to the notion of the *schema* first created by Piaget (1974) and developed by Vergnaud (1985).

The theoretical framework for professional didactics can be seen as borrowing from three current theories: its general background is derived from ergonomic psychology, whilst at its core lies developmental psychology; finally, didactics in relation to the subjects taught in schools provides an insight into the relationship between knowledge and subject.

Ergonomic psychology

Ergonomics is the rational study of work. In the early twentieth century, the American Frederick Taylor used ergonomic principles in order to improve the efficiency and fluidity of industrial assembly lines. Until the 1970s, ergonomics focused mainly on the interface between people and machines, its primary concern being to improve productivity in the industrial field whilst catering to the needs of human operators. The prevailing approach was a behaviourist one.

During the second half of the twentieth century, ergonomics became more complex, drawing a distinction between the *prescribed task* (i.e. what has to be done) and the *activity*, which is what the worker actually does in order to complete the task. This is a useful distinction in terms of carrying out a more detailed analysis of work, when it consists not of transforming stable, repetitive situations but of resolving problems of varying degrees of significance in non-standard situations. In the 1980s, activity was analysed as a complex situation, of which behavioural aspects were seen as the result. At the heart of this complexity lay the cognitive dimension of the activity: what information does the individual carrying out the activity select in a work situation, how do they organise the information in order to make it meaningful, how do they interpret and process information, how do they decide between different possible solutions and how do they make decisions prior to acting? The cognitive dimension of the activity can then be seen as underpinning behaviour, but is itself invisible. It obviously exists in certain sectors such as journalism, scientific work, care services, teaching and adult education, but it

is also found in less skilled tasks. When cleaning an office, for example, workers say that they take account of how clean the office is already, how tidy or untidy it is, how much time they have available, how tired they are, how much work they estimate they have to complete before the end of their working day, the condition of the tools they have to work with, and so on.

The notion of the *operative image* developed by Ochanine (1978) makes an important contribution to ergonomic psychology and the way in which professional resources are constructed, between the organised capitalisation of experience, the construction of automatic professional instincts and gestures, and professional resources. Ochanine compared the professional expertise of novice and experienced doctors concerning the diagnosis of hyperthyroidism (at a time, in the 1950s, when medical imaging was practically non-existent). He noted that recently qualified young doctors had a good theoretical knowledge of the condition, and that they knew how to describe its origins and development from the point of view of the hormonal imbalance thought to be the cause of the disease. In other words, the *cognitive function* of their mental representations was satisfactory from the point of view of their formal knowledge, whilst experienced doctors struggled to provide the correct answers in this respect. Where the latter performed significantly better than their younger colleagues, however, was in the *operative function* of their representation, which governs practice: most of the time their diagnoses on a panel of patients were correct, and in any case more accurate than those of the younger doctors. An individual's operative image relates to knowledge in action and is constructed through action and for action. It enables them to carry out the action in an appropriate way based on their accumulation of experience and its organisation. For the subject, it equates to the dynamic structure of the action/situation. Ochanine outlined the following four principles:

- **Selectivity:** only information which is seen by the subject as relevant to the success of the action will be taken into account.
- **Functional distortion**: certain pieces of information are focused on and accentuated in relation to the end goal.
- **Purpose:** the operative image depends on the subject's actual end goal.
- **Pragmatism:** the main priority is the effectiveness of the action at an acceptable price for the subject.

Ergonomic psychology creates a link between the work situation, the subject's cognition, and the activity, and takes account of knowledge in action, built up over time through experience, which enables the subject to carry out the activity provided it belongs to a type of situation which is familiar to them.

Developmental psychology

There were two main contributions to developmental psychology in the twentieth century. Although the names of Piaget and Vygotsky are usually presented as competing with each other, we will treat their respective contributions here as complementary, insofar as they both emphasise the importance of interactions as a decisive factor in the development of individuals.

The theory of understanding developed by Piaget (1974) places particular importance on the interactions between the subject and the objects or situations with which they are confronted, through a combination of accommodation and assimilation. From the point of view of Piaget's constructivist theory, the subject, by resolving problems, gradually develops a network of schemas which act as ways of organising action for a given category of situation. Each schema provides a way of ensuring functional coordination between aim and means.

For Vygotsky (1986), learning is the result of a historical and cultural approach in which social and linguistic interactions act as drivers. His work was to be expanded and continued by the American psychologist Bruner (1996). They both emphasise the notion of a supervisory interaction in linguistic mediations between the expert and the novice and in what is known as the zone of proximal development. This zone speeds up the desired learning based on appropriate adjustments made by the tutor. All of these contributions help us to gain a better understanding of the potential role in learning of simulations, role play, and mediation between peers, and between the trainee and the tutor. They shed light on the operation of the systems used for analysing practices in adult education but never minimise the importance of theoretical contributions, instead restoring them to their proper place in their dynamic relationship with field-based approaches. For, as the German philosopher Kant (1790/1995) observes, 'Practice without theory is blind. Theory without practice is fruitless.'

Disciplinary didactics

Disciplinary didactics studies the questions raised by the teaching and acquisition of knowledge in various school disciplines (mathematics, biology, geography, physical education, etc.). In particular, it examines the didactic transposition in relation to knowledge, from what is already known to what needs to be taught and finally to what is actually taught in practice. It is distinct from pedagogy because of the central role played by content specific to the particular discipline concerned and by its epistemological dimension, that

is, the nature and organisation of the knowledge to be taught. Let us now examine the two following key notions from the theoretical framework.

The *didactic situation* refers to professional situations the subject can use as the basis for constructing new knowledge. The work situation is didactic insofar as it represents a complex whole, on the basis of which it is possible to develop situational intelligence. Most vocational training courses rely on emblematic or characteristic work situations – that is, those which are often encountered by subjects in the course of their professional experiences or during field placements. The didactic situation combines four interconnected stages:

- acting on the situation and constructing a question
- formulating hypotheses on the logical connections between the interacting elements
- validating the nature and organisation of these relationships through logical experiment
- formulating added value in terms of knowledge and/or rules for action.

The *didactic contract* relates to the communications framework of the teaching and learning situation, and asks both trainers and learners a question which, in our view, is too often forgotten or seen as meaningless: what do people talk about together in a training situation? And what objective are people trying to achieve? Although it is most often only implicit, the didactic contract actually underpins and organises the training situation. If there is no explicit contract between the parties, there is a risk that the training will be meaningless for the person receiving it, leading to a lack of attention in cognitive terms and a lack of involvement or motivation in affective terms.

Professional didactics is a key discipline in adult education. It is concerned with the construction of knowledge in action, developed in and through work situations. The next section outlines a number of methodologies and tools used to analyse work as an activity.

4.3 Analysing activity: A tool for understanding and action

4.3.1 A few preliminary remarks on activity

Acting at a professional level – that is, carrying out an activity to complete a prescribed task – not only becomes a complex but also an obscure process, displaying varying degrees of rationality, as soon as one takes into account not only people's behaviour but also their cognitive activity.

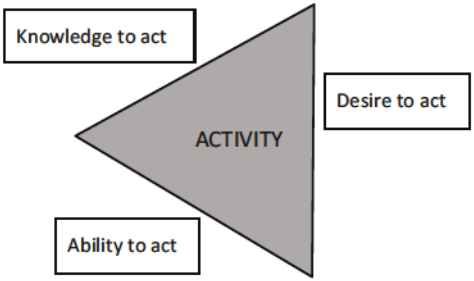
Any human activity must be understood as an interweaving of motives, possibilities, understanding, conceptualisations, experiences, and instinctive behaviours, all pulling in different directions, none of which are ever entirely visible either to the observer or to the subject themselves. We can identify three components that, together, constitute the generic framework for any activity (Piot, 2006):

The knowledge to act refers on the one hand to a body of academic knowledge, most frequently learned during initial training, which can be used in order to act; and on the other, more pragmatic forms of action knowledge geared to the success of the action. These result in an effective solution in a given type of situation.

Wanting to act refers to motivation and the commitment of the professional, which are linked to the perceived meaningfulness of the activity, what they consider to be their actual capacity to act effectively in a work situation, and the value they attribute to their activity. Motivation, which is central to the desire to act, has a dimension which is internal to the subject and concerns the motive of the activity, that is, their desire to act. It also has an external dimension, which relates to purpose: for the subject, these are the reasons they give themselves to act or which oblige them to act.

The *possibility of acting* refers to the context of the subject's activity and the interactive elements which open the field of possibilities to a greater or lesser extent for the activity concerned. In any work situation, in fact, there are possible and impossible actions and rational or irrational examples of resistance, which encourage, make possible, or prevent the activity, even if one wants and knows how to carry it out. The context is made up of objective elements (technologies, tools, and instruments), the way work is organised (including defined standards and procedures), a working community (with its habits, relationship to line management, and dominant practices), and an individual level.

Figure 3: The three components of an activity



Source: Adapted from Piot, 2006

An activity is therefore a complex entity connecting a set of heterogeneous interactive elements. In adult education situations, it is the responsibility of the trainer, who constructs and conducts learning situations and evaluates the results of learning, to be vigilant and not reduce training to the use of tools, frameworks, or technical procedures.

Keyword: Activity

An activity is what an individual does in a work situation to achieve the results required by their employer. An activity is made up of two heterogeneous and complementary aspects: behaviour is the visible part of the activity, whilst information processing (perception, interpretation, and decision-making) is the invisible part.

4.3.2 *What is the appropriate methodology for identifying an activity?*

Professional didactics focuses on analysing activities in order to characterise the resources needed for the development of professional competences and therefore construct an effective structure for adult education. It is important to challenge the representations individuals have of a professional activity from the outset.

Observing visible activity

The first phase consists of formally *observing* professional activity in order to understand how a professional transforms their work situation, noting basic actions, the frequency, and duration of the activity, or the actions which make up the activity, the tools required, and examples of cooperation and interaction with other people, such as line management, colleagues, users or customers, and partners. These observations are used to gather objective information, which can then be organised. Increasingly, digital video recordings are used to confirm and reconstruct people's behaviour more reliably as they go about their professional activity.

Verbalising invisible cognitive activity

The second phase complements the first, because in many jobs, behaviour is only the visible and final manifestation of the activity. *Linguistic mediation* is used, and the professional is asked to comment on their actions as they work,

in order to understand the origins and real aims of their behaviour. Whilst commenting on actions as they take place may provide some degree of insight as a supplement to the observation of behaviour, it is not always enough, as comments are sometimes superficial and do not give the subject providing the commentary the opportunity to explain the resources they are using or the operative images on which they are relying. More detailed information can be obtained by using self-confrontation: the professional is shown a video recording of their own activity and is asked to provide a commentary, stopping on particular images or answering questions from a researcher. Self-confrontation, which is also a possible method for analysing training practices, provides an opportunity to question the professional once they have finished their activity and, based on what they say, access the hidden *cognitive dimension* of the activity. The comments the professional provides on their work are a means of identifying which kinds of information they use and which they ignore. It provides a way for the worker to explain what they do and this explanation can then be used to determine the actual goals they have set for themselves (which may not systematically tally with their prescribed goals), how they organise their work, the operative images they use, the checks they carry out, the knowledge and explanatory approaches they rely on to analyse the parameters they recall from their work situation, and so on. All these elements constitute *the cognitive structure of the activity*, which seems to be an important resource in terms of anticipating, orienting, carrying out, and regulating their activity.

4.4 Activities 'aimed at other people'

This final section focuses on a particular type of activity: activities aimed at other people, including adult education and training. We will describe the specific characteristics of these types of activity and then compare them with industrial activities. Finally, we will examine ways of learning and developing competences in these activities, where interpersonal aspects are essential.

4.4.1 Characteristics of activities aimed at other people

Professional service activities aimed at other people are jobs involving human interaction. The aim of the work is to bring about a change in the other person, as is the case in teaching, care and services which provide support,

assistance, integration, facilitation, advice, and the like, as well as adult education. Other examples include services for elderly or dependent people, which are developing rapidly and which, behind a service *for* another person (domestic help), hide a service *aimed at* another person, namely providing company and reducing isolation, offering reassurance, helping to organise a living space, and providing a reference point to help structure the other person's day.

Most of the time, these activities are carried out in heterogeneous work communities, in an institutional environment and organisational context which may sometimes be paradoxical, combining high and low levels of rationality at the same time. The first is expressed in norms, rules, and generic prescriptions, generally dominated by a bureaucratic approach; the low level of rationality reveals the possibility of investing in working environments where the professional is able to analyse the specific nature of certain situations in which they are required to act and implement the methods and resources they have available to them without strict controls.

These activities are carried out by coordinating two kinds of competences: competences and expertise about the object of the service (the school curriculum for teachers, care procedures for care providers, legal knowledge in social work, etc.) and communications and interpersonal competences. In all instances, the beneficiary is a key player and their cooperation and involvement are essential in ensuring that the professional can carry out their activity. Linguistic exchanges are a common thread in a shared interactive activity involving both the professional and the beneficiary but to different degrees.

Keyword: Jobs aimed at other people

Jobs aimed at other people are activities where the person working serves the needs of another person (such as a user or customer) in order to effect some kind of change in them. They include training, education, caring, social work, facilitation, social integration, and the like. The person carrying out the work uses primarily interpersonal and communications competences in order to win the trust and cooperation of the person in whom they are trying to bring about a change. They are also sometimes described as activities involving human interaction.

4.4.2 *Comparison between traditional industrial work and work aimed at other people or human interactions*

This section aims to characterise 'work aimed at other people', which is still sometimes described as 'work based on human interaction' by contrast with industrial work, based on six areas: (1) aim, (2) nature of work, (3) working relationships, (4) result of the work, (5) knowledge and technology, and (6) relationship to time.

Table 3: Traditional industrial work vs. work based on human interactions

Aim of the work	
Traditional industrial work	**Work based on human interactions**
The aim is clear, unequivocal, and immediate. *Example: producing a piece using a stamping press*	Aims may sometimes appear vague and ambiguous: *Example: the aim of education and socialisation fulfilled by compulsory schooling*

Nature of the work	
Traditional industrial work	**Work based on human interactions**
Procedural and algorithmic functional aspects take priority. *Example: producing a brioche in an industrial bakery*	Heuristic and identity-related aspects take priority. *Example: a social and professional integration course for the long-term unemployed in adult education*

Working relationships	
Traditional industrial work	**Work based on human interactions**
The operator has direct, instrumental, specific, and total relationships (quality standards, operational standards). *Example: fixing an engine block onto a chassis in the automobile industry*	The professional takes account of the irreducible opacity of the beneficiary as a person; there is space for the unexpected and multidimensional (cognitive, affective, moral, and social) *Example: treating pain in a hospital department*

Result of the work	
Traditional industrial work	**Work based on human interactions**
The result of the work is immediately observable, can be fully controlled and may generate waste. *Example: rejection of boxes of cereal where the final check has identified a nutritional quality defect outside the tolerance levels of the brand*	The result may be partly invisible and intangible, and failures will need to be managed. *Example: the situation of a young adult, consuming hard drugs after years of treatment by a preventive education team working on addiction in their neighbourhood*

Knowledge and technology	
Traditional industrial work	**Work based on human interactions**
Involves knowledge derived from the hard sciences (mathematics), which are capitalised and transmissible, and the presence of physical technologies and complex instruments. *Example: a digital robot producing ultra-precise welds in the aeronautical industry*	Relatively disparate, informal knowledge; practical knowledge and importance of symbolic interactions *Example: a facilitator gains the commitment of a group of young teenagers by drawing them into an imaginary world to launch a large community game*

Relationship to time	
Traditional industrial work	**Work based on human interactions**
Reversible temporality Example: reorganisation of the ergonomics of a toothpaste production line to include a new product formulation	Implied historicity Example: a secondary school teacher comes up against a class which is hostile to them because of an unfair attitude he had at the beginning of the year, for which he has not apologised.

Source: Adapted from Piot, 2008

This comparison draws attention to three distinct but related aspects of work aimed at other people or based on human interaction: the ecological dimension, the hermeneutic dimension, and the operative dimension.

The *ecological dimension* concerns the fact that work aimed at another person always takes place in a context of singularity, because of the uniqueness of the individuals involved. More specifically, there is a tension between the generic elements of the situation (for example, taking a blood sample to measure the proportion of white blood cells) and elements which are specific to a particular situation: depending on whether it involves a newborn, an adult haemophiliac, or an elderly person, the actual care situation will not be the same. The professional will make a connection to an operative image and type of situation with which they are familiar and which they will draw on as a resource to carry out the activity. Furthermore, detailed observation indicates that strategic information is only available as the activity is actually being carried out: the professional has to compare the actual situation they are faced with and the operative image on which they base their activity on an ongoing basis: for example, if an adult trainee interrupts a trainer who is demonstrating and explaining a technical manoeuvre, saying 'I don't understand why you have to do it like that,' then the trainer will have to deal with this as an unforeseen event, repeat their explanation, and engage in a conversation with the trainee in order to manage the learning situation they are leading. Finally, an activity in a situational context is a specific shared activity

which needs to be adjusted constantly, alternating between the professional and the beneficiary.

The *hermeneutic dimension*. The term *hermeneutic* means that the professional has to interpret the meaning of the situation, which is not given to them directly: they will have to make inferences about it, based on their experience and interpretive schemas, which are not necessarily based on a rational approach, but sometimes on what the professional believes to be fair, equitable, or effective in a given situation. For example, a trainer may need to decide between responding to a question from an adult who is expressing a difficulty and finishing an important explanation for the whole of the group when they only have a few minutes of their session left. Interpretation also concerns the trainer in terms of the critical interpretation they make of generic prescriptions, which are sometimes at odds with the reality of the group they are working with. It then becomes important, for example, to determine which elements of the training programme are essential, and how to start from the actual level of competences of the trainees, which may not be the same as what was expected.

The *operative dimension* concerns the functional dimension of the activity and the notion of success. It presupposes, as we have already indicated, a minimum level of collaboration and cooperation, and a relationship of trust, which may sometimes be difficult to instil in a way which ensures that the sometimes heterogeneous aims of the training are achieved: these may include aims identified in a job framework, intersubjective aims concerning the quality of the interpersonal and communicative relationship with the beneficiaries, and the subjective aims of the professional, for whom the sense of self-efficacy is an important resource, insofar as activities aimed at other people implicitly require that the professional engage at an individual, personal level in order to build a relationship of trust. Linguistic interactions include an element of interpersonal and cognitive adjustment to the other person, to ensure conversations take place against a common background, that both parties share the same objective, and to avoid the misunderstandings and things which are left unsaid which can undermine or even ruin the relationship of trust, or the quality of service provided to the other person.

4.4.3 Learning from activities in work 'aimed at other people'

We have already noted that in work aimed at other people, academic learning, though an essential resource, is not sufficient in order to act. The experience built up over the course of dealing with professional situations in prac-

tice can serve as a basis for new learning, which will enhance the personal resources of the professional. This critical and reflective approach, advocated first by Socrates and more recently by Dewey (1938) and Schön (1983) is a problem-based approach: how should we think about professional situations aimed at other people and how should we conceptualise our professional activity? How can work situations be made more intelligible for professionals working in jobs aimed at other people? This is an important issue, insofar as it relates to professional development, that is, the consolidation of both professional identity and professional competences. Based on the knowledge they have acquired and the experience they have accumulated, the professional is practically obliged, in order to remain 'alert', to successfully mobilise and reorganise their resources in order to resolve both new and recurrent problems in, through, and for action. Learning from work situations requires effort in two ways:

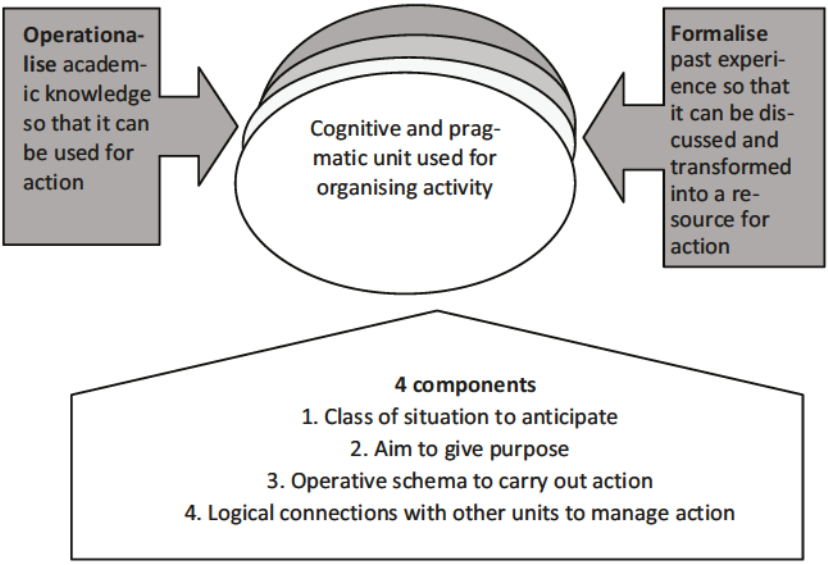
- constructing a plot to elucidate the question of what the professional's activity means and clarify the professional's subjective and intersubjective relationship to the activity, which relates to the construction of professional identity
- carrying out a rational investigation to problematise the work situation based on what is already known (the epistemic approach) through study or experience (the pragmatic approach), because most of the time, relatively automatic, generic routines make it difficult to act in a non-standard situation.

From the point of view of professional didactics, it involves creating a denser network of schemas, which constitute cognitive and pragmatic units used to organise a particular action.

Each of these units is made up of four functional components, which relate to four complementary functions: (1) an aim to give purpose to the action; (2) a stable category of situation to make it possible to anticipate the action; (3) an operative schema which makes it possible to carry out and regulate the action; (4) logical connections with other units which link the units to form a whole (holistic dimension) and enable it to be managed at an overall level.

The units used to organise the action are developed at the interface between two main approaches – operationalisation and formalisation – as illustrated in Figure 4 below.

Figure 4: Cognitive and pragmatic units in connection between operationalisation and formalisation



Source: Adapted from Piot, 2006

According to Samurçay and Rabardel (2004), professional didactics provides an important distinction for problematising an activity, that is, to help the professional to think through their activity. The authors draw a distinction between productive and constructive activity: the first consists of transforming a work situation in tangible terms, taking account of the prescriptions associated with the task through activity based on mobilising all one's resources. Constructive activity consists of constructing new resources in order to act as a conscious actor during or after the productive activity. This is an intentional process, which makes it possible to enhance (the quantitative dimension), reorganise (the qualitative dimension), and put to the test, on an ongoing basis, the real professional problems faced by the professional (the dynamic and operative dimension) in order to make the actions of the professional adult trainer fluid and relevant. It is an approach based on an analysis of practice, which aligns well both with a process of continuous improvement of the quality of service rendered (the Deming Cycle approach) and with a reflective and critical process which relates to the limitations of training: the instrumentalisation of those involved and the dilution of the meaning of the ac-

tivity, discomfort at work, and feeling a sense of lack of capability or uselessness.

Adult trainers are therefore involved in two ways: on the one hand, this distinction may help them to develop attractive and effective training courses based on the experience acquired by their trainees. On the other hand, it may affect them because they will need to develop their competences on the basis of their activity.

Frameworks are symbolic instruments that enable the trainer to assign a purpose to, implement, and assess their activity: examples include activity frameworks, competence frameworks, training frameworks, and certification frameworks. Their main benefit is that they offer trainees, trainers, and training advocates a shared and transparent tool, which allows everyone involved to accept their responsibilities in the training process, which remains an interactive process. Like every other tool, however, the framework has a number of weaknesses; although it can present competences in an objective and analytical manner, it is not designed to take account of subjective and identity-related aspects, particularly in occupations aimed at other people (such as training, teaching, care, support, and facilitation), nor to mechanically guarantee access for the trainee to a global understanding of work situations. Training frameworks of this kind must be used with other, more personalised tools, such as the portfolio.

4.5 Conclusion

Professional didactics allows adult trainers to analyse their professional activity and provides a robust, open theoretical framework, which offers a coherent response to key questions, such as: What is learning? and: How do we learn? The five key concepts of the work situation, activity, competences, reflectiveness, and linguistic mediation provide a structure for this theoretical framework and offer the adult trainer a frame of reference for carrying out their role and furthering their own professional development.

Exercises and tasks

Exercise 1

Describe the professional activity of the trainer. Describe your professional activity based on the distinction between industrial activity and work in jobs based on human interaction (Section 4 of this chapter).

Exercise 2

Group activity: Formalise a reflective analysis process from productive activity to constructive activity.

1) Identify a new professional problem you have encountered. Describe the main elements of the professional situation in which the problem occurred (context, objectives, key players, etc.).
2) Describe how you developed and implemented a satisfactory solution to solve this problem.
3) What did you learn? Which competences did you develop in constructing this solution?
4) Indicate how you have used these new competences in other professional situations.

Task 1

Based on Piot (2008), develop an analysis of the activity of an adult trainer to construct a contextualised activity framework. Then try to identify the different dimensions of an adult trainer's professional activity, particularly the actual activity and the hidden activity.

Task 2

Download the following report, entitled *Competence Framework for VET Professions*, from

www.cedefop.europa.eu/EN/Files/111332_Competence_framework_for_VET_professions.pdf.

This handbook for practitioners is based on the results of two Cedefop TTnet (Training of Trainers Network) projects. Read Chapter 2, which is focused on teachers, and answer the questions:

- What are the main changes in the working context of VET teachers?
- What are the main consequences of these changes on the teachers' competences?

List of Abbreviations

CCEC:	Competences Elicitation Career Counseling
ECVET:	European Credit for Vocational Education and Training
EQF:	European Qualifications Framework
HR:	Human Resources
NCVER:	National Centre for Vocational Education Research
PISA:	Programme for International Student Assessment
SMEs:	Small and Medium Sized Enterprises
TIMSS:	Third International Mathematics ans Science Study
TTnet:	Training of Trainers Network
VET:	Vocational Education and Training

Annotated Bibliography

Bandura, A. (1997). ***Self-efficacy. The exercice of control.*** **New York: Freeman**
A key book by Albert Bandura, one of the world's leading researchers in social psychology working in the field of social learning and self-efficacy. This book develops the theory that forms the basis of the self-efficacy concept – that is, social cognitive theory – and summarises a set of convincing research results on different topics.It shows the impact of self-efficacy beliefs on the daily life of individuals. Self-efficacy emerges as a key psychological mechanism governing a variety of human activities. This approach suggests that it is possible in certain conditions to question social determinism.

Collin, A, & Young, R. A. (Eds.). (2000). ***The future of career.*** **Cambridge: Cambridge University Press.**
The fragmented nature of modern working life has led to fundamental changes in our understanding of the term *career*. Few people now expect to have a lifetime of continuous employment, regardless of their qualifications or the sector they work in. This book presents a kaleidoscopic view of the concept of career, reviewing its past and considering its future. The chapters are wide-ranging, exploring topics such as the changing issues of career, individual career experiences, multicultural issues, women's careers, and the implications for practice and policy-making.

Savickas, M. L., Nota, L., Rossier, J., Dauwalder, J. P., Duarte, M. E., Guichard, J., Soresi, S., Van Esbroeck, R., Van Vianen, A. E. M. (2009). Life designing: A paradigm for career construction in the 21st century. ***Journal of Vocational Behavior,*** **3, 239–250.**
At the beginning of the twenty-first century, a new social arrangement of work poses a series of questions and challenges to scholars who aim to help people develop their competences and working lives. In this article, the authors formulate potentially innovative responses in a kind of international forum. It presents a career counseling model: the life designing model for career interventions. The article offers an overview of different approaches of career counseling models and develops a framework for new methods and tools in career counseling.

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