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The action oriented learning and teaching approach
A model that lead to a learner’s exemplary job performance and employability

1. Background

There is no uniform understanding and definition of the terms “competence” and “competency” in the world. The terms became fashionable among education and training experts in North America in the 1980ies and have spread and remained buzzwords ever since. While “competency-based training (CBT)” became very popular in the USA to conceptualize training programs and relates assessments in selected companies, economic sectors or areas, it was never used to shape a “national system”.

CBT can be traced back to two different lines of arguments:

- In the achievement motivation theory (D. McClelland 1976) job competencies are those critical attributes (e.g. traits, behaviors, other characteristics, etc.) that explain and can lead to a person’s exemplary job performance as opposed to average performance.

- Other authors (Gilbert 1978) shifted the aspect from finding personal attributes as prerequisites of performance to direct work results. Their understanding of competency is based on marketable work results (e.g. “worthy” products or services).

The multitude of arguments used alone indicates that “competency-based training”(CBT) is not a rigid approach, but covers a wide range of innovative efforts. A more recent term found for instance in South Africa is “outcome-based education and training”(OBET). This term most clearly reflects the true purpose of the CBT-approach. In principle it is thus a learning-objective-oriented approach.

The desired objectives are defined in terms of competencies (knowledge, abilities, skills, behavior pattern, etc.), which the learner should master at the end of the learning process to enable him to perform certain work tasks. It is here worthwhile to note that training systems based on CBT are in essence assessment and certification systems, rather than training systems. Modes and parameters of learning and teaching are not so much the concern of CBT.

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1 Director of GTZ-SDSI Support Program South Africa
Since CBT focuses on the results rather than on the process of learning and teaching it offers teachers/instructors little assistance as to how to achieve the detailed results. The effectiveness and efficiency of training cannot be boosted simply by defining and examining the outcome of learning very precisely while leaving it up to the learners where, how and when they achieve these outcomes.

Competence and competency are used interchangeably by various authors, organizations and practitioners. It seems futile to distinguish the terms as such. But one may wonder, whether the underlying paradigm is “attribute” or “performance” or just a naïve use of buzzwords. DACUM and other American approaches to “outcomes based education and training” seem to follow the performance paradigm. Here, “competency” is understood as a description of the ability to perform an occupational task effectively and efficiently. Tasks are clearly defined as specific units of work observable within a job or an occupation.

The “action oriented learning and teaching approach” has its own specific connotation, which is closer to the “attribute” paradigm. It comprises technical, individual, methodological and social competences in a holistic understanding. Learners graduating from this approach are expected to have acquired not only skills and knowledge laid down in qualifications, unit standards and skeleton curricula, but also “key competencies”, such as problem solving techniques, communication skills, ability for team work. Action oriented learning and teaching lets them cope with ever changing occupational requirements in the work life, and shall provide the basis for continuous life long learning, be it formal, non-formal, or informal.

Action-oriented learning and teaching exist when the theory instruction or in-company instruction is organized such that the learner is allowed to act. Acting here means doing something in line with expectations towards a predetermined end. Acting towards a predetermined end means that the learning process contains expedients objectives in the form of tasks and problems on the basis of which the learner can organize his or her activities increasingly independently.

Activities geared to expectations means that the learner is given incentives and scope within theory instruction and in-company instruction to develop his or her motivation on the basis of expected success. A distinction should thus be made depending on the mental participation between a more receptive behavior, which consists purely of perceiving and memorizing information and active doing which slots the information into place, process it and applies it.

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2 Within the South African outcomes-based education and training system the term „critical cross-field outcomes” can be seen as the equivalent to the “key qualifications” concept.
2. Challenges

The globalisation of the international work environment leads to increasingly complex tasks for employees in many areas. A recent study of the labour market in Germany for example came to the following conclusions:

"The components of work profiles that are determined by technical and organisational requirements are increasingly being replaced by "self-management", "autonomous organisation", "own responsibility" and "action based on communication in a social context". Application of the appropriate competence and behavioural potential is required for active acquisition and application of knowledge and experience in corporate training and work processes, for the legitimisation of work actions and their correction after discussion with superiors and colleagues and the critical harmonisation of a person's own work goals and those of the company."

To handle these challenges successfully, the employees have to be enabled to act in a flexible manner, to solve problems, learn and perform independently, and to cooperate with others.

The requirements of the global labour market change continuously and it is therefore necessary that the qualifications provided by vocational education and training should change as well. These days it is still important to acquire technical knowledge, abilities and skills, but these are increasingly becoming insufficient. In addition, it is necessary to acquire professional action-oriented competence.

Professional action-oriented competence is generally understood to mean the bundling of different skills. The following elements are usually identified:

- **Technical competence** is the ability to handle complex technical tasks successfully by applying technical knowledge and skills.

- **Methodical competence** is the ability to apply appropriate methods and strategies for handling a task or solving a problem.

- **Social competence** is the ability to handle other people appropriately and to communicate and cooperate successfully with them.

- **Individual competence** is the ability to deal critically and analytically with oneself, i.e. to question one's own knowledge, abilities and skills and to take action, where required, e.g. acquire better qualifications.

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There are convincing reasons to assume that such a comprehensive action-oriented competence can only be effectively developed if the education process itself requires the behaviour that it is supposed to teach. Independent action can only be learned properly if the trainee has to act independently and solve problems independently during training.

**Figure 1:** The bundling of different skill elements as part of professional action-oriented competence

![Diagram of skill elements]

An important consequence of these considerations is the concept of action-oriented learning and teaching. "Action-oriented" is a form of learning in which not only knowledge is "moved around" and "accumulated" in the head, but in which the "learners move", i.e. act. Within the framework of action-oriented learning and teaching, the focus is no longer on the educationally efficient presentation of knowledge that the learner "consumes", but on planning and executing active, target-oriented, transparent activities, and the learner learns by performing these activities.

Thinking accompanies the actions and understanding results from the experiences gained in these actions. Obviously, this is still "learning", but in a form that is deliberately "structured" as a sequence of independent actions:

Within the framework of action-oriented learning and teaching, learners should act independently as often as possible. Self-management and autonomous organisation are an important characteristic of action-oriented learning and teaching. An attempt is made to abandon the direct influencing of the learner through "presentation" by the teacher/instructor.

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Contrary to the approach of anti-authoritarian education it is not assumed that learning takes place without any influence. It is assumed that education and learning goals and processes can be made most effective if the learning environment is structured in a way that allows the learner to interact independently with the study content.

The crucial factor for the success or failure of such different, more active and self-managing learning is the teacher/instructor. These people have to "accept" the new definition of their roles, because autonomous organisation can only thrive "at the cost" of organisation by others.

Action-oriented learning and teaching is based on the following focus:

- Organisation by others should be replaced by autonomous organisation!
- Teaching should be replaced by learning!

These requirements do not include a total rejection of organisation by others in learning processes. This would be impractical and not sensible. "Waiting patiently" and "foregoing" interference are not the characteristics of teachers/instructors in an active and action-oriented learning and teaching environment. The teacher/instructor has a different function that is less central to the activities, but which nevertheless has a central function for the learning process:

- Teachers/instructors continue to arrange the learning environment, they are still "responsible" for the learning process, but they structure the learning process less in the form of input and continuous presentation (continuous domination), but in the form of questions and tasks for teaching purposes, assistance and advice. This should enable the pupils or learners actively to obtain new knowledge and to extend their scope of professional action-oriented behaviour.

The teacher/instructor therefore creates the conditions for autonomous organisation of the learners and independent learning by the learners. The teacher/instructor does not "create" the knowledge that should go "into the heads" of the learners, but "enables" the processes of independent knowledge exploration and acquisition.

Within the framework of action-oriented learning and teaching, the teacher/instructor has a new function:

- He/she was previously at the centre of events as the expert for all issues, who determined the topic, procedure and speed of the learning process. In action-oriented learning and teaching, this role changes fundamentally. The teacher/instructor remains the expert, but he does not push his expertise into the foreground. He/she arranges the training instead as a sequence of work assignments that have to be handled by the learner. The learners can discover many things on their own (as far as this is meaningful) and at the same time learn to act independently.
In learning by autonomous organisation the teacher/instructor moves into the background, but is available as a “coach” and knowledge resource that can be used if the learner cannot proceed on his own.

3. Practical application of action-oriented learning and teaching

Action-oriented learning and teaching is the basic requirement to ensure that the learner acquires professional competence as well as key qualifications (in South Africa the so-called critical cross-field outcomes) such as the ability to solve problems, the ability to communicate and independence.

Technical and non-technical qualifications should support and supplement each other (integration principle). It would be contrary to all known rules of sensible and beneficial learning to teach the key qualifications separately from the technical training in a kind of "crash course", and to leave everything else as it was before.

Action-oriented learning and teaching has proved to be a form of education that allows the learner to learn more than only technical knowledge and skills. A requirement for success is to structure the training and teaching contents in the form of questions and problems.

It is necessary to define the questions and tasks in a way that the learner handling them can develop the necessary contents on his own, while developing higher-level abilities and competence. Self-managed, action-oriented learning is therefore characterised by thinking that focuses on solving problems and by the opportunity for independent action.

An important characteristic of action-oriented learning is the teaching of learner centred methods. Learner centred methods are a combination of activity methods and independent acquisition methods.

⇒ Activity methods are those in which the focus is on the learner’s activity.

⇒ Independent acquisition methods are a requirement for the learners to manage their own learning process and to make productive use of activity methods. Learners will only be able to make productive use of the freedom of active learning once they can, for example, use reference works and present (visualise") their results.

Teachers/instructors who attempt to provide comprehensive professional action-oriented competence must therefore ask themselves the following key questions concerning their teaching methods:
1. How can I bundle the relevant technical knowledge, abilities and skills into complex tasks (work specifications) that the learners will be able to learn as much as possible in an self-managed and autonomous way?

2. Which independent acquisition method can I train systematically in all my instruction modules?
Figure 2: Learner methods in action-oriented learning and teaching\(^5\)

**Learner centred methods**

<table>
<thead>
<tr>
<th>A Activity methods</th>
<th>Activity methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Projects</td>
<td>• Work with self-study material</td>
</tr>
<tr>
<td>• Scenario planning</td>
<td>• Handling of work tasks</td>
</tr>
<tr>
<td>• Problem-solving</td>
<td>• Building of models</td>
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<tr>
<td>• methods</td>
<td>• Group work structured around training questions</td>
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<td>• Role-play</td>
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<td>• Case method</td>
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<td>• Exploration</td>
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<td>• Excursion</td>
<td></td>
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<tr>
<td>• „Free work“</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>B Independent acquisition methods</th>
<th>Learning to learn</th>
<th>Information acquisition</th>
<th>Information processing</th>
<th>Communication and cooperation</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Systematic learning by rote</td>
<td>• Systematic reading</td>
<td>• Structural analysis</td>
<td>• Problem-solving processes</td>
<td></td>
</tr>
<tr>
<td>• Compiling mind maps</td>
<td>• Marking texts</td>
<td>• Questioning techniques</td>
<td>• Visual communication (metaplan)</td>
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<tr>
<td>• Preparation s for exams</td>
<td>• Summarising information</td>
<td>• Visualisation</td>
<td>• Communication techniques</td>
<td></td>
</tr>
<tr>
<td>• Planning of learning time</td>
<td>• Working with reference books</td>
<td>• Presentation techniques</td>
<td>• Etc</td>
<td></td>
</tr>
<tr>
<td>• etc</td>
<td>• Working in libraries</td>
<td>• Structuring of a presentation</td>
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Within the framework of action-oriented learning and teaching, these two key questions have to guide the process. One can therefore call the method "action-oriented learning and teaching in stereo". It is important that these two questions should help to avoid the domination of the learning process by the teacher/instructor.

A further issue concerning the selection of methods is the question of educational efficiency ("educational value") of the possible methods. Figure 3 shows that this varies strongly. The common methods are only efficient" in the technical area, whereas the activity methods based on action and experience are characterised by the fact that they are educationally effective at all levels of professional action-oriented competence.

Common activity methods in action-oriented learning and teaching are, for example:

- **Self-study material or "key texts"**, and
- **Project method**.

They are therefore described in the following text.
### Figure 3: Educational efficiency of different methods

<table>
<thead>
<tr>
<th>Dimensions of functional competence</th>
<th>Educational methodical structuring</th>
<th>Technical competence (technical knowledge, skills)</th>
<th>Methodical competence (learning and working techniques)</th>
<th>Social and leadership competence (team work, communicatio n methods)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning more based on facilitation</td>
<td>Presentation / speech</td>
<td>+</td>
<td>-</td>
<td></td>
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<td></td>
<td>Educational discussion</td>
<td>+</td>
<td>-</td>
<td></td>
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<tr>
<td></td>
<td>Use of closed media</td>
<td>+</td>
<td>-</td>
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<tr>
<td></td>
<td>Super-learning (suggestopaedic s)</td>
<td>+</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Controlled project</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Scenario planning</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Self-organising project</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Key text method</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Team work based on key questions</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Individual work based on key questions</td>
<td>+</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Visualisation of the learning method (metaplan method)</td>
<td>+</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Artificial exercises</td>
<td>+</td>
<td>+</td>
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</table>
### 4. Activating learning with self-study material - the key text method

The key text is the basis for successful self-study by the learner. The term "key text" describes training material that helps the learner to “go” through the learning process and acquire knowledge independently and to work on problems.

The components of a key text are:

- Definition of the learning targets ("Knowing where the journey is going to").
- Practical work instructions.
- Key questions concerning the acquisition and handling of information.
- Key information, i.e. factual information, references of sources of information, e.g. texts, drawings or work plans.
- Key questions and information concerning planning for performing the work.
- Questions and tasks concerning the management of learning and working.
- Information concerning evaluation and control.

With these documents the learner first develops the information required for handling the work instruction, e.g. by clarifying which function the work-piece that they have to manufacture has to fulfil, and which changes have to be made to the blank. Further steps in the work with the key text are: planning (e.g. the order of the necessary work steps), decision making (especially the procedure), execution (individually or by division of labour), controlling (internal work quality check by the learner, etc.) and evaluation (external control).
Figure 4:  Processing steps of a work instruction according to the key text method\textsuperscript{7}

<table>
<thead>
<tr>
<th>Step</th>
<th>Goal</th>
<th>Organisational form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read cover sheet</td>
<td>Get to know the tasks</td>
<td>Individual, partner or team work</td>
</tr>
<tr>
<td>Work on key questions</td>
<td>Think about tasks individually and in groups and discuss</td>
<td>In a team</td>
</tr>
<tr>
<td>Work through knowledge checklist and key information</td>
<td>Acquire technical knowledge</td>
<td>In a team</td>
</tr>
<tr>
<td>Discuss knowledge checklist and key information</td>
<td>Check the knowledge acquired</td>
<td>With trainer</td>
</tr>
<tr>
<td>Processing of the work instruction</td>
<td>Apply skills and improve them</td>
<td>Individually or in a team</td>
</tr>
<tr>
<td>Control and evaluate the work performed</td>
<td>Develop appropriate quality criteria and learn self-testing</td>
<td>With trainer</td>
</tr>
</tbody>
</table>

The following work steps are necessary within the framework of preparing educational content in the form of a key text:

- Make an inventory:
  - Which workplaces and processes are affected?
  - Which problem areas can be determined?

- Determine learning goals and methods:
  - The following has to be clarified: What has to be taught with these key texts?
  - Which learning contents that were previously taught in a traditional way should in future be taught through key texts?

- Develop a first draft of the key text and have it evaluated by a teacher/trainer colleague with regard to completeness, technical correctness and how easily it can be understood.

- Make corrections where required.

- Test the (preliminary) version with learners in a pilot test.

- Integrate suggestions for changes where required.

5. Holistic learning and teaching with "head, heart and hand" – the project method

The project method is based on the concept of tighter integration of theoretical knowledge and practical action. A project is a work procedure in which the learners develop, for example, a service or a complete, useable object. This includes independent planning, execution and control. To further the ability for cooperation, the planning and execution of a project is performed mainly, but not exclusively, in teamwork. The project method (as the key text method) consists of six steps that build on each other, and that might be encountered several times during the project work.

Figure 5: Typical action phases of the project method
Advisory or information phases and work sessions in small groups can be integrated into this six-step process. The teacher/instructor discusses the previous and future steps of the project with the learner and initiates tasks that provide the knowledge that is needed to continue with the project. The frequency and intensity of the advisory phases depends on the ability of the group to perform group work and on their initial technical knowledge.

Within the framework of the compilation and planning of the project tasks, the following steps have to be taken into account:

1. The start-up or initial phase

   ⇒ Consider which skills of the learner the solution of the project tasks should further (technical, methodical, social and individual competence).

   ⇒ Collect project ideas (e.g. within the framework of a brainstorming session with the learners).

   ⇒ Design the project (learner and teacher/instructor together).

   ⇒ Test whether the targets as well as the feasibility of the project have been judged realistically (use of material and resources, costs, time).

   ⇒ Consider which methodical competence the learner must already have to be able to handle the project at all.

2. Planning phase

   ⇒ Define goals, contents and tasks.

   ⇒ Provide material, tools and infrastructure or clarify where these can be obtained.

   ⇒ Arrange the division of labour.

   ⇒ Clarify the requirements for information and provide the information sources.

   ⇒ Clarify time and space requirements.

   ⇒ Agree on the rules of the game, quality and success criteria (e.g. quality standards, methods, rules for cooperation, evaluation criteria).
3. Execution phase

During the actual project phase, the teacher/instructor is available to the learners as a “coach” and resource person. For the teacher/instructor this means:

⇒ Help the learners to help themselves in solving problems.
⇒ If absolutely necessary, provide information input.
⇒ Interfere if security regulations are violated or if there is danger.
⇒ Ensure that the rules of the game are adhered to, as agreed upon.
⇒ Facilitate the advisory and discussion sessions that take place during the development phases.

4. Evaluation phase

⇒ The learners control and evaluate their performance at the intermediate and the final inspection, based on the success criteria that were previously agreed upon.
⇒ The object of control is the progress made in learning, the cooperation of the group and the individual work performance of the learner.
⇒ The evaluation is performed in discussions or in writing (protocols, evaluation forms) based on criteria that were agreed upon.
⇒ Thereafter the teacher/instructor evaluates the learning and work performance and conducts an evaluation discussion with the learner.

6. Summary

The characteristics of action-oriented learning and teaching can be summarised as follows:

- Action-oriented learning and teaching describes a form of vocational education and training in which the focus is on the learner's own actions.
- To enable the learners to act independently at their workplaces later on, the training itself has to be structured according to the criteria of self-management and autonomous organisation.
• It is essential that the contents of the learning process should no longer be seen as input from the teacher/instructor, but that they are integrated into complex tasks that the learners can handle independently, so that they can learn from their own experiences.

The crucial factor for the success or failure of such different, more active and autonomously organised learning is the teacher/instructor. The teacher/instructors have to "accept" the new definition of their roles – this is key.