Qualiform II:

The role of the professional environment and the characteristics of the learner

Literature Analysis,
Lisa DAVID
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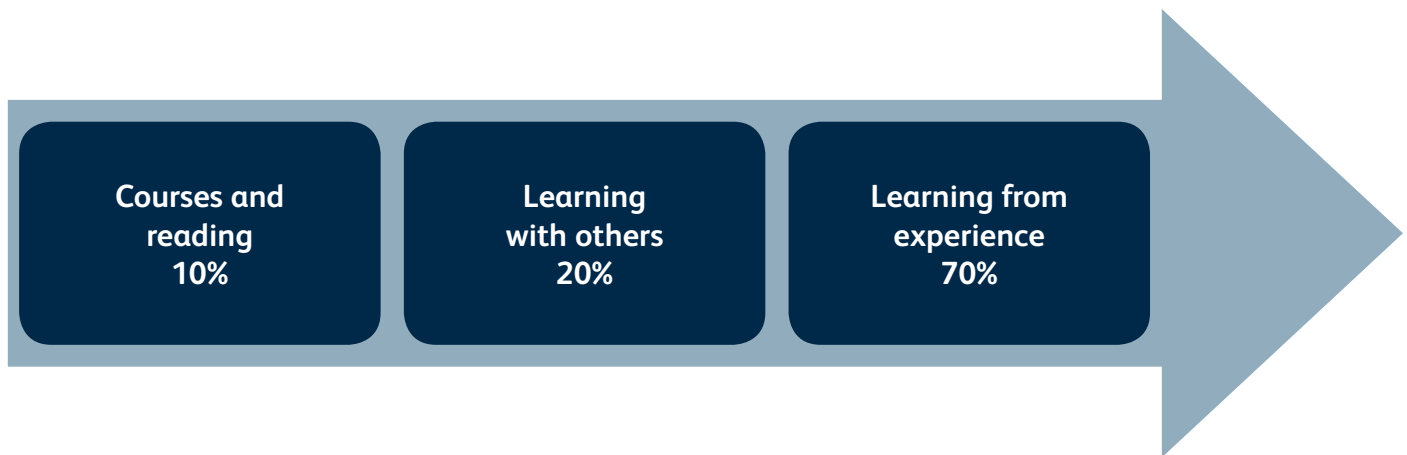Enrichissons vos compétences.

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CONTENT

INTRODUCTION

Based on the reference model developed by Morgan McCALL, 10 % of all learning actions in the workplace take place through formal training:

Courses and reading 10%	Learning with others 20%	Learning from experience 70%

Accordingly, for the concept of workplace learning and formal learning processes for job actions, this model can be interpreted as an indicator that only 10 % of actual learning are accomplished during formal training processes (cf. Lombardo et al. 1996). Learning from others, through good and bad examples is an important supportive factor. However, 70 % of the learning process take place in the actual organisational environment by learning on the day-to-day job (working on tasks and problems) and is therefore rated very high. Social learning, error policies, learning cultures and supervisional arrangements are part of these 70 % of where and when learning and the application of learning outcomes happen.

This essay focuses on achieving workplace learning under different aspects. While incidental and informal learning[1] in the workplace have gained more and more scientific and practical attention, the description at hand tries to outline the specifics of formal training and learning situations induced by the host organisations: "Learning activities and programmes that include an interaction between work-places and public or private providers of vocational education and training generally offer some of the best possibilities for work-related learning processes aimed at broad, all-round learning that also includes both professional qualifications and personal competence development" (Illeris, 2011: 125).

The first chapter focuses on the description of a learning organisation and organisational learning. In the second part, the professional context in the form of the learning environment is described under the perspective of factors influencing workplace learning. This includes the examination of the role of HR and management. The third part concentrates on specific arrangements supporting successful learning and training in general.

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[1] *Incidental learning is the unplanned learning that takes place in connection with and as part of the discharge of an individual's daily duties and daily contact. Informal learning encompasses everything that is not formalised, like short exchanges/consultations and/or self-directed learning (self-initiated reading, research, exchange groups, etc…). (cf. Illeris, 2011: 69f).*

In the second chapter, the preconditions of the learner are being described. Here the focus is on adult learning theories, motivational theories for learning, the actual behaviour of learners during the learning process benefitting learning outcomes and learning transfer, and the relationship between the learner and the trainer.

The third chapter describes different ways to measure transfer conditions of learning outcomes, including suggestions on how to promote learning transfer into the workplace tasks and actions.

The last chapter summarises the discourse and lists recommendations for actors responsible in organising workplace learning and the transfer of training-related learning outcomes to workplace situations.

THE CONTEXT OF ORGANISATIONAL LEARNING/WORKPLACE LEARNING

1. THE CONTEXT OF ORGANISATIONAL LEARNING/WORKPLACE LEARNING

The first part of this chapter describes the significance of learning organisations and their terms. In that context the link between learning organisations and organisational learning and workplace learning is not far to seek. As the present essay focuses on formal workplace learning, the conditions and prerequisites of the workplace environment are thereafter examined. The third part of this chapter illustrates different possibilities of preliminary and subsequent interventions in order to promote sustainable learning.

1.1 DEFINITIONS: 'LEARNING ORGANISATIONS' AND 'WORKPLACE LEARNING' WITH A FOCUS ON INTERNAL AND EXTERNAL TRAINING

Definition: The Learning Organisation

The definition of the word organisation can be framed as follows: "[…] a productive enterprise having a mission and goals [and] is a system, with definable inputs, processes, outputs, parts, and purposes." (Knowles and Holton and Swanson, 2011: 164).

Organisational learning refers to the study of the learning process of and within organisations and is often expressed from an academic point of view in order to describe and understand the different phenomena and activities (cf. Easterly Smith, 2011: 3): "[…] The primary desired outcome of organizational learning initiatives is not just learning but improvement in work outcomes and productivity." (Naquin and Baldwin, 2003: 86).

The learning organisation is perceived as a whole and an ideal type of organisation. The learning organisation is able to learn effectively and therefore to prosper. Related terms are 'organisational knowledge' and 'knowledge management'. These last areas deal more with the learning outcomes in the form of knowledge. They distinguish between different types of knowledge as well as sharing and storing knowledge by adopting a technical approach in order to enhance organisational performance (cf. Easterby-Smith, 2011: 3).

All in all, "Organizational learning is understood to be the acquisition, conversion, and creation of knowledge aimed at facilitating the attainment of organizational goals" (Child and Rodrigues, 2011: 48).

This statement reveals that the relation between learning and performance is the core of organisational learning. This relationship is not as straightforward as could be assumed: "Learning can be messy, uncertain, interpersonally risky, and without guaranteed results" (Singer and Edmondson, 2006: 2). Organisational learning in the form of collective and individual learning is the basis when trying to establish a learning organisation.

The term collective learning is strongly related to the learning organisation: "Collective learning refers specifically to learning by groups or organizations, in which people must work together to organize the learning process – including such activities as collecting, sharing, or analysing information, obtaining and reflecting on feedback from customers or others, and active experimentation" (Singer and Edmondson, 2006: 3-4).

These learning processes are always carried out by individuals. The dilemma of showing the link between individual learning and collective learning is not easy to solve. Collective learning does not need specific individuals, but without anyone there is no collective learning. Besides the actions of working together and gathering knowledge, what defines collective learning? ARGRYS and SCHÖN argue that the actions of individuals in any organisations are based on shared models including shared assumptions. It is important for a learning organisation to reveal individual models of the inner workings of an organisation in order to create new shared models (cf. Kim, 2004: 41).

Following the assumption that collective learning is the core of organisational learning that aims at performance increase, together the following aspects produce the ingredients needed to benefit performance:

- Individual learning behaviours, incl. requesting feedback from particular managers/ supervisors
- Teams seeking information and feedback outside the team
- Research and development teams experimenting frequently
- Discussion of errors in a productive way (cf. Singer and Edmondson, 2006: 5)

The consultant for organisational development and the often-quoted writer working on learning organisations, Chris ARGYRIS, focuses on two more qualities that need to be understood by initiators of organisational learning:

1. **Tacit learning versus explicit knowledge**

   According to AGYRIS, tacit knowledge should be turned into explicit learning, since implicit/silent knowledge can be a constraint to learning. Knowledge should be available to everyone in the organisation.

2. **Single versus double loop learning**

   Single loop learning means executing tasks as a reaction to instructions. The learning itself is taking place only by noting the results in relation to the instructions without questioning the goals. Double loop learning includes the questioning and critical reviewing of the instructions of the organisational system and the tools that lead to performance.
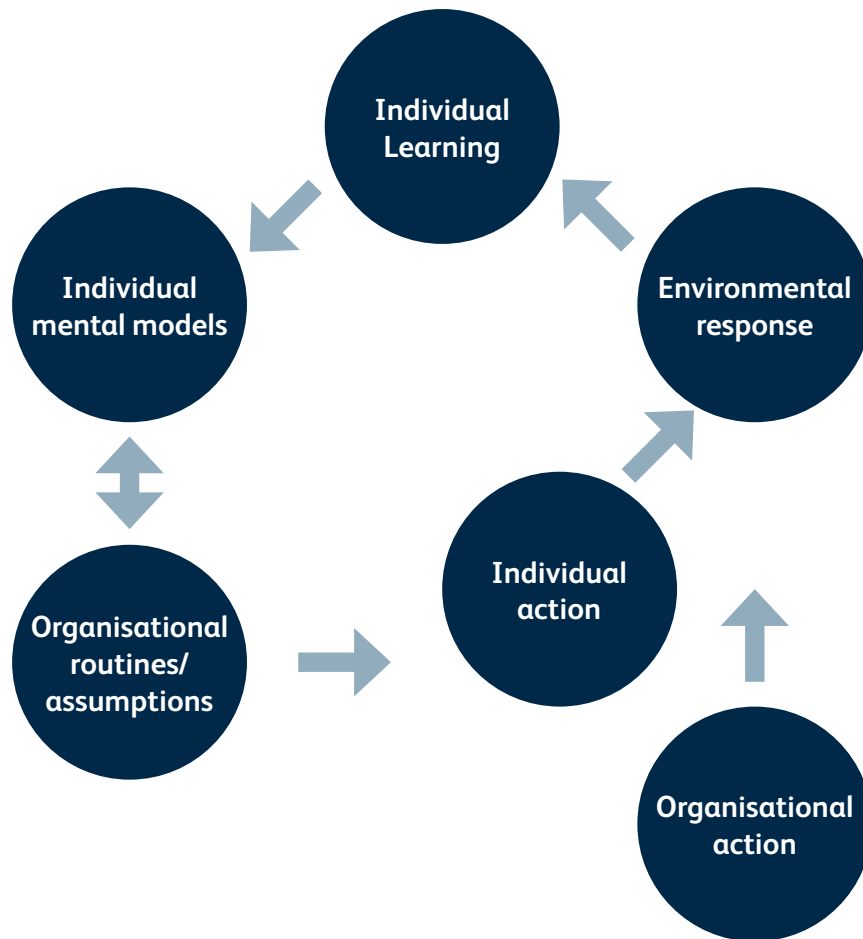
Illustration 1: based on the scheme by Kim 2005, p.40

This model explicitly shows how individual learning can be integrated into individual and organisational actions by traversing the creation of individual mental models and their connection with organisational routines and assumptions. The most important element of double loop learning lies in the constant reflection of organisational routines and assumptions in order to allow change and development through learning.

Peter SENGE's Fifth Discipline

Building on AGYRYS and his characteristics of a successful learning organisation, Peter SENGE uses his five disciplines to describe a different set of ideals of a learning organisation:

1. **Personal mastery**

   Whoever reaches a high level of personal mastery is able to reach their goals and be highly useful to the company/organisation. It is a central task of managers to employ people according to their talents and to ensure that every individual can develop accordingly.

2. **Mental models**

   Every one of us acts based on experience and assumptions. We have, so to say, a model of the world (the market, the industry, the customer behaviour…) in our heads. The model acts as a map we use for orientation. The map, however, is only a map and not the real world. If the map (the model) is functional, we can easily orient ourselves in the real world. However, if the map is flawed, we will continuously get lost.

In a learning organisation, people disclose their models of thinking, discuss them and exchange experiences. Thus, a better, more expansive and more functional model will be developed opposed to one person operating with only their small part of the map.

3. **Building shared vision**

The shared vision of a company or organisation is a strong motivator. They make everyone move in the same direction. This vision cannot be imposed, it has to be developed together. Only those who can identify themselves with the vision will support it.

4. **Team learning**

Learning in teams is a key factor for learning organisations. Long gone are the times when the director knew everything. The insights of individual specialists need to be shared in such a way that the people inside the organisation understand each other and thus achieve effective collective action. This is quite the opposite of divisions (divide).

5. **Systems thinking**

The first four disciplines need to be systematically connected with each other and the bigger picture. This requires a conceptual framework and appropriate structures. Within these, a fundamental transformation of perception can develop, advancing both individuals as well as teams and the whole organisation. Employees see problems as systemic. Patterns of action are analysed. (cf. Senge, 1994: 24ff)

These five aspects can be seen as a set of shared values for a learning culture, as the basis of a 'learning organisation'.

Organising to learn or organising to execute

"Organising to learn" and "organising to execute" are two distinct management practices, where "organising to execute" is the more traditional approach to organisational management. In this context, the question to assess performance is: 'Did we succeed?' "Organising to learn" requires a different kind of question: 'What did we learn?'

A group of scientists from Harvard Business School developed a tool-kit in order to evaluate organisations regarding their current state as a learning organisation. They divided the characteristics of learning organisations into three parts which they named building blocks:

A SUPPORTIVE LEARNING ENVIRONMENT	Employees feel safe disagreeing with others, asking naive questions, owning up to mistakes, and presenting minority viewpoints
	Employees recognise the value of opposing ideas
	Employees take risks and explore the unknown
	Employees take time to review organisational processes
CONCRETE LEARNING PROCESS	A company has formal processes for generating, collecting, interpreting and disseminating information
	There are processes for experimenting with new offerings and gathering intelligence on competitors, customers and IT trends
	A company has formal processes for identifying and solving problems
	There are formal processes for developing employees' skills
LEADERSHIP THAT REINFORCES LEARNING	Leaders support alternative practices
	Leaders signal the importance of spending time on problem identification, knowledge transfer and reflection
	Leaders engage in active questioning and listening

Illustration 2: based on Garvin et al. 2008, p. 1

International empirical studies (HR, NL, SE) on learning organisations describe the different aspects of potential and accomplished factors for success[2].

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[2] *A short description of the surveys' outcomes can be found in attachment 1.*

SUMMARY

Learning organisations are organisations that use collective learning to raise their performance. Learning organisations are not static in structure, atmosphere, management, attitudes, decision-making and communication but try to induce a more innovative approach. Learning organisations seek to display shared models (assumptions) in order to reflect upon them. A Learning organisation has to be independent of any specific individuals. Results of learning can be stored in routines and social norms within organisations (cf. Whalen and Starbuck, 2000: 12). The University of Oxford developed an online questionnaire in order to self-assess whether a specific organisation already performs as a 'learning organisation'[3].

Responsibilities for a successful learning organisation lie in a supportive learning environment, concrete learning processes and leadership strategies that reinforce learning. As important as informal leaning processes can be, the present description of the state of the art concerning organisational learning emphasises the concrete learning process in the form of employees' skill development. This is why the following descriptions focus mainly on training.

1.2 THE PROFESSIONAL CONTEXT OF LEARNERS AND THE IMPACT ON TRAINING/LEARNING EFFECTS AND SUCCESS

In this chapter, the different aspects of organisational factors, including human resource development and management, are being examined in order to reveal factors benefitting training success and learning outcomes.

Successful training

Successful training should be considered in connection to the question 'Success for whom?' It is not just the organisation that is concerned about the success of trainings, the trainer and the trainee are equally interested in the outcome of learning processes. For organisations, the primary measure of success has been whether training helped production, efficiency and cost effectiveness (cf. Swanson, 2003: 126). Furthermore, two of the most relevant factors of training success are learning outcomes and post-training job performance (cf. Arthur et al., 2004: 235).

A common thread was framed by CARNEVALE almost 25 years ago: "Success is demonstrated by measurable knowledge gained" (Carnevale, 1990: 120). This gained knowledge, skill or understanding should not only serve organisational goals but also fit into the learner's mind-set and creation of meaning.

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[3] *The questionnaire can be found in attachment 2.*

Choosing formal training as one option for learning in the workplace environment has many advantages:

- Formal learning settings can provide qualifications that go beyond those needed to perform a certain work function.
- Training within the workplace allows a direct connection between learning material and work tasks.
- Training outside the workplace encourages the learners to remove or distance themselves from daily work in order to allow a more general view of the workplace and its workings (cf. Illeris, 2011: 10f).

If the learning desires of the learner do not correspond with the identified learning needs of HR or the supervisors, this could result in preventing successful learning. One of the biggest challenges for training lies in the fact that employees are often reminded of their formal school education. These experiences are often rated as uncomfortable and patronising (cf. Illeris, 2011: 10f).

On a positive note, knowledge acquired in formal learning processes seems to be more easily articulated, discussed and brought to mind, whereas tacit knowledge, as an important factor for work performance, is often taken for granted (Eraud, 2004: 54).

For this reason, the following parts of the chapter describe the different ranges of responsibility to promote successful training in the workplace.

1.2.1 ORGANISATIONAL ELEMENTS BENEFITTING THE SUCCESS OF TRAINING

The difficult task of linking the organisation's pursuit for performance increase and the individual's needs, wishes and understanding of learning causes is aptly described by the Australian scientist Pamela MATTHEWS: "Workplace learning involves the process of reasoned learning towards desirable outcomes for the individual and the organisation. These outcomes should foster the sustained development of both the individual and the organisation, within the present and future context of organisational goals and individual career development" (Matthews, 1999: 20). Fundamentally, workplaces have certain specific purposes and conditions of existence primarily directed towards production, services, and maximisation of profits or attaining formulated goals within a given financial budget (cf. Illeris, 2011: 67). These purposes need to be referred to the employees' future application of certain skills.

The workplace as a learning space

Workplace learning has its beginnings in the 1950s. In the 1980s, workplace learning occurred in traditional classroom format, with theoretical contents and case studies as practical learning. The development of newer methods of workplace learning can be divided into four different dimensions:
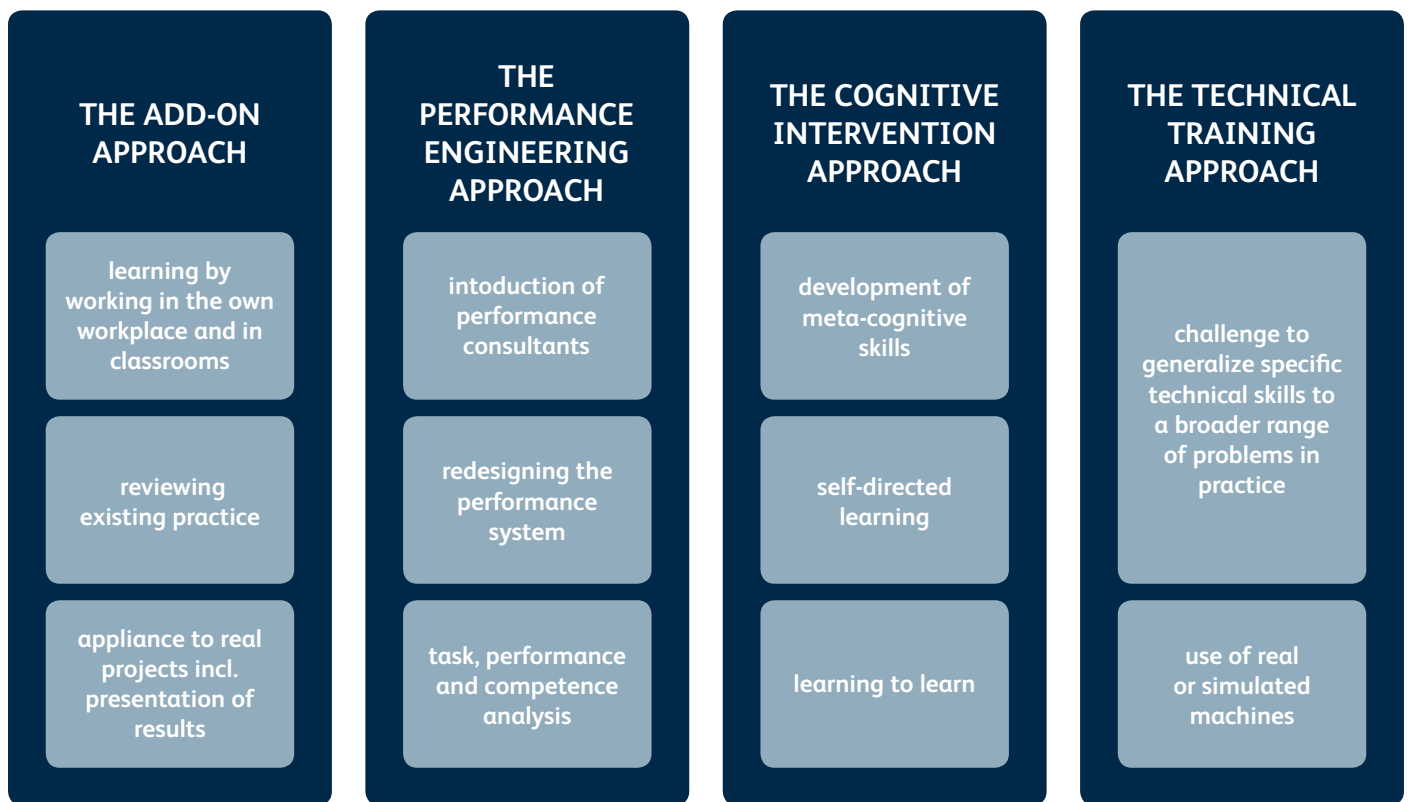
THE ADD-ON APPROACH	THE PERFORMANCE ENGINEERING APPROACH	THE COGNITIVE INTERVENTION APPROACH	THE TECHNICAL TRAINING APPROACH
learning by working in the own workplace and in classrooms	intoduction of performance consultants	development of meta-cognitive skills	challenge to generalize specific technical skills to a broader range of problems in practice
reviewing existing practice	redesigning the performance system	self-directed learning	
appliance to real projects incl. presentation of results	task, performance and competence analysis	learning to learn	use of real or simulated machines

Illustration 3: based on McLagan 2003, S. 40f

Nowadays, all of these methods have their place in formal workplace training. It is one of the core functions of the development of human resources (HRD) to decide which approach seems to be the most expedient to achieve an increase in performance.

What is unique about workplace learning is the specific learning space. This, by definition, includes learning in the 'physical workplace' as well as on courses, in networks, in exchange schemes, in contact with customers, users and suppliers etc. (cf. Illeris, 2011: 29). All these settings for workplace learning are called the learning environment, which "[…] refers to all the opportunities for learning contained in the material and social surroundings" (Illeris, 2011: 29).

The three rationales of learning (Knud ILLERIS)

This scheme shows the triangulation of separate prerequisites for successful workplace learning

TRAINING:

creating learning opportunities
and competence development

WORKPLACE:

relating to the production and
output of the organisaton

LEARNER:

interested in learning and
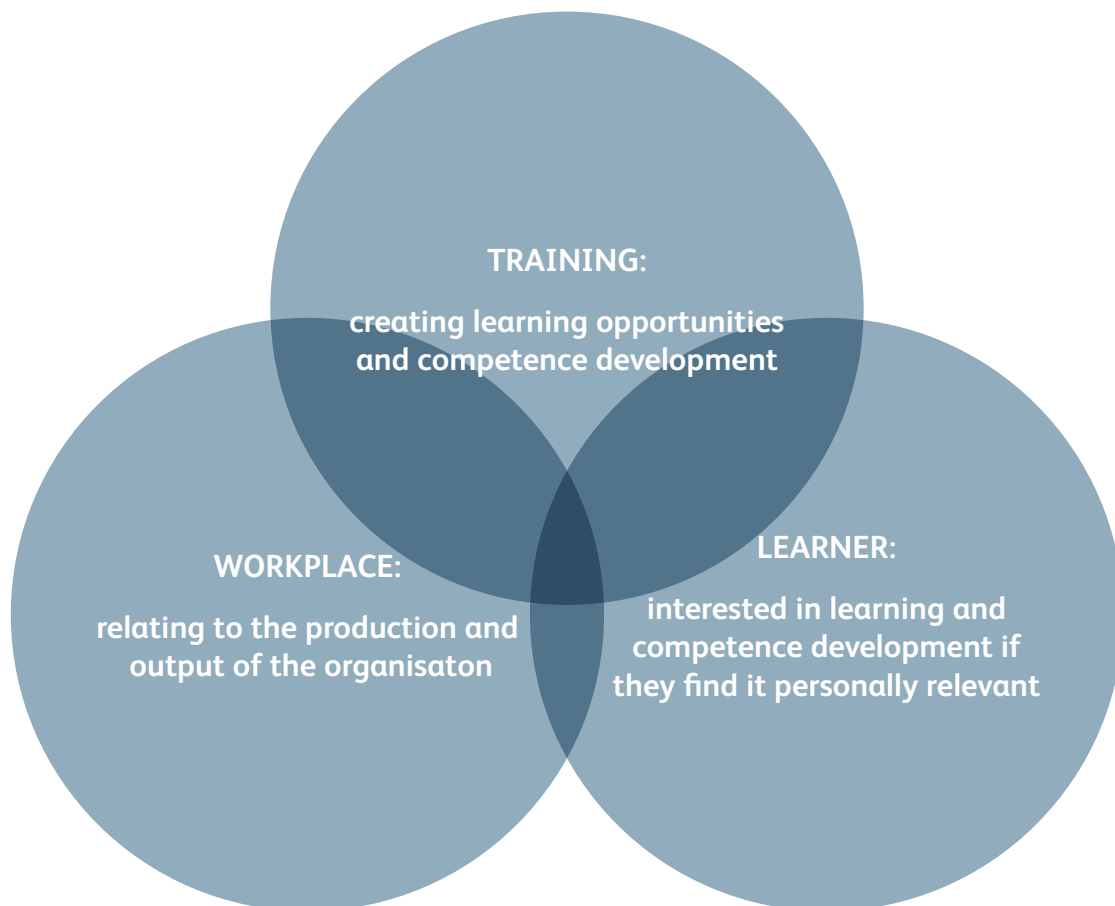competence development if
they find it personally relevant

Illustration 4: based on Illeris 2011, p. 118

These three rationales outline the different parties involved, including their different angles, approaches and direct interests. "So the workplace rationale of learning is clearly related to the production and output of the organisation, but at the same time ambiguous in relation to learning needs and investments" (Illeris, 2011: 118). The learner's rationale is, for his/her part, closely related to the personal experience of the work setting and the employing organisation (cf. Illeris, 2011: 119). All three parties need to cooperate appropriately in order to create sustainable learning opportunities.

General conditions of workplace learning

Based on ILLERIS' triangulation of rationales, the following general conditions of a successful cooperation within these rationales can be identified:

- The learners' feeling of confidence and safety are key factors for better, important and creative learning.
- Inclusive communities and cooperation in the learning environment, where support and mutual helpfulness are provided, constitute another premise for successful learning.
- A third prerequisite is a balanced relation between solidarity and competition.
- Another balance has to be ensured between rules, regulations, guidelines and directions, and individual freedom for situational decision-making (cf. Illeris, 2011: 131ff).

Organisation, management and supervisors

Management carries an important role in ensuring an environment which supports learning. The supervisors, in their role of executing the strategic decisions made at management level, support the disclosure of the characteristics of the organisation. A learning organisation is always also an innovative organisation. The following table highlights which characteristics can be attributed to static, traditional organisations, and how these contrast with those of innovative/learning organisations:

DIMENSIONS	CHARACTERISTICS	
	Static Organisations	Innovative/Learning Organisations
STRUCTURE	Rigid – substantial energy given to maintaining permanent departments; reverence for tradition and structure Hierarchical – specific chains of command Narrowly defined roles	Flexible – substantial use of temporary task forces; easy shifting of departmental lines; departure from tradition and rigid structure Multiple linkages based on functional collaboration Broadly defined roles
ATMOSPHERE	Task-centred, impersonal Formal, reserved, suspicious	People-centred, caring Informal, intimate, trusting
MANAGEMENT	Main function is to control personnel through stringent power	Main function is to release the energy of personnel; power is used supportively
PHILOSOPHY & ATTITUDES	Cautious – low risk-taking Errors are to be avoided Low tolerance for ambiguity	Experimental – high risk-taking Errors are to be learned from High tolerance for ambiguity
DECISION MAKING	High participation at top, low at bottom Decisions treated as final	Relevant participation by all those affected Decisions treated as hypotheses to be tested
COMMUNICATION	One way – downward Feelings hidden	Multidirectional – up, down, sideways – easy access Feelings expressed

Illustration 5: based on Knowles/Holton/Swanson 2011, p. 110f

In order to guarantee learning processes to have an impact on performance, learning organisations should attempt to be more on the innovative side rather than the static side.

Impacts on workplace learning

The researcher Knud ILLERIS (2011) describes the various impacts of organisational characteristics (i.e. static or innovative) on workplace learning. He names fundamental elements, such as the difference between production as the content of the workplace and community as the totality of all human relations.

The *production element* of the workplace learning environment consists of:

- Work content and its designated meaning (at an individual, organisational and social level)
- Division of labour (vertical and horizontal)[4]
- Possibilities of decision making (freedom/autonomy of work)
- Possibilities for using one's qualifications
- Possibilities for social interaction (to exchange ideas and reflect, etc.…)
- Stress and strain (job challenges ↔ work strain)

The *community element* of the workplace learning environment includes the aforementioned social interaction with the extension to social communities. These do not only encompass content-related exchanges but also correspond to personal needs. This means that parallel workplace communities exist, aiming at different needs. Thus, the dimension of community includes communication, feelings, emotions, workplace spirit and workplace culture.

Both elements need to satisfy employees to a certain degree in order to create the aforementioned feeling of safety and confidence, and in consequence a positive learning atmosphere. Other results of ILLERIS' research include:

- "The more subdivided the work process is, the poorer are the learning possibilities" (Illeris, 2011: 33). Individual workers should have the opportunity to experience the consequences of their efforts.
- "The greater the autonomy that exists in the work, the better the learning possibilities that the work contains" (Illeris, 2011: 34). This assumption also signifies that the bigger a company, the more hierarchically structured it is and the less autonomy is given to most employees.
- "Workplace with stringently maintained lines of communication and one-way communication does not provide a suitable environment for stimulation and the open exchange of ideas" (Illeris, 2011: 35).
- Flexible hours, the possibility to work from home, individual wage negotiations, and bonus possibilities benefit the learning environment, whereas stress and strain diminish it (cf. Illeris, 2011: 35).

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[4] *Vertical division of labour concerns the relationship between managers and subordinates, or more precisely the relationship between the planning, decision-making, coordinating and controlling and the performing work functions. Horizontal division of labour concerns the extent to which the individual stages in the chain of production are separated or integrated (Illeris 2011, p. 33).*

Human Resources Development (HRD)

The link between an organisation and the employees/learners lies, aside from direct supervisors, in HRD. This is where a conflict arises in discussions about their role. On one side, HRD acts in the function of increasing the performance requiredby the host organisation through the development of the organisation's workforce. On the other side, there often exists the belief that "[…] HRD should focus on individual development and personal fulfilment without using organizational performance as the measure of worth" (Knowles and Holton and Swanson, 2011: 163). Therefore, the question shifts from 'which skills should be developed' to 'what for' and 'for whom'. This is why the concept of Human Resources Management, where employees are merely regarded as "[…] resources to be treated in ways that make the function as effectively as possible", has shifted to a more subject-oriented paradigm of Human Resource Development (Illeris, 2011: 54f).

The responsibility of HRD lies in meeting the best interests of the employees and the organisations: "When the individual's needs are consistent with the organization's needs, there is no tension. When the individual's needs and goals are not congruent with the organization's performance requirements and the organization is providing the required learning experience, a tension exists and inevitably results in some degree of organizational control" (Knowles and Holton and Swanson, 2011: 170). The gap between individual and organisational control is not as wide as it is sometimes portrayed, since HRD aims for humane workplace characteristics, has adult learning opportunities as one of its core functions, but also apprehends and realises organisational performance theory (cf. Knowles and Holton and Swanson, 2011: 172).

CARNEVALE, one of the first educational scientists researching workplace learning, described the role of HRD on behalf of formal training with the following aspects:

1. Investigate in broad, comprehensive terms which jobs and workers need training because of opportunities in the nature of the work or as a result of emerging workplace problems (incl. creation/revision of job descriptions, documentation of employees' learning needs, etc.).
2. Advocate support of a training programme as an integral part of the strategic planning and goal-setting process.
3. Analyse jobs and tasks to determine what is needed and thereby determine what training should focus on.
4. Design the programme's instructional content, related performance objectives, and criterion-referenced tests. Determine the content's structure and sequence, decide on documentation, and plan for programme evaluation.
5. Develop objectives that represent the actual learning activities workers need to master and develop documentation and evaluation instruments that measure the trainings' impact on improving an employee's job effectiveness.
6. Implement the programme while trying out and revising materials, expanding programme publicity, and putting support[5] systems in place.
7. Evaluate the programme: during the training (in regard to the learning objectives), shortly after the programme by 'testing' the new skills, knowledge or understandings, about three months later by asking the learners when they had opportunities to transfer their newly gained skills into work action (cf. Carnevale et al., 1990: 30)[6].

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[5] *Support systems are described in detail in chapter 3*

[6] *Some of these task fields correspond with the functions described for the terms of learning transfer (see chapter 3).*

What transpires is that individual development planning is necessary within learning organisations. As the size of an organisation grows, the planning of individual development becomes more and more demanding (Matthews, 1999: 19).

1.2.3 SPECIFIC ARRANGEMENTS SUPPORTING SUCCESSFUL LEARNING AND TRAINING

There are a large number of measures that can be taken before or after formal learning processes to support the success of training:

PREPARATION

DEFINING LEARNING NEEDS

AFTRER TRAINING

ARRANGEMENTS FOR SUPPORT OF SUCCESSFUL FORMAL LEARNING PROCESS
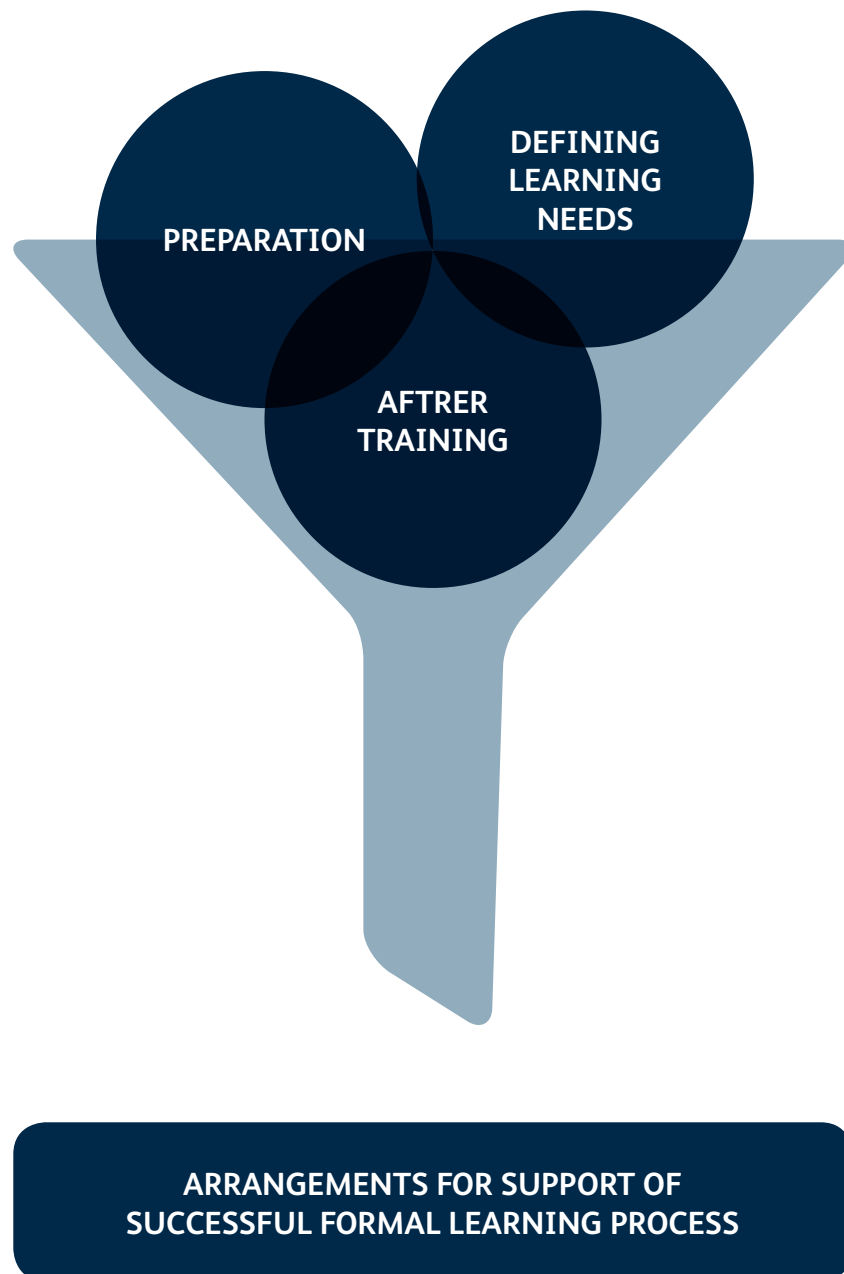
Defining learning needs

 "A learning need can be defined as the discrepancy or gap between the competencies specified by the professional model and their present level of development by the learners"(Knowles and Holton and Swanson, 2011: 124) Learners need the support of HRD to apply the right tools in order to realistically self-assess their current competencies (cf. ib., 124f). This is why one of HRD core functions lies in identifying competency development needs, i.e. learning needs. A learning need is not always a learning wish, especially from the view of the employee in question. Herein lies the reason why the methods of competency assessment should be chosen based on the highest transparency possible for the employees. As this process is directly linked to the organisation's strategic planning, employees should have access to information concerning the global strategy of an organisation. Here, both sides, the employees and the employers have to work together for successful identification of learning needs.

The experienced consultant David GAVIN identifies the following occasions for formal workplace training:

- Newly hired employees
- Experienced employees
  - periodic training and training updates
  - training when switching to a new position
  - training when new initiatives are launched (Gavin et al., 2008: 5).

Consequently, learning needs/competency development applies to every employee on every hierarchical level.

Competency assessment

A competent individual operates at the limit of his/her respective capabilities with a minimum of supervision (cf. Dar-El, 2000: 188). Traditional organisations follow the assumption of employers' incompetence, which leads to control, directives, rules and strict procedures etc. (cf. Dar-El, 2000: 188).

"The competent person is able to act appropriately in specific kinds of situations, and this must be emphasised because it is a demand that clearly exceeds prevailing understandings of knowledge as the central aim of learning and education and to some extend also the concept of qualifications, which does not always include the dimension of application (Illeris, 2011: 50).

A competence is thus more than a skill. It contains the ability to make appropriate decisions and qualified judgements. Furthermore, a competence is always referring to specific situations where certain standards are expected (cf. Illeris, 2011: 54 and Eraut, 2004: 53).

An important step consists in the individual's understanding of his/her own competencies. This learning process can be divided into three phases:

1. An awareness of the competency related to work outcomes/performance
2. A cognitive understanding of the competency
3. The actual behaviour as a manifestation of the competency (cf. Potgieter et al., 2002: 61).

Two popular approaches are adopted by HRD to assess competencies: traditional psychometric testing and competency-based assessment. Their characteristics and differences can be shown as follows:

	TRADITIONAL PSYCHOMETRIC TESTING	COMPETENCY-BASED ASSESSMENT
OBJECTIVES	• Comparing individuals with the performance of a selected group • Assessment of broader psychological constructs that have to be linked to specific job requirements	• Assessment of individuals against pre-determined standards • Directly job related • Focus on behaviour
CHARACTERISTICS	• Purely psychological, clinical nature – psychometric instruments • Standardised, objective and unbiased • Need for further linkage to the specific work situations	• Defining standards, detailed enough for analysis, including situational understanding of work practice and the various professional contexts • Standardised set of activities in order to judge and predict behaviour by observation
METHODS	Personality tests, aptitude tests, verbal reasoning tests, numerical tests, situational test guide, pre-employment tests etc.[7]	Case studies, direct observation, oral and written tests, portfolios, demonstration and questioning, role plays etc.[8]

Illustration 6: based on Potgieter et al. 2002, p. 63f

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[7] *Specific examples of psychometric testing:*
http://www.psychometricinstitute.com.au/Psychometric-Guide/Introduction_to_Psychometric_Tests.html

[8] *For further description on competency-assessment techniques see attachment 3.*

Designing and establishing a competency assessment battery

- Planning: Define the purpose of the assessment and divide jobs and job families for the particular assessment. Choose methods (psychometric testing/competency-based assessment)
- Description of competencies needed: Job analysis, preliminary competency profile[9]
- Developing the assessment battery/batteries: Deciding on the exercises, structuring the exercises and establishing the rating criteria
- Implementation and evaluation of assessment battery: Choosing trained (and certified) assessors, collecting evaluation data, identifying competency development needs (cf. Potgieter et al., 2002: 64).

Competency assessment is commonly criticised by different scientists, as the relation of individuality and competency as well as the linkage to personality are never fully stringent.

Preparation of the learning process

Employee-identified need

Employees need to have frequent occasions to identify and formulate self-identified learning needs. There is a major link between self-identification of learning needs and motivation and effectiveness (transfer motivation) of training programmes.

Choosing the 'right' trainer

There are no official guidelines for choosing the right trainer for specific formal education programmes. As the project Qualiform I clearly shows, adult educators need various prerequisites, competencies and attitudes for professional performance. The most important factor, besides the required expertise, experience, adult didactics skills etc., lies in the matching of trainer and organisation. This is only determinable by personal meeting.

General Questions for choosing the right trainer:

- Is the person familiar with adult learning and the psychology of learning?
- Has the person gained experience in the field of adult education (preferably within organisational contexts?)
- What is the level of subject expertise for the specific contents?
- Is the person used to didactical approaches appropriate for adults but different from school didactics (Carnevale, 1990: 170)?

Furthermore, it bodes well if the trainer has acquainted himself/herself with the characteristics of the assigning organisation, such as the organisational culture, guiding principles, core business, structure etc.

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[9] *Competency profile in form of an output profile covering the actual work, performed in the specific job, and competency profile describing knowledge, skills, and attitudes required to perform the outputs. Examples for the assessment of competency needs can be found in attachment 4.*

As mentioned before, initiators of training courses and trainers need to carefully consider all partsof the concrete preparatory phase:

ORGANISATION	
Clarification and identification of the needs and interests of the parties involved in the process	Distribution of management and responsibility

PREPARATION (Organisation/Trainer)		
Identification of the participants' qualifications	Formulation of objectives	Establishment of framework conditions

TRAINING DESIGN		
A learning/teaching phase, sub-divided into workplace & course	Learning environment; community	Forms of activity; materials; professional content, ICT use

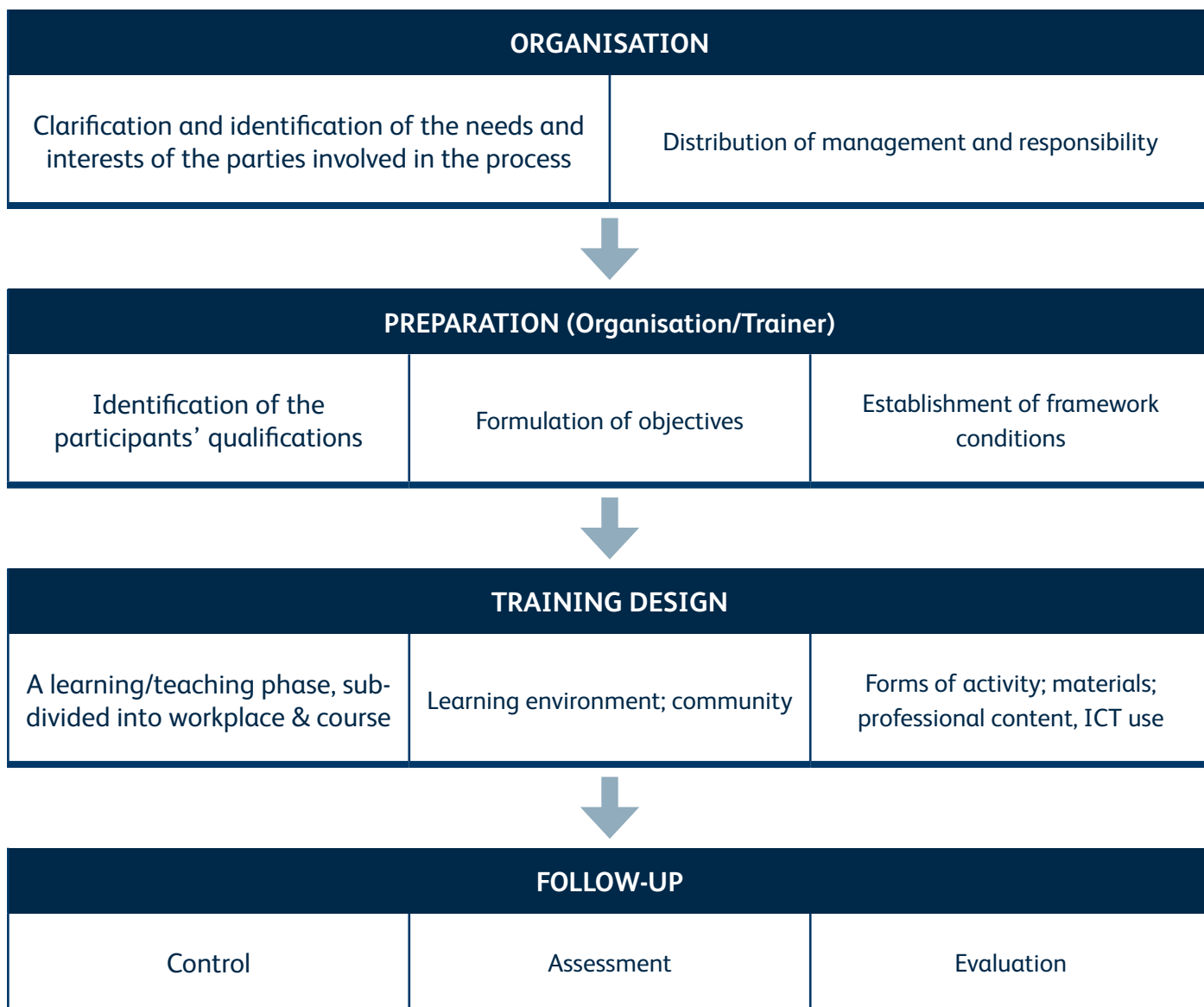| FOLLOW-UP		
Control	Assessment	Evaluation

Illustration 7: based on Carnevale 1990, p. 12ff

The organisation and the programme manager (normally an HRD-Team member) need to decide which responsibilities should be covered by the external trainer.

Learning contracts

Knud ILLERIS suggests every learner should devise/formulate a learning contract. A learning contract consists, at the beginning, of diagnosing the learning needs and specifying the learning objectives. Then, the own learning resources and strategies as well as examples for evidence of learning outcomes are determined. The learning contract should always be drawn up by the learner himself/herself. Supervisors, human resources or consultants can be a supportive supplement when it comes to specifying learning objectives and possible criteria for validation. After having carried out the contract, the learner should evaluate their learning, preferably with the support of the trainer (cf. Illeris, 272f).

An example for a learning contract could look as follows:

LEARNING CONTRACT			
NAME:			
ACTIVITY:			
Learning objectives	Learning resources and strategies	Evidence of accomplishment of objectives	Criteria and means for validating evidence

After the learning process

After the formal training, the learning contract should be compared to the actual learning process and the outcomes. This strategy frames the first step of getting information about learning outcomes, yet without specific arrangements of measuring the learning transfer.

Allowing time for getting worse

An important element of a positive professional context is to include time for the learner for getting worse. Skills often get worse before they get better. Adult learning often requires the deconstruction of knowledge and skills in order to reconstruct them in an improved form. The example of typewriting emphasises this assumption: An individual that types with two fingers makes an effort to learn typing with ten fingers. Before this skill is accomplished the learner gets slower during the training phase before increasing their own typing performance (cf. Singer/Edmondson, 2006: 10).

The reflective practitioner

ILLERIS states clearly that one important factor of successful workplace learning lies in the reflection of one's own practice. Donald SCHÖN described the reflection of workplace activities as 'reflection in action' (Schön, 1983: 49). This means that practitioners think about what they are doing, when they are doing it in order to make the best of their actions (cf. Illeris, 61). In this context, SCHÖN suggests support for reflection of the 'reflection in action' by trained coaches to enhance the efficiency of these thinking processes and to find a way of framing them (cf. Schön, 1987: 98).

More possibilities of support after a formal learning process are described in chapter 3.1 focusing on the additional element of successful learning transfer.

SUMMARY

This first chapter described the conditions for establishing a learning culture on the basis of being or aiming at being a learning organisation. The role of managers and supervisors as the organisational representatives, as well as the functions of HRD for implementation formal training in the workplace, have been described: The preliminary assessment of competencies, the analysis of job tasks and the design of training programmes, including the choice of trainers.

Successful workplace learning begins with organisational preconditions and strategic attitudes: "If the structure of the organization restricts the exposure necessary for success and renewal, then any other attempt to design for optimal learning will be inadequate. They will fail" (McLagan, 2003: 49).

Course-based workplace learning must ensure that learners experience it as a coherent process. The training rationale contains the biggest sources to promote and enable a three-way interaction: "It must be clear to the participants that there are two different learning environments with different conditions, potentials and terms – and that dealing with these contradictions in both practice and theory is something that is most productive from the point of view of learning and competence development" (Illeris, 2011: 126). ILLERIS' illustrations on how organisational strategies impact on workplace learning reveal that organisational factors influence successful learning processes.

To summarise the complex subject of organisational learning, the following quote seems appropriate: *"All organisations are different, and it is folly to think that any particular learning initiative will succeed in isolation of the people and processes that matter in a given firm"* (McLagan, 2003: 47). The described organisational conditions for successful learning apply to successful learning transfer as well, as successful learning is THE premise for any learning transfer. To look at the progress of building a learning organisation in its entirety, the University of Bradford has developed a questionnaire addressing leadership, learning, strategy and change .

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[10] *The questionnaire of Bradford University can be found in attachment 5.*

2. PRECONDITIONS OF THE LEARNER

This chapter deals with the specifics of the learner when entering a learning process. In literature, the term 'transfer ready learner' is often used for this discourse. This is why different preconditions for successful learning transfer are being described from different perspectives. The fact is that all the different levels of prerequisites for learning transfer are linked. The focus of this chapter lies on learning theories, learning motivation, behaviour promoting successful learning situations and the relationship between trainer and trainee.

2.1 LEARNING THEORIES

Introduction

In the past, learning theories have mostly been developed by educational and psychological scientists. In the last thirty years, neuropsychology and neurobiology have added their scientific findings about the human brain. To this day, a multitude of learning theories can be found. In the last 20 years there has been an increased focus on adult learning. Summarising these developments of the scientific research, the main aspect can be described as follows: "The learning environment recognises the learners as its core participants, encourages their active engagement and develops in them an understanding of their own activity as learners" (Dumont et al., 2010: 14). Hereafter, a selection of the important tendencies (cognitive & experiential) is briefly described in order to illustrate aspects of adult learning in the context of workplace learning and formal learning arrangements.

2.1.1 ROBERT MILLS GAGNÉ

GAGNÉ identified eight distinctive types of cognitive learning to give a clear overview of cognitive learning strategies:

- **Type 1:** Signal Learning
  The individual learns to make a general, diffuse response to a signal. This is the classical conditioned response of Pavlov.
- **Type 2:** Stimulus-Response Learning
  The learner acquires a precise response to a discriminated stimulus. What is learned is a connection (THORNDIKE) or a discriminated operant (SKINNER) sometimes called an instrumental response (KIMBLE).
- **Type 3:** Chaining
  What is acquired is a chain of two or more stimulus-response connections. Skinner and others have described the conditions for such learning.
- **Type 4:** Verbal Association
  Verbal association is the learning of chains that are verbal. Basically, the conditions resemble those for other (motor) chains. However, the presence of language in the human being makes this a special type because internal links may be selected from the individual's previously learned repertoire of language.
- **Type 5:** Multiple Discrimination
  The individual learns to make different identifying responses to as many different stimuli, which may resemble each other in physical appearance to a greater or lesser degree.

- **Type 6:** Concept learner

  The learner acquires a capability to make a common response to a class of stimuli that may differ from each other widely in physical appearance. He or she is able to make a response that identifies an entire class of objects or events.

- **Type 7:** Principle Learning

  In simplest terms, a principle is a chain of two or more concepts. It functions to control behaviour in the manner suggested by a verbalized rule of the form "If A, then B", which, of course, may also be learned as Type 4.

- **Type 8:** Problem Solving

  Problem solving is a kind of learning that requires the internal events usually referred to as thinking. Two or more previously acquired principles are somehow combined to produce a new capability that can be shown to depend on a "higher-order" principle (cf. Knowles, 79, after Gagné, 1965).

2.1.2 JOHN DEWEY

John DEWEY states that every educational or learning process begins with experience and/or comes about through experience. He describes three key concepts around the central concept of experience:

- Democracy in learning arrangements as accessible, free and non-hierarchical situations for reflection of individual experiences
- Continuity of experience means that every experience both takes up something from those who have gone before and modifies in some way the quality of those who come after
- Interaction between external, objective conditions and internal conditions of individuals during learning situations (cf. Knowles/Holton/Swanson, 2011: 63ff).

2.1.3 LEARNING MODEL BY KNUD ILLERIS

In 2002 the Scandinavian educational scientist ILLERIS developed the 'three dimensions of learning', where he links cognitive (GAGNÈ) with emotional (DEWEY) learning in social experiential contexts. He distinguishes between the process of instruction by interaction and individual acquisition. This perception allows the understanding of why instructive training does not necessarily lead to acquisition of the learning object. In the final analysis the individual is solely responsible for acquiring new information, raise understanding or train applications (cf. Illeris, 2011: 13). Furthermore, the level of acquisition is divided into two dimensions: content and incentive.
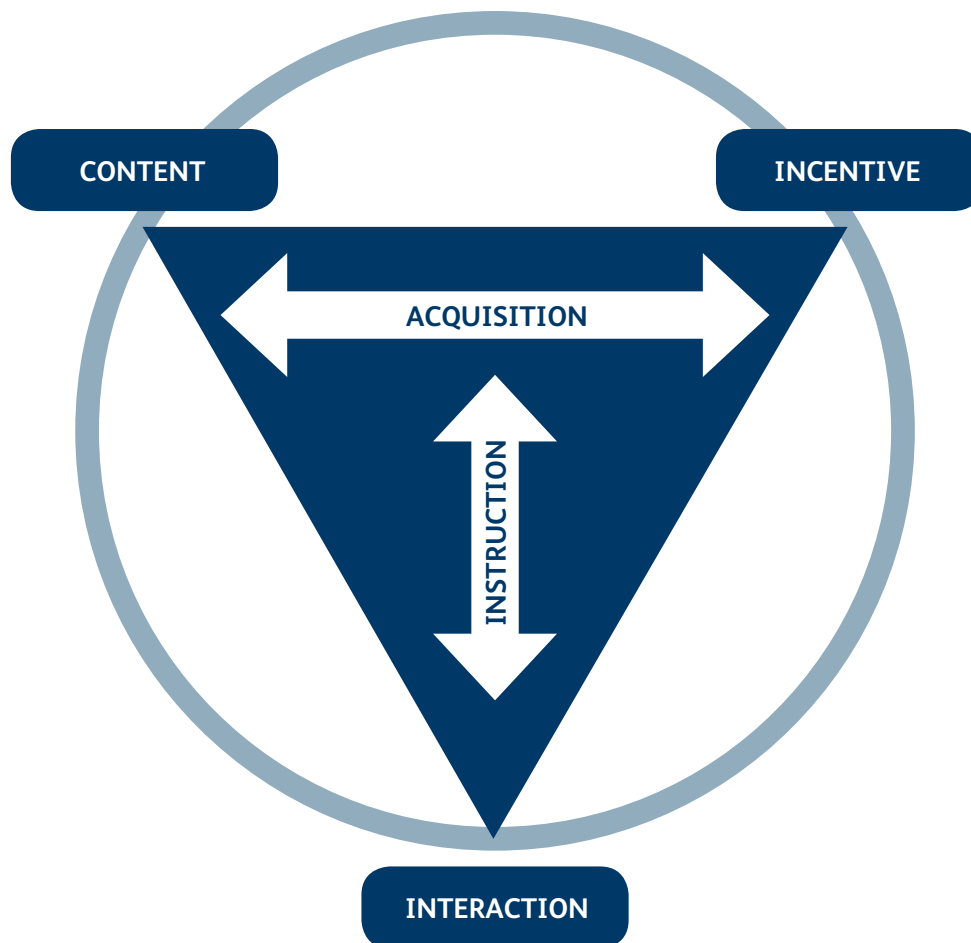
The nature of content acquisition is divided in:

- Cumulative learning: Acquirement of contents that have no direct previous experienced meaning to us (e.g. learning a new PIN code). Such contents cannot be understood, but memorised. Then again, we are able to build on and develop this learning.
- Assimilative learning: Also called additive learning, we apply this kind of learning most often. We connect our new impressions or impulses to previously learned experiences. This addition of new elements to what has already been learned often happens 'en passant' or when there is a wish to focus on something specific.
- Accommodative learning: When experiencing incomprehensible situations, we try to deconstruct the parts of such information and restructure them in order to be able to absorb them. The most difficult aspect here lies in the preliminary reluctance to approach the mostly inconvenient task of deconstructing already acquired modes of understanding. If overcome, we gain understanding that is comparable with 'aha' effects, sometimes very sudden and sometimes through thorough reflection.
- Transformative learning: This kind of learning is an augmentation of the previously described accommodative learning. The deconstructing and restructuring is referred to bigger schemes of understanding and experience in relation to significant aspects of life. Often a personal crisis is involved, such as losing one's job and having to retrain, be reemployed and recreate the same standards of consumptionlevel, professional recognition and appreciation of the professional and private environment (cf. Illeris, 2011: 14ff).

Incentives are mostly linked to emotions, or in other words with the mental energy that is driving the learning process. This means that the inventive dimension always influences the content dimension of learning. If learners have a certain aversion against the trainer's approach/personality/wording, the learning process will be affected on a cognitive level. This is an important reason for resistance, opposition or counteraction in learning situations. The system can also be seen in reverse: The cognitive part can help to balance the incentive part, by reverting to cognitive knowledge about why someone acts in a certain way.

The third dimension of the interaction with the environment consists in sources of perception. In formal learning situations perception is often led by trainers, transmitting certain focuses (contents). Other forms of environment-initiated (or trainer-initiated) learning can be imitation, participation and activity (cf. Illeris, 2011: 24).

This model shows how emotions, cognitive conditions and interaction determine one another during a learning process. This model can be used as a representation of adult learning theories, as it links most of them.

2.1.4 ANDRAGOGICAL MODEL

The most important conclusion of adult learning theories is that the trainer and also the contents are no longer the primary elements of interest. The contents have to be built around the learner; the trainer becomes a facilitator for learning. The specific situation of adult learners (their work, social life, family, communities etc.) is brought to the centre of attention.

An andragogical model shows the basic learning differences between children and adults:

- Adults need to know why they learn something (probing the benefits of learning and the negative consequences if they refrain from learning).
- Adult learners have a self-concept of being responsible for their own decisions. Education and training often reminds them of decisions being made for them as a child.
- Adults have a great volume of experiences. These experiences benefit adult learning through the possibilities of linkages, but they can also be unfavourable as mental habits have already become quite engrained.
- Adults have a great readiness to learn if the gap between the real-life tasks and the available competence is big enough.
- Adults are life-centred when it comes to the attitude to learning.
- Adults can be motivated by external motivators (pay rises, promotions, better jobs etc.) but are usually drawn to intrinsic motivators (increased job satisfaction, self-esteem, quality of life etc.) (cf. Knowles and Holton and Swanson, 2011: 63ff).

These additions to ILLERIS' model outline an integral model on learning conditions and limits.

2.2 MOTIVATION FOR TRAINING/LEARNING

Motivational prerequisites for effective learning within formal training processes

Training motivation can be defined as "[…] the direction, intensity, and persistence of learning-directed behaviour in training contexts" (Colquitt et al., 2000: 678). The following description reveals two sets of factors (individual & situational) influencing training motivation.

INDIVIDUAL FACTORS	SITUATIONAL FACTORS
Organisational commitment *(identification with the organisations' values, desire to perform for the organisation)*	**Organisational climate** *(perception of the link between work environment and training contents)*
Job involvement *(importance of work to one's self image)*	**Manager support & peer support** *(e.g. managers emphasising the utility of training)*
Career exploration *(career values, goals, plans, interests)*	**Fear of/anxiety for** • job loss • self-esteem • failure to achieve accepted standards • being unsuccessful at reaching career goals
Career planning *(pursuit of clear plans for achieving career goals)*	
Significance as the anticipations and beliefs or desirable outcomes of training programmes	**Guilt at not performing as well as one's peers and peer pressure**
Cognitive ability as the ability to learn and responsiveness as openness to learning	
Achievement motivation *(personal general desire to achieve)*	

Illustration 8: based on Noe et al. 2000, p. 680ff

As the individual factors seem to outweigh the situational factors, the obvious assumption could be made that responsibility for training motivation lies solely in individuals. Nonetheless, the organisation, i.e. managers/supervisors, can help individual factors to prosper and negative situational factors to diminish. One example for supervisors showing support is the showcasing of success stories of former training participants and the subsequent results and achievements (Kirkpatrick, 2005: 67).

NAQUIN and HOLTON distinguish motivation to learn and motivation to transfer. They developed a model to combine these two levels of motivation as motivation to improve work through learning (MTIWL).

WARR & BUNCE introduced the division of training motivation in distal and proximal motivation. Distal motivation describes general attitudes toward training, whereas proximal motivation refers to particular and specific sets of training activities and contents.

BOSHIER's catalogue of factors promoting participation in organised learning

The Canadian social scientist Roger BOSHIER developed a test to measure motivation for participating in organised learning. He identified six different dimensions of motivation:

- Social contact (motives of contact, appreciation, friendship or social integration)
- Social stimulation (need for activity, variety, avoidance of boredom, recreation)
- Professional advancement (increase of competences, professional promotion, formal degrees)
- Community service (learning motives of civil dedications, volunteer work, political participation)
- External expectations (employer's directives/instructions, initiations of family members, loss of workplace or social status, formal requirements (e.g. licences)
- Cognitive interest (curiosity, widening of horizon, purposeless interests in learning, pleasure in learning activities)

Research with this method showed that people with low education and low occupational status tend to participate for social contact and social stimulation. People with higher educational levels and higher income mostly enrolled for professional advancement and cognitive interest reasons (cf. Desjardin, 2011: 211).

While this categorisation is widely criticised for lack of revealing results, it nonetheless shows the main motives of learners[11].

An empirical study showed that factors influencing the learner's motivation to transfer are mostly environmental rather than individual[12].

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[11] *The full questionnaire can be found in attachment 6.*
[12] *More results of this particular study can be found in attachment 7.*

2.3 BEHAVIOUR AND COMMITMENT DURING LEARNING SITUATIONS/ TRAINING

Sharon NAQUIN and Timothy BALDWIN include the characteristics of learners as important prerequisites to the learning and transfer process as transfer climate and learning designs: "[…] The effectiveness of organizational training and development efforts is heavily dependent on the characteristics of the learning participants". They state that performance is determined by a person's motivation and ability (Naquin and Baldwin, 2003: 83). With the focus on the transfer of learning outcomes to job actions, they extend their statement: motivation means the motivation to improve work through learning.

Not every learning-motivated individual shows interest in relating the learning outcomes to their workplace. Therefore the willingness of an employee to transfer any knowledge acquired through organisational learning back to real work situations is most important. In a next step, NAQUIN and BALDWIN identify motivational influences leading to improved work outcomes from learning contexts: "Extroversion, positive affectivity (an individual's tendency to experience high levels for positive emotions), work commitment" (Naquin/Baldwin, 2003: 83).

The second prerequisite of transfer-ready learners lies in the ability to learn. Not only cognitive aptitudes or intelligence are essential, but also learning agility. The latter can be divided into four principal areas of agility:

- People agility (giving and getting feedback and reflective learning from experience).
- Results agility (getting results under tough conditions, inspiring others & building confidence in others).
- Mental agility (capability to explain their own thinking to others, multi-perspective problem-solving, tolerance and endurance when dealing with complexity and ambiguity).
- Change agility (curiosity, passion for ideas and experiments, readiness for skill-building activities) (cf. Naquin and Baldwin, 2003: 88).

In the 1950s, the American scientist HOULE tried to discover why adults engage in continuous education and how they learn. He identified three types of learners with different purposes:

1. Goal-oriented learners use learning arrangements for accomplishing distinct objectives.
2. Activity-oriented learners use learning arrangements for the social part with sometimes little or no initial personal connection with the contents.
3. Learning-oriented learner use learning arrangements for the sake of gaining knowledge (cf. Knowles and Holton and Swanson, 2011: 53f).

In summary, four key elements can be identified that promote transfer readiness of learners: The previously described learning motivation, the ability to learn, individual differences when it comes to learning types and prior experience with the transfer system. The last element refers back to the conditions of the learning environment – in this case the organisation.

2.4 RELATIONSHIP BETWEEN TRAINER AND TRAINEE

HOLTON states that a significant point in managing the learning transfer of an adult learner lies in the learning event itself. The learning event is composed of two dimensions: content and design. The content must appear to be valid and complete in order to attain job-related learning outcomes. The transfer design provides learning environments that enable learners to apply the contents to real job situations (cf. Holton/Baldwin, 2003: 9).

Furthermore, the nature of the relationship between the trainer and the trainee influences learning success. One example for the impact of this specific relationship lies in its capability to keep up the curiousness and openness to new experiences and the capacity to discover connections and identify meanings (Smith, 2001: 2).

WLODOWSKI identified different characteristics and skills to enhance the motivation of learners or, in other words, to be a motivating trainer. The following short list based on the summary of KNOWLES, HOLTON and SWANSON which describes the most important of these characteristics:

1. Expertise: The trainer knows something well that is beneficial to adults, and he/she is prepared to convey it through learning events.
2. Empathy: The trainer has a realistic understanding of the learner's need and expectations and continuously considers the learner's perspectives. He/She adapts the learning process to the learner's level of experience and skills.
3. Enthusiasm: The trainer values what is being taught and expresses commitment.
4. Clarity: The trainer can be understood and followed by adopting appropriate language, adjusted to the learner's level. He/She ensures, that the learners comprehend what has been taught (cf. Knowles and Holton and Swanson, 2011: 199).

In every learning situation there is a negotiation between learners and trainer about the stage of instruction versus self-direction. At least four different sets of roles can be listed that appear to exist in most learning arrangements:

TRAINER'S ROLE	LEARNER'S ROLE	EXAMPLES
Authority, Coach	Dependant	Informational lectures, coaching with immediate feedback, instruction
Motivator, Guide	Interested	Inspiring lectures, guided discussions, goal-setting and learning strategies
Facilitator	Involved	Discussions facilitated by trainer who participates as equal, seminar, group projects
Consultant, Delegator	Self-directed	Internships, papers, individual work, self- directed study group

Illustration 9: based on Knowles/Holton/Swanson 2011, p. 185

An important function of trainers lies in providing opportunities and support for reflection on what has been learned (Mulder, 2004: 174). To ensure substantial, social and personal reflection, the trainer needs to accept that interaction does not take place merely on an intellectual level; an emotional component may sometimes be necessary to promote learning and reflection (Smith: 2001: 3).

In 1990 the social scientist Anthony CARNEVALE revealed the link between learning styles and the correspondent role of the trainer, which reverses the perspective:

LEARNER STYLE	LEARNER NEEDS	TRAINER ROLE	TRAINER BEHAVIOUR
Dependant: introductory courses, new work situations, languages, and subjects where the learner has little prior information	Structure, Direction, External reinforcement, Encouragement	Expert Authority	Lecturing, demonstrating, assigning, checking, encouraging, testing, reinforcing, transmitting content etc.
Collaborative: learner has ideas and knowledge and would like to share them or try them out	Interaction, practice, observation, participation, peer challenge, experimentation	Collaborative, Co-learner, Environment setter	Interaction, questioning, providing feedback, coordination, evaluation, etc.
Independent: The learner has knowledge or skill and wants to continue to search on her/his own within the frame of the course	Internal awareness, experimentation, time, non-judgemental support	Delegator, Facilitator	Allowing, providing requested feedback, providing resources, consulting, listening, evaluating

Illustration 10: based on Carnevale 1990 p. 144

Here the learner's style is combined with the corresponding needs, from which the trainer's role and behaviour is deduced according to the learners' objectives.

SUMMARY

These illustrations show the importance of training designs adjusted to adult learning needs: "Learning cannot be predetermined, dictated or controlled. The only way to gain learning outcomes is to provide a unifying framework but then allow and support a lot of exploration and local decisions and actions" (McLagan, 2003: 43).

For the HRD Department and the strategic management, this means a need to create motivating terms for a positive learning atmosphere: "Creating a learning environment that allows different learning styles to be unleashed and that helps people refine or develop learning routines in order to increase the likelihood of recognizing situations where these routines may be useful" (McLagan, 2003: 43).

Furthermore, supervisors should know about training programmes and their respective contents/learning goals and show support before and after the training process. This encourages employees to apply the new acquired skills and knowledge to their work practice (cf. Carnevale et al., 1990: 48).

The trainers' responsibility is to create an emphatic, collaborative and clear learning environment. Additionally, the adult learner's experiences and individual abilities should be considered during the learning process. A combination of enthusiasm and expertise, examples drawn from life and allowing different learning styles benefits the quality of learning outcomes and therefore the possibility of transferring them to the actual workplace tasks.

CONDITIONS FOR LEARNING TRANSFER
AND INSTRUMENTS FOR MEASUREMENT

3. CONDITIONS FOR LEARNING TRANSFER AND INSTRUMENTS FOR MEASUREMENT

Transfer as the application of learned skills to the workplace (cf. Holton/Baldwin, 2003: 7), is the basic purpose of workplace training. This definition assumes a separation between learning and work. The professor for organisational development Patricia McLAGAN asks the question of transfer differently: "How can we stimulate and harness learning for optimal impact in today's organizations?" (McLagan, 2003: 10).

An estimation (though without empirical reassurance) leads to the result that only 10 percent of learning really transfers into job performances (cf. Holton/Baldwin, 2003: 4). Another study shows that approximately 40 % of the acquired knowledge/skill/understanding is transferred to work practice immediately after the training event. However, as time progresses, the percentage decreases to 25 % after six months and 15 % after one year (cf. Hunter-Johnson, 2012: 31).

This chapter deals with the question of how to benefit the transfer of learning outcomes to real-life job actions and what instruments exist for measuring the effects/outcomes of training.

Although there exists a variety of research about the transfer of learning outcomes to particular professional acts, most authors stop at identifying and describing factors that influence the transfer without focusing on the managing and changing aspects about those factors: "Transfer can only be completely understood and influenced by examining the entire system of influences" (Holton/Baldwin, 2003: 7).

There are different types of learning transfer:

- Positive transfer – improvement of job performance resulting from training
- Zero transfer – no change in job performance after training
- Negative transfer – worsening of performance resulting from training
- Near transfer – ability to directly apply learning outcomes after the training
- Far transfer – ability to transform learning outcomes in new, creative ways (cf. Hunter-Johnson, 2012: 33ff).

3.1 CONDITIONS FOR LEARNING TRANSFER

HOLTON & BALDWIN see a division of learning outcomes into only two different levels: near transfer and far transfer. The transfer distance describes the metaphorical gap between the learning situations and the application in the professional environment – this is where the connection between sustainable transfer and elapsed time can be made:
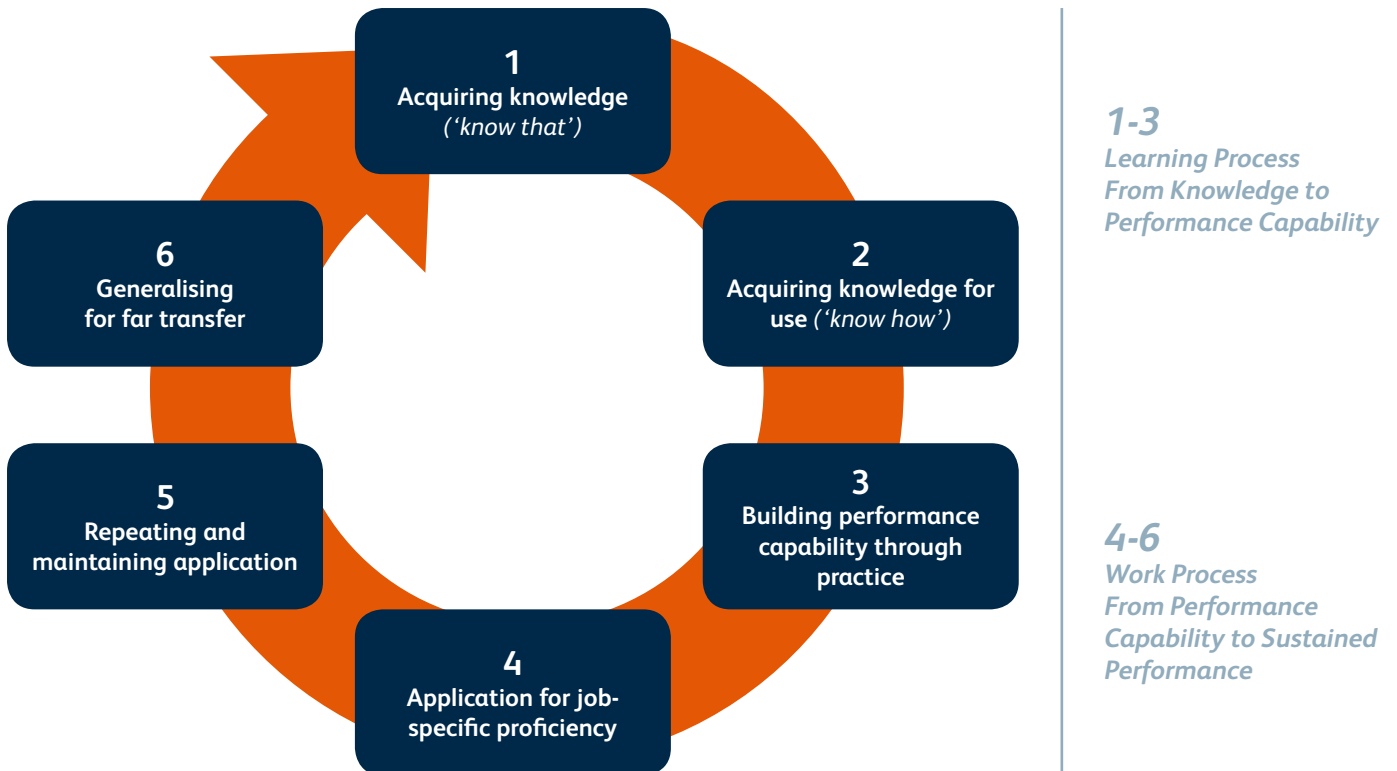

1-3
*Learning Process
From Knowledge to
Performance Capability*

4-6
*Work Process
From Performance
Capability to Sustained
Performance*

Illustration 11: Holton/Baldwin 2003, p. 91

The overall person-environment analysis describes the factors benefitting learning transfer on a general basis:

- "Supervisory encouragement that assesses managers who give support to subordinates, communicate effectively, and set clear expectation and goals;
- Sufficient resources such as access to appropriate facilities, equipment, funds, and information;
- Freedom to decide how to accomplish tasks and sense of control over work and ideas;
- Workload pressure such as unrealistic expectations, insufficient time and distractions; and Overall assessment of support for creativity" (Hunter-Johnson, 2012: 39).

These presumptions are mostly equal to the organisational conditions of successful workplace learning, described in chapter 1.

The Learning Transfer System Inventory (LTSI) by HOLTON & BATES

The LTSI consists of an 89-items instrument developed about 15 years ago in order to assess the various factors affecting learning transfer (cf. Bates et al., 2014). Measurements are conducted on organisational, social and personal preconditions for effective learning transfer operations. Sixteen constructs summarising the items are used for revealing influencing factors as precisely as possible. The following graph shows these sixteen constructs in their specific determining contexts headlined in the first row:
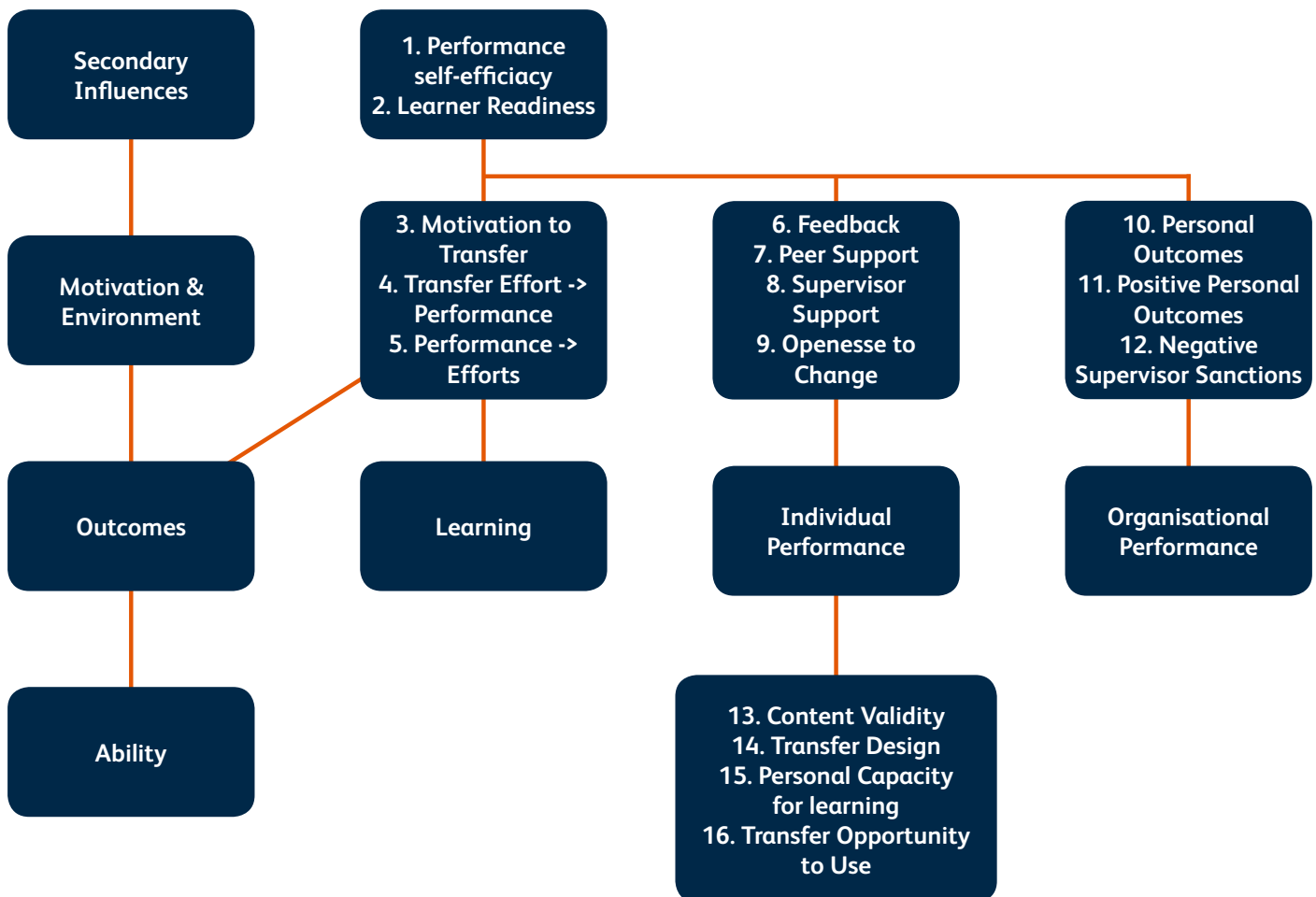
Secondary Influences	1. Performance self-efficiacy 2. Learner Readiness		
Motivation & Environment	3. Motivation to Transfer 4. Transfer Effort -> Performance 5. Performance -> Efforts	6. Feedback 7. Peer Support 8. Supervisor Support 9. Openesse to Change	10. Personal Outcomes 11. Positive Personal Outcomes 12. Negative Supervisor Sanctions
Outcomes	Learning	Individual Performance	Organisational Performance
Ability		13. Content Validity 14. Transfer Design 15. Personal Capacity for learning 16. Transfer Opportunity to Use	

Illustration 12: Holton 2000, p. 339

This assessment tool has been validated for research, but is equally useful for practice and intervention. One purpose lies in being able to pinpoint transfer problems and their causes.

The items of the assessment system are assembled as follows:

FACTOR	DESCRIPTION
Learner readiness	The extent to which individuals are prepared to enter and participate in training.
Motivation to transfer	The direction, intensity and persistence of effort toward utilising skills and knowledge learnedin a work setting.
Positive personal outcomes	The degree to which applying training on the job leads to outcomes that are positive for the individual.
Negative personal outcomes	The extent to which individuals believe that not applying skills and knowledge learned in training will lead to outcomes that are negative.
Personal capacity for transfer	The extent to which individuals have time, energy and mental space in their work lives to make changes required to transfer learning on the job.
Peer support	The extent to which peers reinforce and support the use of learning on the job.
Supervisor support	The extent to which supervisors/managers support and reinforce the use of training on the job.
Supervisor sanctions	The extent to which individuals perceive negative responses from supervisors/managers when applying skills learned in training.
Perceived content validity	The extent to which trainees judge training content to reflect job requirements accurately.
Transfer design	The degree to which training has been designed and delivered to give trainees the ability to transfer learning to the job.
Opportunity to use	The extent to which trainees are provided with or obtain resources and tasks on the job enabling them to use the training in the job.
Transfer effort-performance expectations	The expectation that effort devoted to transferring learning will lead to changes in job performance.
Performance- outcome expectations	The expectation that changes in job performance will lead to valued outcomes.
Openness to change	The extent to which prevailing group norms are perceived by individuals to resist or discourage the use of skills and knowledge acquired in training.
Performance self-efficacy	An individual's general belief that he/she is able to change his/her performance when he/she wants to.
Performance coaching	Formal and informal indicators from an organisation about an individual's job performance[13].

Illustration 13: based on Holton et al. 2003, p. 66f

[13] *The official checklist from the authors themselves can be found in attachment 8.*

The authors themselves recommend using the LTSI instrument:

- "To assess potential transfer factor problems before conducting major learning interventions
- As part of follow-up evaluations of existing training programs
- As a diagnostic tool for investigating known transfer of training problems […]" (Holton et al., 2000: 357).

Suggestions and recommendations on how to benefit learning transfer

The assessment of influencing factors of learning transfer results in different suggestions and recommendations on how to benefit learning transfer. Some of these factors have already been described in chapter 3 but are summarised here in order to show the full range of possibilities:

Support Systems…

- "… include modelling and practice.
- … make sure people get a chance to immediately use what has been learned.
- … share the rationale for change and learning culture.
- … take care that managers understand that new behaviours and subsequent success take a while to grow.
- … split courses into smaller parts to allow time for on-the-job application and follow-ups.
- … conduct post-training evaluations.
- … use learning assignments between training sessions for further transfer possibilities.
- … offer merits" (Kirkpatrick, 2005: 74)
- … encourage communities of practice[14] and peer groups.
- … organise post-training follow-ups (held by initial trainer, in order to review the learning outcomes and their possible transfer to the workplace tasks).
- … install support coaches.
- … provide additional learning material.

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[14] *Descriptions of communities of practice and communities in general can be found in attachment 9.*

3.2 EVALUATING THE TRANSFER OF LEARNING OUTCOMES RELATED TO TRAINING PROGRAMMES

In the 1950s, the well-known author and consultant Donald KIRKPATRICK developed a four-level system for the evaluation of learning designs and the transfer of learning outcomes to real-life workplace situations:

Level 1: Reaction

The perception and measurement of the reactions of participants is important to let them know that a trainer values the reactions and to obtain suggestions for improvement. The quantified measurement of reactions includes the determination of what information needs to be gathered, the design of a questionnaire and the 100 percent immediate response. These responses can only be relevant if an acceptable standard has been developed to compare them against.

Level 2: Learning

Learning that took place by the participants can be divided into three dimensions: new understanding of concepts and techniques, improvement of skills and change in attitudes. Learning outcomes can be measured by written or performance tests after the training and compared to skills/understandings and attitudes before the intervention.

Level 3: Behaviour

The evaluation of the change of on-the-job behaviour after a learning programme is the most difficult task within the four levels. The effort to measure behaviour and its change before and after training programmes is so high that an inquiry after the learning situations is more common. The questions to ask are based on what the participant is doing differently than he/she was doing before the programme. After an appropriate amount of time the participants as well as their superiors and others who observe the behaviour of the partici-pants should be consulted. This procedure can be repeated after a certain amount of time.

Level 4: Results

Results contain a large number of factors such as improved quality of work, reduction in waste of time, higher efficiency, improved quality, increased sales, reduced costs and return on investment. For the evaluation of attained results there should be a measurement before and after a training programme after an appropriate amount of time has passed.

KIRKPATRICK stresses that the cost of the evaluations at level 3 and level 4 should not exceed the benefits of such an evaluation (cf. Kirkpatrick et al., 2005: 5ff).

The return on investment

In recent training evaluation literature, the measurement of the return on investment (ROI) in training, development and performance improvement is a critical issue. The recently quoted scientist KIRKPATRICK himself sees the determination of a ROI as no more than an optional part of his fourth level (cf. Kirkpatrick, 2005: 7).

PHILLIPS offers the following formula for calculating the net benefits (after the initial costs are covered):

$$ROI\ (\%) = (Net\ Program\ Benefits)/(Program\ Costs) \times 100\ \ (cf.\ Philipps,\ 2003:\ 21)$$

It is evident that the biggest challenge lies in the inquiry of the programme's benefits. KIRKPATRICK sees the biggest challenge in the evaluation of behavioural change and the measurement of results. PHILLIPS goes one step further by trying to convert this already very hard to get data into monetary value[15] (cf. Philipps, 2003: 32). One of the many obstacles throughout this process lies in the separation of learning outcomes that are relatable to the learning programme and behavioural changes that are not related to the specific learning programme, but have been developed through other resources (e.g. events of trial and error, reading an article or a simple brainwave).

Measuring behavioural change and results in the form of performance improvement
Other forms of measurement of performance improvement related to learning programmes are difficult to find, as indicated on KIRKPATRICK's levels 3 and 4. Measuring performance against standards could be one possibility, yet to develop the right level of standards is a difficult task that needs long experimentation phases (cf. Singer/Edmondson, 2006: 28).

A straightforward approach includes the comparison of the learning objectives with the learning outcomes and with the application of the learning outcomes to actual work situations. In order to gain data about application of learning outcomes, the following possibilities can be found throughout literature:

- Self-rating
- Peer-evaluation
- Supervisor-evaluation
- Observer-rating (external experts observe the learner)
- Measuring performance on fastness and accuracy (based on standards)
- Longitudinal studies using multiple types of measures at multiple times (4 weeks, 2-3 months and 6-12 months)
- Self-rating and supervisor-rating in comparison (cf. Baldwin et al., 2009: 49f).

SUMMARY

Measuring learning transfer is a very difficult task, since learning outcomes that are related to training programmes need to be isolated from learning outcomes resulting from other learning opportunities. One important instrument of evaluating the state of individual, social and organisational preconditions for successful learning transfer lies in the LTSI model. The different ways of providing support systems benefit the individual learning transfer.

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[15] *More information can be found in Attachment 10 or online:*
http://www.roiinstitute.net/m/uploads/tools/2013/07/26/ShowMetheMoney10EasySteps.pdf

RECOMMENDATIONS

4. RECOMMENDATIONS

Successful learning is the premise for successful learning transfer. Based on that presupposition, the present essay is intended to reveal recommendations on how to promote successful learning transfer of learning outcomes, generated from formal training.

"[…] Transfer design is difficult to measure and varies depending on content, cultures, and other situational factors" (Hunter-Johnson, 2012: 28f). Therefore, the more specific and transparent the learning needs are framed and adjusted to the actual work tasks, the easier measurement can be accomplished.

Only if learning transfer occurs, the individual learning part of organisational learning has succeeded. Thereafter, environmental (social and organisational) reactions to the new actions resulting of the individual learning can be reflected and new individual and organisation attitudes can be developed. This is why successful learning transfer is one important premise for learning organisations[16].

The following recommendations address the management level and the Human Resources Department. Furthermore, the preconditions of the transfer-ready learner are illustrated.

Developing a learning organisation

For developing a leaning organisation it is necessary to link individual learning to collective learning by revealing the implicit model of the inner workings of an organisation, in order to create new shared models. A double loop learning cycle in the form of constant reflection of organisational routines and assumptions can be identified as the core activity of organisational learning. Therefore, management needs to employ more organising to learn than organising to execute by continuously asking what has recently been learned.

Organisational elements benefitting learning transfer

Promoting confidence and safety for learners, creating a supportive and helpful atmosphere when it comes to learning and installing a balance between rules/directions and individual freedom for decision-making are, in summary, the most important steps to be taken on a general organisational level. This includes organisational strategies to be innovative in contrast to being a static organisation. Organisational conditions and characteristics have a great impact on how successful workplace learning processes can be.

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[16] *A summary of the planning steps for successful organisational learning and transfer can be found in attachment 11.*

Factors that have a positive influence on workplace learning:

- Structuring of organisations for optimal learning
  – Open organisation designs: project-focused structures, multifunctional teams, etc.
- Creation of cultural conditions for learning
  – Learning culture is defined by creating continuous learning opportunities, promoting dialogue, encouraging collaboration and team learning, empowerment of people to have a collective vision, ensuring that leaders model and support learning at the individual, team and organisational level
- Embedding learning practices into management and work processes
  – Relation between learning and the ongoing practices and processes of the business (involving more people in strategic processes to ensure having many experiences, insights and concepts of what-if's)
- Creation of practices and processes that accelerate the spreading and sharing of both explicit and tacit learning
  – Focus not only on explicit knowledge put opportunities to bring out tacit knowledge by encouraging interpersonal interactions (networking, examples, stories, communities of practice, etc.)
- Provision of opportunities for everyone to develop the skills and mindsets for self-directed learning in both formal and informal learning situations
  – Encourage the development of self-direction in every aspect of the learning process (not only accumulation of knowledge but experience and reflection as well)
- Integration of one-off interventions with work
  – Interventions including conferences, workshops, courses etc. to a) expose people to knowledge, information and values beyond the current practices of their own organization and b) to help expand peoples' range of skills and knowledge for success within the current organisational structures, processes and cultures (cf. McLagan, 2003: 47f).

NAQUIN and BALDWIN identified four principles to induce higher transfer readiness among learners:

1. Setting explicit, public training goals by the management rather than by instructors and learning designers is important. Managers have a high impact on the employees' behaviour.
2. The assumption that learners believe that they can master training content and transfer it to their work is often wrong. Increasing the confidence of trainees by pointing out that success is possible and learning activities are opportunities and not threats helps them to self-direct their transfer activities.
3. Management showing their support by having managers participate in learning activities or leading them is highly motivating. Furthermore, a reward system should be installed (pay raise, career advancements, performance evaluations). This could include the linkage of manager's rewards with the learning outcomes of their employees (cf. Naquin and Baldwin, 2003: 90f).

The roles and functions of the Human Resources Department

The most important function of HRD lies in merging the organisation's interests with the employees' interests.

For the implementation of formal learning arrangements, HRD should investigate the learning needs (incl. analysis of tasks) and advocate training programmes in front of the management. For defining individual learning needs, transparent competency assessment techniques should be installed. As a consequence, individual learning wishes of learners have to be adjusted to organisational needs, without taking the attitude of thinking of employees only as resources but as adult individuals.

Organising and designing formal training, HRD is in charge to choose the 'right' trainer by questioning their attitudes to adult learning, their training methods, their experience and their knowledge in the respective field of expertise. One important preliminary tool is the development of individual learning contracts (see chapter 1.2.3). This avoids comparing formal training with past school situations.

The learner's perspective

It is imperative that the learning transfer responsibility be that of the individuals concerned. Individuals are the only people who are constantly present at their own performance (McLagan, 2003: 44).

Training programmes in the workplace have to be adjusted to adult learning specifics. This means a need to include the learner's self-concept into the planning phase. Learning motivation can be raised by considering the learners' great volumes of experience and their life-centredness. Individual factors as well as situational factors influence learning motivation. External motivators (rewards) are of minor importance and only work as very short-term learning motivators. A learner's behaviour and commitment to the learning programme also have an impact on successful learning. Different types of necessary agility have been revealed as well as personal learning style preferences and individual purposes for participating in formal learning arrangements.

The relationship between the trainer and the learner is another important factor when it comes to successful learning: The most important characteristics of trainers are expertise, empathy, enthusiasm and clarity as well as the right adjustment of their trainer behaviour to the learners' needs.

Finally, the cooperation of organisation (represented by managers, supervisors and human resources department actors), trainers (internal and external) and learners themselves as self-determined individuals is the key to successful learning transfer and the increase of individual and organisational performance.

5. REFERENCES

Argyris, C. (1992) Overcoming Organizational Defences: Facilitating Organizational Learning,Boston: Allyn& Bacon.

Arthur, W./Bennett, W./Erdens, P.S./Bell, S.T. (2003) 'Effectiveness Training in Organizations',Journal of Applied Psychology, vol. 88, no. 1, p. 234-255.

Bates, R./Holton, E./Hatala, J. (2014) 'A revised learning transfer system inventory: factorial replication and validation',Human Resource Development International, vol. 15, no. 5, p. 549-569.

Behrends, H. (n.i) Temporal dimensions of organizational learning: a review and directions for future research, Eindhoven University of Technology,[Online], Available: http://www2.warwick.ac.uk/fac/soc/wbs/conf/olkc/archive/olkc6/papers/id_139.pdf [14.09.2014]

Carnevale, A./Gainer, L./Meltzer, A. (1990) Workplace Basics Training Manual,San Francisco: Jossey-Bass Publishers.

Child, J./Rodrigues, S. (2011). 'Social identity and organizational learning',in: Easterly-Smith, M. (ed.) Handbook of organizational learning and knowledge management. Chinchester: Wiley, p. 305-329.

Colquitt, J./LePine.J./Noe, R. (2000) 'Toward an Integrative Theory of Training Motivation',in:Journal of Applied Psychology, vol. 85, no. 5, p. 678-707.

Dar-El, E. (2000) Human Learning: Form Learning Curves to Learning Organizations,Boston: Kluwer Academic Publishers.

Dumont, H./Instance, D./Benavides, F. (2010) 'The nature of learning. Using research to inspire practice'; OECD: Centre for Educational Research and Innovation,[Online], Available: http://www.oecd.org/document/6/0,3746,en_2649_35845581_45983942_1_1_1_1,00.html [27.08.2014]

Easterby-Smith, M./Lyles, M. (2011) 'The evolving field of organizational Learning and Knowledge Management',in Easterby-Smith, M. (ed.) Handbook of organizational learning and knowledge management,Chichester: Wiley, p. 5-17.

Easterby-Smith, M. (2011) Handbook of organizational learning and knowledge management,Chichester: Wiley.

Eraud, M. (2004) 'Conditions for Instructional Design and Innovation in Vocational Education: successful design and implementation of complex learning environments',in: Mulder, R./Sloane, P. (ed.) New Approaches to vocational education in Europe,Oxford: Symposium Books, p. 71-80.

Desjardins, R. (2011) 'Participation in Adult Learning',in: Rubenson, K. (ed.)Adult Learning and Education,Oxford: Elsevier, p. 205-215.

Garvin, D./Edmondson, A./Gino, F. (2008): 'Is Yours a Learning Organisation?', Harvard Business Review,[Online], Available: http://hbr.org/2008/03/is-yours-a-learning-organization/ar/1[27.08.2014]

Holton, E./Baldwin, T. (2003) Improving Learning Transfer in Organizations. San Fransisco: Jossey-Bass.

Holton, E./Baldwin, T. (2003): 'Making Transfer Happen. An Action Perspective on Learning Transfer',in: Holton, E./Baldwin, T. (ed.) Improving Learning Transfer in Organizations, San Francisco: Jossey-Bass, p. 3-15.

Holton, E./Bates, Reid, Ruona, W. (2000) 'Development of a Generalized Learning Transfer System Inventory',in: Human Resource Development Quarterly, vol. 11, no. 4, p. 333-360.

Hunter-Johnson, Y. (2012): 'Perceptions of a learning Organization and Factors Within the Work Environment That Influence Transfer of Training in Law Enforcement', Graduate Theses and Dissertations, University of Youth Florida [Online].
Available: http://scholarcommons.usf.edu/etd/4335 [08.09.2014]

Illeris, L. (2011) The Fundamentals of Workplace Learning. Understanding How People Learn in in Working Life,Oxon: Routledge.

Johnson, C./Spicer, D./Wallace, J. (n.i.): 'An empirical model of the learning organization', Bradford University, Bradford,[Online], Available:
http://www2.warwick.ac.uk/fac/soc/wbs/conf/olkc/archive/olkc6/papers/id_251.pdf. [07.09.2014]

Kim, D. (2004) 'The link between individual and organizational learning',in: Starkey, K./Tempest, S./ McKinley, A. (ed.) How Organizations Learn. Managing the Search for Knowledge,London: Thomson, p. 29-50.

Kirkpatrick, D./Kirkpatrick J. (2005) Transferring Learning to Behavior. Using The Four Levels To Improve Performance,San Francisco: Berrett-Koehler.

Knowles, M./Holton, E./Swanson, R (2011) The adult learner. The definitive classic in adult education and human resource development,Oxford: Butterworth-Heinemann.

Matthews, P. (1999) 'Workplace learning: developing an holistic model',in: The Learning Organization,vol. 6, no. 1, MBC University Press,p.18-29.

McLagan, P. (2003) 'New Organizational Forces Affecting Learning Transfer: Designing for Impact',in: Holton, E./Baldwin, T. (ed.) Improving Learning Transfer in Organizations, San Francisco: Jossey-Bass, p. 39-57.

Mulder, R. (2004) 'Design and Evaluation of Complex Learning Environments in Secondary Vocational Education',in: Mulder, R./Sloane, P. (ed.) New Approaches to vocational education in Europe. Oxford: Symposium Books, p. 59-70.

Mulder, R./Sloane, P. (2004) New Approaches to vocational education in Europe,Oxford: Symposium Books.

Naquin, S./Baldwin, T. (2003) 'Managing Transfer before learning begins. The Transfer-Ready Learner',in: Holton, E./Baldwin, T. (ed.) Improving Learning Transfer in Organizations. San Franscisco: Jossey-Bass, p. 80-94.

Noe et al. (2000) 'Toward an integrative theory of training motivation: A meta-analytic path analysis of 20 years of research',in: Journal of Applied Psychology,vol. 85, no. 5,p. 678-707.

Philipps, J. (2003) Return on Investment in Training and Performance Improvement Programs,Oxford: Butterworth-Heinemann.

Potgieter, T./Van der Merkwe, R. (2002) 'Assessment in the workplace. A competency-based approach. Department of industrial and organisational Psychology. University of Port Elisabeth',in: SA Journal of Industrial Psychology, vol. 28, no. 1, p.60-66,[Online], Available: http://www.sajip.co.za/index.php/sajip/article/viewFile/31/29 [17.09.2014]

Rubenson, K. (2011) Adult Learning and Education,Oxford: Elsevier.

Schön, D. A. (1987) Educating the reflective practioneer. Toward a New Design for Teaching and Learning in the Professions,San Francisco/London: Jossey-Bass Verlag.

Schön, D. A. (1983) The Reflective Practioneer,London: Temple Smith, London.

Senge, P. et. al. (1994) The Fifth Discipline Fieldbook: Strategies and Tools for Building a Learning Organization,New York: Currency Doubleday.

Singer, S./Edmondson, A. (2006) 'When Learning and Performance are at Odds: Confronting the tension', Harvard University,[Online], Available: *http://www.hbs.edu/faculty/Publication%20Files/07-032.pdf. [23.08.2014]*

Smith, M. K. (2001) 'Relationship, learning and education',in: The encyclopaedia of informal education,[Online], Available: http://infed.org/mobi/relationship-learning-and-education/ [09.09.2014]

Starkey, K./Tempest, S./McKinley, A. (2004) How Organizations Learn. Managing the Search for Knowledge,London: Thomson.

Swanson, R. (2003) 'Transfer is just a Symptom. The neglect of Front-End Analysis',in: Holton, E./Baldwin, T. (ed.) Improving Learning Transfer in Organizations,San Francisco: Jossey-Bass, San Francisco, p. 119-137.

Whalen, P/Starbuck, W. (2000) 'Learning by Organzations',in: Easterby-Smith, M. (ed.) Handbook of organizational learning and knowledge management,Chichester: Wiley, p. 10-24.

Contact:

iuïl

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www.iuil.lu

IUIL
info@iuil.lu
Tél. : +352 26 15 92 12
Fax : +352 26 15 92 28
31, rue du Parc
L-5374 Munsbach
www.iuil.lu

Author:

Lisa **DAVID**,
Bildungswissenschaftlerin
www.lisadavid.eu