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SPECIAL



Competence-oriented and digital:
Shaping the Coaches Education of the Future

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COMPETENCE ORIENTATION AND DIGITALISATION IN COACHING

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COACH EDUCATION IN GERMANY – THE IMPORTANCE OF SYSTEMATIC COMPETENCE ORIENTATION

A competence model for coach education may sound complicated at first. But if you think that coaches hold a key role in sports and that good coach education is therefore one of the key topics for sports organisations, we would like to invite you to join the exchange about the DOSB Competence Model. The DOSB Competence Model serves as an offer and tool for all associations to realign their education in a way that is oriented towards the needs and practical challenges of the people involved in the sports clubs.

Do you know the specific challenges that your coaches face at different license levels (C, B, A) in everyday coaching? Have you analysed which competences coaches need in order to adequately cope with these challenges and situations? Have you designed the appropriate learning tasks in your education to develop these competences? Last but not least – do you actually check if you achieved the desired acquisition of competences in your education evaluation? Those are the questions that the DOSB Competence Model raises, whilst offering ways to approach them systematically. Many associations have already set out to review and revise their education with the help of the DOSB Competence Model. These associations confirm that this is a challenging and labour-intensive, yet also profitable and motivating process.

As a consequence, coaches and exercise instructors feel more confident and motivated if they have the necessary skills for their tasks. They therefore stay involved longer and are more resilient to crises, as shown by the current sport development reports¹. Additionally, higher competence levels of coaches increase the coaching quality, which in return has a positive impact on athletes and members of sports clubs. It is up to us as associations to affect these changes by embarking on a journey to implement competence orientation into our education programmes, with the DOSB Competence Model providing one example.

However, we must be aware that this involves a far-reaching change process at all levels. Thousands of professionals and volunteers are responsible for the education of coaches, exercise instructors and club managers in Germany. These educa-

tion teams in the sports federations must be actively involved in this process. The topic of digitalisation of education must be considered from the very beginning and taken up pedagogically.

Such a change process is only possible if the associations support their educational departments and provide them with the necessary resources. An investment that pays off! Because the results go far beyond the educational areas of the associations and everyone benefits in the end: The coaches (because they feel more competent and are more motivated), the athletes (because the quality of coaching is better), the clubs (because their coaches are committed for longer) and thus the whole landscape of sports in Germany (because it is more crisis-resistant and more successful). And this is our collective goal. I hope you enjoy reading this publication and find many new insights for your work.

**Yours,
Michaela Röhrbein**



Photo: private

Michaela Röhrbein
(DOSB Executive Board Sports Development)

¹ Breuer, C. & Feiler, S.: *Sports Clubs in Germany: Results from the 8th wave of the Sport Development Report : Sport Development Report for Germany 2020-2022 – Part 1*

Ralf Sygusch/Martin Muche/Sebastian Liebl/Wiebke Fabinski/Gudrun Schwind-Gick (from: *Leistungssport* 1/2020)

THE DOSB COMPETENCE MODEL FOR COACHES EDUCATION

Part 1

1. Competence orientation in coaches education from the perspective of the DOSB: a milestone for quality development in the educational work of sports organisations!

With the "Framework Guidelines for Qualification" (RRL), the German Olympic Sports Confederation (DOSB), together with the associations organized under its umbrella, has established uniform quality standards. They are binding for all trainings and continuing education licensed by the DOSB and apply throughout Germany, across all sports and state borders. More than 800 education concepts have been developed on this basis and accredited by the DOSB. The RRL have been in existence for more than 50 years. Since then, they have been regularly updated and thus adapted to the respective

social requirements and the latest technical and methodological findings.

A thematically very far-reaching update of the RRL was adopted in 2005. The most important changes concerned (1) personnel development, teacher qualification, and quality management, (2) the anchoring of **digital education**, and (3) the anchoring of **competency orientation**.

The topic of **digital education** has been the focus of work at the DOSB and in many associations since 2010. One milestone was the BMBF (Federal Ministry of Education and Research)-funded project "SALTO - Teaching and Learning with Digital Media". Within this collaborative project, the first ideas for "blended learning" in the context of "social video learning" were developed - with the German Table Tennis Association (DTTB) as the pioneering organisation. The core of the blended learning concept is to link the coach's club training practice with the education course, e.g. through video. The *Leistungssport* issue 1/2018 devoted a focus with examples from the associations to the question "The status quo of digital education in sports." (Fabinski, Vohle & Nickel, 2018).

The topic of **competence orientation** in coaches education received a considerable boost with the classification of the RRL in the *German Qualification Framework for Lifelong Learning* (DQR; Sygusch & Liebl, 2012). Subsequently, the QuaTro study (Qualification as a coach in competitive sports - aspiration and reality; Sygusch & Ptack, 2017) and other DOSB projects on quality development were implemented in the areas of the Deutsche Sportabzeichen (German Sports Badge), inclusion, and integration. These projects revealed both strengths of the RRL competence foundation and development needs (see below).

The two topics of *digital education* and *competence orientation*, which at first glance appear to be independent of each other, reveal profitable synergies upon closer examination. For example, acting

in the everyday lives of the coaching prospects, peer learning, and the use of feedback and reflection tools are valuable methodological principles in both *digital education* (Vohle, 2017) and *competence orientation*.

As a result, discussions on the interlinking of *digital education* and *competence orientation* intensified, e.g., at the DOSB conference 2015 "Competence Orientation and Blended Learning". *Digital education* and *competence orientation* are also important components in the current DOSB project *Coaches in Germany* (2019-2023) (Fabinski, Morlang, Witusch & Zehnder, 2019).

Based on these developments, the impulse arose to develop a competence model that would describe a common idea of competence orientation in the education and training of coaches and exercise instructors. For this purpose, the working group "DOSB Competence Model" was established in the fall of 2017. This working group consisted of education experts from the DOSB, the sports federations and from the scientific community in sports.¹

The cooperative planning and development process included four meetings in which the sports science *draft on competence orientation in sport* (EKSpO; Sygusch, Hapke, Liebl & Töpfer, 2022) was adapted to the needs of the sport federations. The interim results were applied in DOSB projects running in parallel and discussed with those responsible for education in the federations (including expert forums on education), so that the insights gained here could be fed back into the development process.

The joint result of all partners involved in the process is now available as the **DOSB competence model**. The broadly based exchange between science and educational practice has resulted in another important milestone for quality development in coach and exercise instructor education (hereinafter referred to as "coaches education") in sports organisations.

Abbreviations:

BMBF	Federal Ministry of Education and Research
DOSB	German Olympic Sports Confederation
DQR	German Qualification Framework for Lifelong Learning
DTTB	German Table Tennis Association
EKSpO	Sports Science Draft on Competence Orientation in Sport
QuaTro	Qualification as a Coach in Competitive Sports – Aspiration and Reality
RRL	Framework Guidelines for Qualification

Footnotes:

¹ Gudrun Schwind-Gick, Rhena Landefeld, Wiebke Fabinski, Alexandra Kreutel and Sabrina Hommel (DOSB), Jürgen Wolf, Thomas Braun and Daniel Mayer (German Ski Association [DSV]), Marie-Luise Bruns (German Disabled Sports Association [DBS]), Axel Dietrich (German Swimming Association [DSV]), Ines Hellner (Saxony-Anhalt State Sports Association), Jens Mitzel (German Gymnastics Federation [DTB]), Wolfgang Möbius (German Football Association [DFB]), Markus Söhngen (German Table Tennis Association [DTTB]), Ralf Sygusch and Martin Muche (Friedrich Alexander University Erlangen-Nuremberg).

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2. Competence orientation in coaches education from the perspective of sports science: a sport-specific model is the basis for quality development and assessment!

The DOSB's framework guidelines were developed in the early 2000s, during which the discourse on competence in various fields (including vocational training, student and teacher education) was oriented toward the classic competence triad of factual, social and self-competence (Roth, 1971). The RRL state: Action competence includes social competence, specialised competence, methodological and mediation competence as well as strategic competence (DSB, 2005, p. 14 f.). Since then, the competence discourse in educational and sport science has developed dynamically; on the one hand in conceptual-theoretical terms, on the other hand in empirical terms.

The conceptual development is linked to an increased orientation toward the learner. This expresses a change in the culture of educational work, which is oriented, for example, less to the *learning content* to be imparted and more to the *learning gains* sought ("From Input to Outcome") or less to teaching processes than to learning processes ("From Teaching to Learning").

In the course of increased efforts to establish an empirical foundation, the classic competence approach has come under criticism. This criticism is directed in particular at the vagueness of the categories of factual, social and self-competence. These are relatively rough generic terms, (...) but by no means theoretically derived constructs. They (...) cannot be operationalized without overlapping (Gogoll, 2011, p. 21) and are thus considered inadequate for an empirical foundation.

These conceptual-theoretical and empirical developments are linked to the central claim in the discourse on competencies in educational science that competency modeling should be transferred to the respective subject areas - in this case, sports science - and oriented to their theoretical level of knowledge, requirements, and educational objectives (e.g., Baumert & Kunter, 2011).

In the slipstream of educational science, the discourse on competencies has increasingly gained profile in sport pedagogy. Thus, for physical education in schools (e.g., Gogoll, 2013) and physical education teacher education (e.g., Ahns, 2019; Heemsoth, 2016), competence designs have emerged that are clearly oriented towards educational science claims and principles.

Such a connection to educational science has not yet been made in coaches educa-

DOSB/Kai Neunert



tion. The German competence discourse is still oriented to the broad categorization of factual, social, and self-competence with the addition of methodological competence. This is true in sports science publications (Behm, 2008; Brack & Hohmann, 2005) as well as in sports practice publications (including Cochet-Thibol & Ullrich, 2015; Nordmann, 2006; 2007). Internationally, a much more heterogeneous discourse on competence (e.g., Collins et al., 2015; Demers et al., 2006) can be discerned, for which a common basis in conceptual and empirical work is not yet apparent.

How are the RRL to be located in this competence discourse? In the so-called DQR-Expertise² Sygusch and Liebl (2012) attest the competence approach of the RRL a good connectivity to competence discourses of vocational education (among others Bloemen & Schlömer, 2012), coaches education (see above) as well as older approaches to physical education (Zeuner & Hummel, 2006) and physical education teacher education (Miethling & Gieß-Stüber, 2007). However, these are confronted with the same criticism as the above-mentioned original (Roth, 1971): the lack of theoretical foundation and empirical verifiability as well as the lack of concretization to specific requirement situations and educational demands of the respective field (Klieme & Hartig, 2007, p. 24).

Aware of the dynamic development of the competence discourse in education and sports science, the authors urge that a continuation of competence orientation in coaches education under the umbrella of the DOSB should take up these current

developments in education science and adapt them to the specific subject (Sygusch & Liebl, 2012, p. 13).

A need for a *DOSB competence model* is also evident in own projects on coaches education. In the above-mentioned DQR expertise, in a project on the Deutsche Sportabzeichen (Sygusch & Muche, 2016), and in the QuaTro study (Sygusch & Ptack, 2017), numerous uncertainties were identified, e.g., a high degree of overlap in the assignment of learning objectives, a partly insufficient separation of knowledge and skills, and associated, less clear derivations for the design of teaching-learning processes.

This is where the *DOSB competence model* comes in, which was developed by the above-mentioned DOSB working group based on the sport specific EKSpO approach (Sygusch et al., i. V.) and adapted for the needs of coaches education in the DOSB and its member associations.

In the following, the educational science connecting points of the EKSpO approach (see chapter 3) are outlined first, followed by a detailed presentation of the DOSB competence model (see chapter 4).

3. EKSpO: Draft for competence orientation in sports

With the draft on competence orientation in sport (Sygusch et al., i. V.) we take up claims of the discourse on competence in educational science and try to enable a subject-specific basis for the methodological-didactical conception (quality development) as well as the empirical analysis of competence-oriented processes and their effects (quality assessment) in sport.³

What does subject-specific mean? This basic idea ties in with general definitions of competencies by prominent educational scientists. For example, Weinert (2001, p. 27) describes competencies as cognitive abilities and skills as well as ... motivational, volitional, and social readiness and abilities to use problem solving in variable situations (...). Klieme and Leutner (2006) define competencies as context-specific cognitive performance dispositions (...) (for) situations and requirements in specific domains. For physical education, Gogoll (2008) defines competence as an ensemble of knowledge and skills to cope with demanding situations in the culture of sport and physical activity. These definitions refer, first, to demand situations that only become *subject-specific* concrete and manageable. Secondly, *knowledge* or *cognitive abilities* are emphasized as a central aspect of competencies.

EKSpO tries to fulfill the claim of a *subject-specific* competence model, firstly, by us-

ing subject-specific situations of everyday sport as a central starting point for the development of the model, and secondly, by taking up the state of knowledge in sports science, which can contribute to competent action in these situations.

Why is there a focus on knowledge? In theoretical approaches and according to empirical findings, knowledge is regarded as the central action-guiding basis of competence. However, there is also agreement that knowledge is central, but not sufficient for the competent solution of challenging situations. Weinert (2001), for example, also links motivational, volitional, and social readiness to problem solving (see above). Baumert and Kunter (2006) highlight value attitudes, motivation, and self-regulation as aspects of professional teaching competencies in addition to professional knowledge. Similarly, RRL (2005, p. 12) argue: Education does not refer solely to cognitive knowledge (...), but equally to emotional, social, moral and sensual aspects of human life. All approaches have in common that the so-called soft aspects such as *values*, *attitudes* and *motivation* are attributed a significance that guides action, but that knowledge is identified as a central aspect of competence. All approaches also have in common that knowledge only becomes significant when it is actually used in problem-solving actions, i.e. when knowledge and skills interact.

Which knowledge areas are relevant in coaches education? EKSpO is oriented towards the related field of teacher education. In the "Model of Professional Competence in the Teaching Profession" (Baumert & Kunter, 2006), *professional knowledge* – differentiated among other things into *subject-specific* and *subject-didactic knowledge* – forms a central basis for action and reflection. In this sense, EKSpO establishes *sport scientific* and *sport didactic knowledge* as a central basis for action and reflection for trainers and exercise leaders.

In addition to the subject-specific claim with the concentration on sports science and sports didactic knowledge and its use (= ability), EKSpO is based on further educational science connection points:

- *Constructive alignment* is based on the principle of coordinating competency-oriented learning objectives, teaching-learning processes and examinations (e.g. Schaper & Hilkenmeier, 2013, p. 22). Ideal alignment occurs when concrete learning objectives are systematically addressed in learning situations and when examinations test exactly what has been formulated in objectives and targeted in learning situations.

² The DQR (German Qualifications Framework for Lifelong Learning [AK DQR, 2011]) aims to make acquired competences in formal and non-formal education areas transparent. Expert reports on the classification of the RRL in the DQR (levels 1 to 8) showed that the formulated competence objectives from the C license (level 4.1) to diploma trainer (level 6.3) have high values for the non-formal education sector (Sygusch & Liebl, 2012; Sygusch, Liebl & Töpfer, 2013).

³ EKSpO is initially to be understood as an "overall sports design" that is geared towards various fields of action, including coaches education, sports teacher education, and physical education.

⁴ Publications are available on sports teacher education (Ahns, 2019; Sygusch, Jäger, Brandl-Bredenbeck & Lutz, 2017) and on physical education (Sygusch & Hapke, 2017; Liebl, Ptack & Sygusch, 2018). In coaches education, materials have been produced in the subject areas of the Deutsche Sportabzeichen (DOSB, 2017), inclusion (DOSB, 2017-2019), integration (DOSB, 2019), and competitive sports (QuaTroPLUS project).

• *Competence-oriented task culture* describes a basic understanding of teaching-learning situations that starts from the learning processes to be stimulated in learners. This is associated with features such as cognitive activation, relevance to the life world, subject orientation, structuredness, and reflection (e.g. Klein-knecht, 2010; Pfitzner & Aschebrock, 2013).

With these educational and sports science connecting points, EKSpO was initially developed "theoretically" and has since been further developed and adapted in numerous cooperative planning processes with experts in physical education, sports teacher education, and coaches education.⁴ In this way, a theory-guided and practice-oriented *blueprint for competence orientation in sport* has emerged, which includes a *three-dimensional learning objective grid* as well as *coordinated principles for task and examination culture*.

4. DOSB competence model: requirement situations, learning objective culture, task culture, examination culture

The competency model forms a pillar of quality development and assessment in

coaches education. As a framework model, it should be applicable to cross-sport and sport-specific education courses at all license levels, as well as to continuing and further education, depending on the prerequisites and needs of the member associations.

The *model* picks up on the cultural change in educational work, one of the basic principles of which is an increased orientation towards the learner, in this case towards educating coaches and exercise instructors. The *competence model* is to be understood as a *vivid orientation framework*, by no means as a rigid standardization instrument. It is intended to enable participating associations, coaches, and coaching prospects to develop a competence orientation in which they can develop *their* association- and sport-specific education and sports culture.

Figure 1 depicts the starting point and the cornerstones of the *DOSB competence model* as a relationship triangle, which - in the sense of constructive alignment - expresses the coordination of competence-oriented *learning objective culture*, *task culture* and *examination culture* (see Part 2, page 12 ff.). The starting point is the *requirement situations* of training and competition.

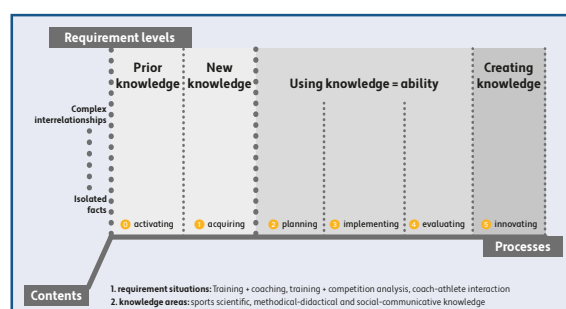
Requirement situations

The starting point for the further considerations on learning objectives, task and examination culture are concrete *requirement situations* of everyday training and competition, i.e. precisely those situations for which competencies are to be developed in the respective training courses. The *areas of knowledge* that are addressed in the training courses are derived from these situations.

What are the typical requirements of trainers and exercise leaders? First of all, we distinguish - independent of specific education courses - four overarching requirements:

- *Designing* learning and training processes, e.g. planning and evaluation of training, setting and correcting training and exercise tasks, etc.
- *Coaching* in competition, e.g. planning tactics and assigning tasks, giving instructions, conducting half-time talks, etc.
- *Analyze*, e.g., movement or game analysis, measure conditional skills, record performance trends, identify team cohesion, etc.
- *Interaction* especially with athletes, e.g. giving feedback, praising and criticizing, advising and motivating etc.

Figure 1:
DOSB Competence
Model - Relationship
Triangle with Starting
Point Requirement
Situation "Training and
Competition"



What knowledge (and skills) do coaches and exercise instructors need to act competently in such challenging situations? Here, the DOSB competence model combines the above-mentioned EKSpO considerations (sport-scientific and sport-didactic knowledge) with the categorization of the RRL (professional competence, methodological/teaching competence, personal/social-communicative competence).

The DOSB competence model thus focuses – in addition to so-called soft aspects such as values, attitudes and convictions – on sports science knowledge, methodological-didactic knowledge and social-communicative knowledge. These three areas of knowledge are differentiated again considerably (Figure 2).

Sports science knowledge is based on various sub-disciplines, e.g. exercise and movement science, sports psychology, sports medicine, etc. Sport-specific knowledge is applied as a central area of knowledge. These sub-disciplines are also further differentiated; for example, training science in performance diagnostics, training control, periodization; sports psychology, for example, in motivation or psychosocial development characteristics of adolescents. Similarly, methodological-didactic (e.g., planning and evaluation of training, use of media) and social-communicative areas of knowledge (e.g.,

communication, joint responsibility/participation) are also differentiated.

It should be emphasized once again that this knowledge only becomes significant when it is actually used in action, i.e. when *designing* training, *coaching* in competition or *analyzing* training or competition, i.e. when knowledge is applied as the basis for reflected ability.

Recommendations for quality development:

In order to systematically orient oneself to requirement situations, it is first necessary to determine which **overarching requirement situations** are typical for coaches and exercise instructors and which sport-scientific, methodical-didactic and social-communicative knowledge can contribute to mastering these requirements.

Learning Objective Culture

The *learning objective culture* is based on the fundamental principle that training courses and concrete teaching-learning situations are oriented to targeted learning outcomes, i.e. objective ideas about which competences coaches and exercise instructors should possess in order to cope with concrete challenging situations. This means that it is initially less a

question of what content is dealt with in the training, but rather what goals are aimed for → *From Input to Outcome!*

The *learning objective culture* is the basis for a systematic classification, (further) development and formulation of competence-oriented learning objectives. The core of the learning objective culture is a grid with three dimensions: *Content, processes and requirement levels* (Figure 3).

Learning objective culture: content dimension

The *content dimension* is used to select education content for which competence-oriented learning objectives are then developed. Following the starting point mentioned above (see section "Requirement situations"), *content* is substantiated via concrete requirement situations and relevant knowledge areas in each case. This requires a sport-specific or topic-specific specification of requirement situations and knowledge areas at the level of individual training courses and license levels (Figure 3).

1. It is a question of which concrete requirement situations – in the areas of designing training, coaching in competition, analyzing training and competition, interacting with athletes – the respective training courses and license levels should prepare for.

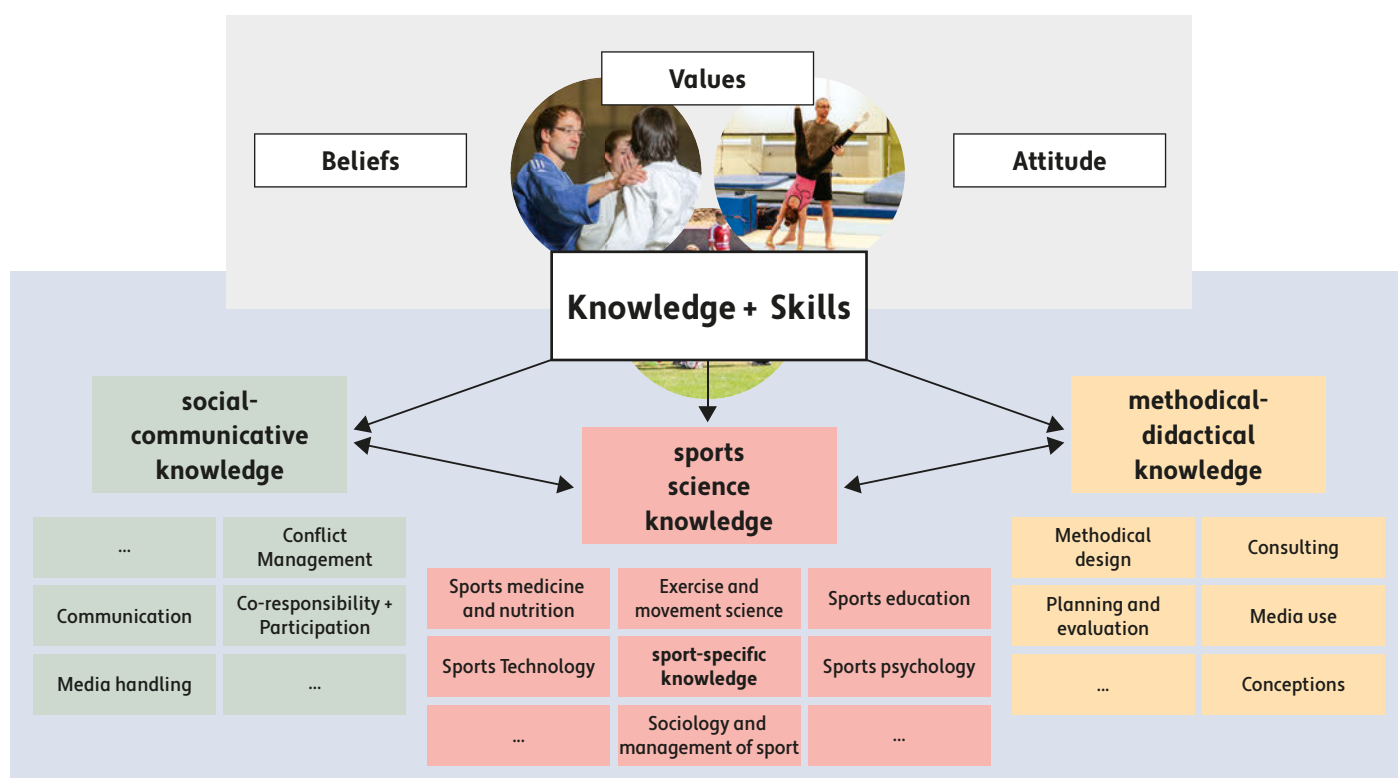


Figure 2: Knowledge areas on competencies of trainers and exercise managers

2. It is a question of which concrete *sport-scientific, methodical-didactic* and *social-communicative fields* of knowledge are to be used in the respective training courses.

The RRLs already contain a comprehensive selection of content and knowledge areas. These are taken up in the training documents and the training practice of the (most) federations, supplemented and concretized sport-specific.

For a differentiation and deepening of relevant areas of knowledge, the current state of *knowledge of sports science, methodological-didactic* and *social-communicative knowledge* is the central basis.

The selected and differentiated contents eventually flow into the development of competence-oriented learning objectives on the *process* and *requirement dimension*!

Recommendations for quality development:

In order to define **training content**, it is first necessary to determine which **sport-specific** or **subject-specific requirement situations** are typical and are "stored" at individual license levels.

At the level of the RRL as well as the training documents of the member associations, existing contents as well as underlying requirement situations and knowledge areas are then to be examined.

From the sports science, methodological-didactic and social-communicative knowledge spectrum, it is then necessary to select which **specific knowledge** is required to cope with these challenging situations

Learning objective culture: process dimension

The *process dimension* describes the activity steps of *knowledge acquisition* and *use* that individuals go through in order to develop competencies (see Figure 3). Of central importance here is the systematic use of previously acquired knowledge in practical action, i.e. the interaction of knowledge and skills.

The core is formed by activity step ③ *Use knowledge - implement*, which maps the requirement situations of everyday training and competition in the "laboratory situation" of education practice. Based on activity step ③, the surrounding activity steps for ① *acquiring knowledge* and for ② *planning* and ④ *evaluating* are created.

In this way, the systematic interplay of acquired knowledge and its active use – of *active knowledge* and *reflected ability* – is laid out on the *process dimension*. Knowledge and skill are framed by the activity steps ① *Activate prior knowledge* and ⑤ *Create knowledge: innovate*, which to a certain extent map the entrance and exit of training courses.

In the following, activity steps ① to ⑤ are outlined and illustrated with exemplary competency-based learning objectives on the topic of "Developmentally Appropriate Child and Youth Training":

① *Activating prior knowledge* marks the entry into a specific training course. It can be assumed that prospective license holders are unlikely to enter the process of formal competence development without *subjective experiential knowledge*. At higher license levels, *objective knowledge* should already be available.

The activity step *Activate prior knowledge* aims at "eliciting" subjective or objective prior knowledge and thus has its significance in the area of task culture (more on this in the next issue). Learning objectives and examination performance are not associated with it.

① *Acquiring knowledge* includes the perception and enrichment of new knowledge as well as the networking with existing prior knowledge. The activity step is understood as an active process of ex-

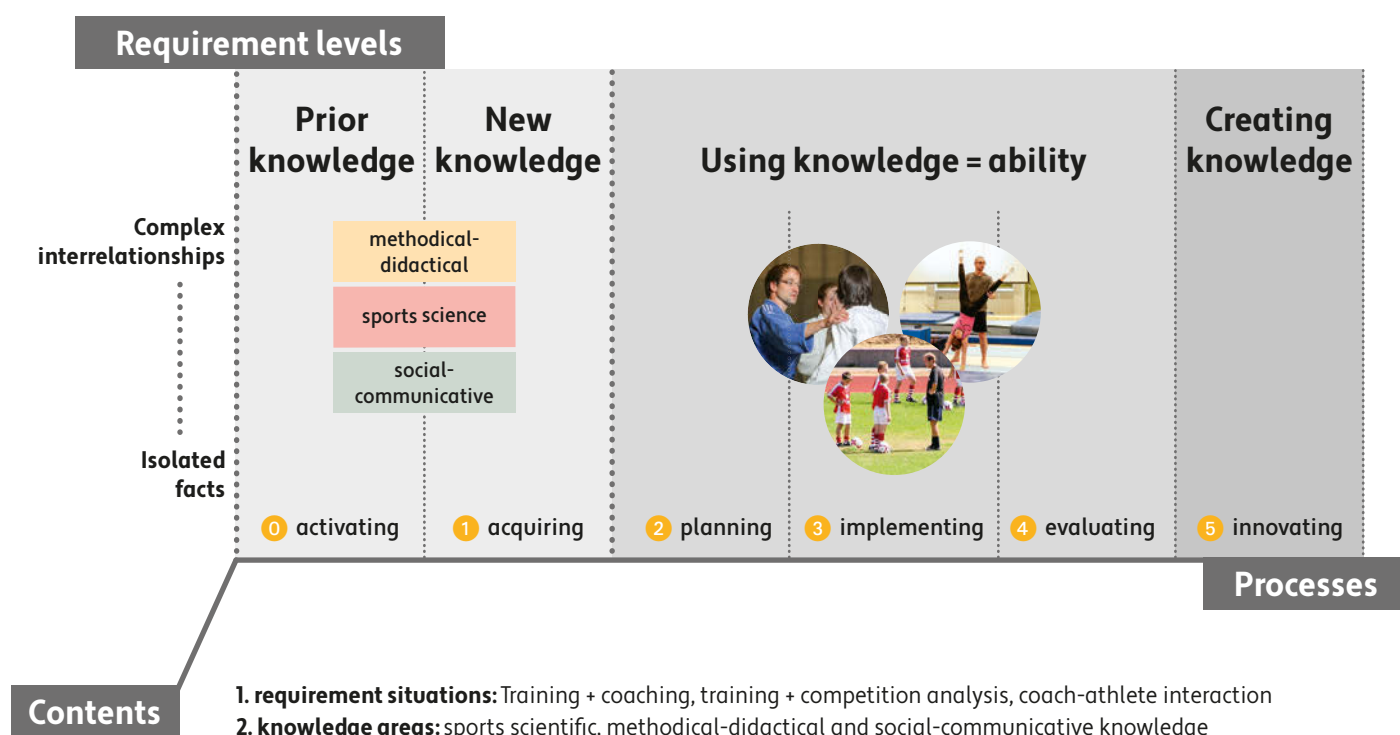


Figure 3: Learning objective culture with content, process and requirement dimension

ploring, organizing and interpreting objective facts in one's own actions. The goal lies in the comprehensive understanding of new objective factual knowledge and its availability for transfer into practice → active knowledge!

*Exemplary Learning Objective⁵: Coaches and exercise instructors **reflect** motor (or psychosocial) development stages of children and adolescents and **explain** selected characteristics using specific examples.*

② *Using knowledge – planning* refers to the transfer of the (①) acquired knowledge into concrete action. The goal is to plan one's own actions based on knowledge and to make decisions for action → reflected skill!

*Coaches and trainers **transfer** general motor and psychosocial characteristics to their own training group and training planning, **concretize** goals and **determine** appropriate exercise and game forms.*

③ *Using knowledge – implementing* is a central activity step that depicts challenging situations as a "simplified sport reality". The use of (①) acquired knowledge and previous (②) action planning is tested and implemented in "laboratory situations" of a license course or home training. The goal is to implement and adapt knowledge-based planning in variable requirement situations of the sport → reflected skill!

*Coaches and trainers **implement** their training plans and **train** their training group taking into account motor and psychosocial developmental characteristics.*

④ *Using knowledge – evaluating* includes the follow-up and evaluation of the previously (③) implemented own action on the basis of the (①) acquired knowledge and the (②) action planning. The aim is to highlight differences between planning and implementation, to evaluate feasibility and, if necessary, adaptations and to draw conclusions for future action → reflected skill!

*Coaches and trainers **contrast** their planning and implementation and **evaluate** success and difficulties in addressing developmental characteristics.*

⑤ *Creating knowledge – innovating* includes the transfer and further develop-

ment of (①) acquired and (② - ④) used knowledge to unknown requirement situations as well as to the individual design of one's own role as a coach or exercise instructor. The goal is to develop innovations (solutions, concepts, recommendations for action), to make them available to others and to continuously develop one's own role → well-founded creation!

*Coaches and exercise instructors **design** principles for developmentally appropriate child and youth training in the own club and **establish** their basic understanding of developmentally appropriate child and youth training.*

This activity step marks the exit into independent work as a coach or exercise instructor (see Figure 3).

Recommendations for quality development:

In order to ensure the **interplay of knowledge and skills**, it must be determined – at the level of the training documents (RRL + associations), specific course documents down to individual teaching/learning units – and, if necessary, further developed whether knowledge and skills are aligned in formulated learning objectives.

Learning objective culture: requirement dimension

The *requirement dimension* describes levels on which competence-oriented learning objectives for knowledge acquisition (①) and knowledge utilization (② - ⑤) are mapped.

Different requirement situations are of different complexity and thus of different difficulty. For example, the design and implementation of a complete training unit is likely to be much more complex than a task for a single movement element. As the complexity of a requirement increases, an increasing number of knowledge components are required to solve it. The number and complexity of the necessary knowledge components form the orientation point of the level scaling. We first roughly distinguish between a *high* (complex interrelationships) and a *low* level (isolated facts) (Figure 3).

Complex contexts: At this *high* level, many interlinked knowledge components (from different knowledge areas) are required to meet *complex requirements*, for example, exercise science knowledge on principles of load dosage **and** methodological-didactic knowledge on the con-

struction of game forms and communicative knowledge on principles of feedback. *Complex* requirement situations are, for example, complete training sessions, competition preparation incl. competition coaching, competition analysis incl. debriefing, etc.

Coaches and exercise instructors **explain** and **distinguish** motor and psychosocial development characteristics of different age groups and **design** training taking into account the development characteristics of their athletes.

Isolated facts: At this *low* level, a few individual facts (from individual knowledge areas) and simple connections are required to solve *isolated* requirements. These are, for example, movement prompts or error corrections in the exercise series, responding to statements in the reflecting conversation or the use of grips when providing assistance.

*Coaches and exercise instructors **name** individual motor development characteristics of 8- to 10-year-old athletes and **take** these **into account** when setting tasks.*

Between the low level (→ isolated facts) and the high level (→ complex interrelationships), a differentiated scaling of the levels unfolds. The level of competence increases as more knowledge components interact to cope with increasingly complex situations (Figure 3).

Recommendations for quality development:

For the definition of different **requirement levels**, it is helpful to break down selected requirement situations in such a way that learning objectives as well as learning and examination tasks (more details on this in the next issue) can be derived at different levels.

In addition, it must be clarified to what extent requirement levels of training courses increase along the license levels; i.e., which requirement level is targeted at the respective license levels.

Learning objective culture: Conclusion

The *learning objective culture* forms the basis for the classification, (further) development and formulation⁶ of competence-oriented learning objectives for all training courses. The competence definition of the DOSB model is derived from

the three-dimensional grid of content, processes and requirement levels:

Coach and exercise instructor competences include sports scientific, methodical-didactic and social-communicative active knowledge and its reflected use (= skill) for the solution of variable requirement situations in training and competition!

On the *process dimension* of the grid, the basic principle of systematically linking *active knowledge* to *reflected ability* is laid out in that learning objectives for knowledge acquisition (1) stringently lead to learning objectives for knowledge utilization (2 - 5). This basic principle of the *learning objective culture* flows into the other cornerstones of the relationship triangle - the *task culture* and the *examination culture*.

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⁵ The verbs used are highlighted here because they emphasize the reference to the respective activity step in the linguistic formulation of learning objectives, learning tasks and performance tasks. Notes on this can be found in the DOSB education network at <https://bildungsnetz.dosb.de/file/36701>.

⁶ Basic principles for the linguistic formulation of learning objectives are available: <https://bildungsnetz.dosb.de/file/36701>. However, access is only possible for authorized persons.

Ralf Sygusch/Martin Muche/Sebastian Liebl/Wiebke Fabinski/Gudrun Schwind-Gick (from: *Leistungssport* 2/2020)

THE DOSB COMPETENCE MODEL FOR COACHES EDUCATION

Part 2: Task and Examination Culture

In the first part of the article, "competence orientation in coaches education" was addressed from the perspective of the DOSB and sports science. In the presentation of the DOSB competence model, the starting point 'Requirement situations training and competition' and the 'Learning objective culture' were reported in part 1 (Figure 1). The following focuses on the task and examination culture.

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Task culture

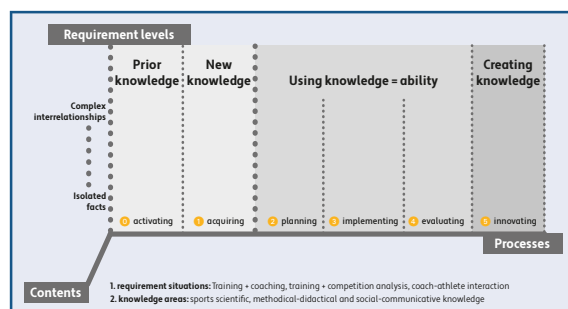
The *task culture* starts from the basic principle that learning processes are to be thought from learners. It is not about "inculcating learning material" in *teaching processes*, but rather about how *learning processes* of competence development can be triggered and accompanied in coaching prospects and exercise instructors → *From Teaching to Learning!* Following on from the *learning objective culture*, one requirement of the *task culture* is now to systematically initiate the connection between active knowledge and reflected ability.

For the design of learning situations, a distinction is made between *learning tasks* and *task-related activities*. Central features of competence-oriented *learning tasks* and task-related activities are *cognitive activation*, *relevance to the every day lives*, and *reflection* (Figure 2).

Task culture: learning tasks

Learning tasks are the core of every learning situation. As methodical "tools of instructors", they are intended to trigger learning activities in learners that involve independent examination of concrete requirements. *Cognitively activating tasks* are to be designed in such a way that pri-

Figure 1:
DOSB Competence Model - Relationship Triangle with Starting Point Requirement Situation "Training and Competition"



Learning Objectives Culture



or knowledge is helpful but not sufficient, i.e. that relevant information for solving the task is missing and thus "new knowledge" becomes necessary.

Exemplary learning task: Design a training session on the back walkover with 11-year-old gymnasts. Consider motoric and psychosocial development characteristics of this age group.

In the context of a B-license education, basic prior knowledge about the back walkover should already be available. "New knowledge" should be necessary on motoric and psychosocial development characteristics → What are development characteristics? → In which development phase are my athletes?

In this way, cognitive activities are to be stimulated in the learners. This means the independent examination of tasks by means of thinking and communication processes, trying things out, experimenting, discussing, etc. Videos, pictures, texts or even lectures can be used as sources for the development of "new knowledge". Learning tasks are to work out and discuss "big points", to make a comparison with one's own experiences and previous knowledge, to compare contradictory facts, links and delimitations of different solutions, to apply and test "new knowledge". In the DOSB competence model, *learning tasks* are understood as *learning opportunities* for the coaching prospects and exercise leaders to explore, classify and apply new knowledge; or in the language of the *learning objective culture* (see above): to activate prior knowledge, to acquire and use new knowledge and to create knowledge.

In this sense, *cognitively activating learning tasks* are based on all steps of knowledge acquisition (1) and knowledge use (2-5) and thus anticipate the respective learning objectives (Figure 2). In the following, "task-cultural basic ideas" of the activity steps 0 to 5 are outlined and exemplary *learning tasks* are formulated, which are oriented towards the learning objectives on the topic of *development appropriate child and youth training*.

0 Activate prior knowledge: Subjective experiential knowledge or objectively acquired prior knowledge (e.g., from previous licensing levels) form an important basis for entry into further knowledge and competence acquisition. Learning tasks for this activity step aim to *elicit such prior knowledge*.

Exemplary learning task: Look at the pictures of training situations with under 11 and under 19 juniors and compare the two "teams". Report from your own experiences:

- What do you look for in explanations in children's training, and what do you look for in half-time talks with U19 players?
- Name - from own experience - three striking differences between under 11 and under 19 juniors!

1 Acquiring knowledge: Here, new knowledge is actively explored, discovered and developed. In addition, prior knowledge and new knowledge are to be organized, interpreted and connected.

Exemplary learning tasks for the corresponding learning objective Acquire knowledge are listed in Table 1 (on page 14).

2 Using knowledge – planning: With learning tasks for this activity step, (1) acquired knowledge is transferred to concrete requirement situations in training and competition. Relevant knowledge components are selected for selected requirement situations - e.g. the training of specific skills - and used for planning.

See Table 1 for exemplary *learning tasks*.

3 Using knowledge – implementing: Learning tasks here lead into direct knowledge-based coping with requirements close to

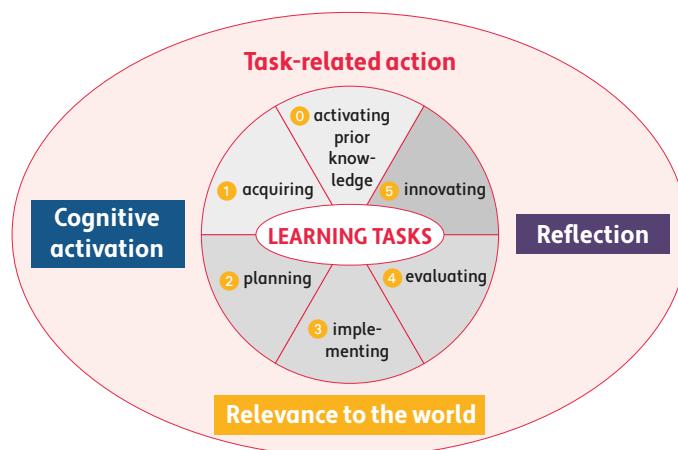


Figure 2: Task culture

everyday life. This is done by testing the previous (2) planning in "simplified laboratory situations" in the license course or in the home training.

See Table 1 for exemplary *learning tasks*.

4 Using knowledge – evaluating: Learning tasks are used here to encourage systematic reflection and evaluation of one's own actions implemented previously (3). In addition, these learning tasks require the participants to draw conclusions for their own future actions.

See Table 1 for exemplary *learning tasks*.

5 Creating knowledge – innovating: Learning tasks encourage the further development of the knowledge acquired (1) and used (2-4), for example, through the design of new solutions, concepts or recommendations for action, as well as their dissemination. In addition, learning tasks, which can also extend beyond the actual licensing course, stimulate the individual design of the role of coaches and exercise instructors.

See Table 1 for exemplary *learning tasks*.

Task culture: task-related action

Task-related action refers to the entire learning situation. It describes how instructors deal with learning tasks, how these are set and moderated, how learners experience guidance, support and stimulation to reflect on their learning activities; in other words, it is about the entire "sideshow" (Figure 2).

Task-related activities should be cognitively activating! On the one hand, this refers to the "big moments" that can be planned, the introduction and setting of tasks, moderation of the processing phase, presentation of results, and reflection. On the other hand, it refers to less plannable "small moments", e.g. giving thought-provoking impulses and feedback, encouraging trial and error, asking questions, asking for explanations and reasons, etc. *Task-related activities should be related to the real world!* This means that learning situations should be directly related to everyday training and competition, i.e. that concrete problems from experienced or future *requirement situations* should be made the topic. In addition to a motivational effect, *relevance to the real world* plays a preparatory role when it comes to applying newly learned competences in everyday training and competition.

Task-related actions should stimulate reflection! Reflection means actively thinking and exchanging ideas about one's own actions in the *laboratory situation* of a training course or in real

	Lerning objectives	Lerning tasks	Examination tasks
0 Activating prior knowledge		<p>Look at the pictures of training situations with U11 and U19 juniors and compare the "teams".</p> <ul style="list-style-type: none"> - What do you look for in explanations in children's training or in U19 juniors? - Name from your own experience 3 differences between U11 and U19 Juniors! 	
1 Acquiring knowledge	<p>Coaches and exercise instructors reflect motor (or psychosocial) developmental phases of children + adolescents,</p> <p>... explain selected features using concrete examples.</p>	<p>There are (a) text modules and (b) training drafts for motor + psychosocial development characteristics. Work on the texts in groups of 3.</p> <ul style="list-style-type: none"> - Compile a list of developmental characteristics on a flip chart. - Assign the characteristics to the training designs and discuss their feasibility in training! 	<p>Describe motor + psychosocial developmental characteristics of an age group.</p> <p>Justify objectives, forms of exercise/play in the context of age-specific developmental characteristics.</p> <p>Explain characteristics of motor development using examples from training (video).</p>
2 Using knowledge - planning	<p>Coaches and exercise instructors transfer motor and psychosocial characteristics to their own training group and planning,</p> <p>... concretize goals</p> <p>... determine appropriate forms of exercises and games.</p>	<p>Design a training session. Selects an exemplary feature from the developed features.</p> <ul style="list-style-type: none"> - Consider this in training objectives and in practice or game forms. - Discuss your training design with partners - match them up. 	<p>Describe the motor 'developmental status' of your training group and differences between your athletes.</p> <p>Formulate 'developmentally appropriate' goals, practice or game forms for taking the ball.</p>
3 Using knowledge - implementing	<p>Coaches and exercise instructors implement their training planning,</p> <p>... train their training group taking into account motor + psychosocial developmental characteristics.</p>	<p>Train at your home club and implement the (joint) training design. Create a video again:</p> <ul style="list-style-type: none"> - Explain your training goals in regard to the level of development of your team (1 min). - Show how you present the designed exercise or game forms to the team (1 min) and how they implement the exercise (3 min). 	<p>Implement your training plan (at your home club). Record the session on video.</p> <p>Make necessary adjustments in the course of training - explain in the video commentary.</p>
4 Using knowledge - evaluating	<p>Coaches and exercise instructors contrast their planning and implementation,</p> <p>... evaluate successes and difficulties in considering developmental characteristics.</p>	<p>Comment on your video:</p> <ul style="list-style-type: none"> - Justify the planning and real-world implementation of objectives and forms of practice and play. - Select 2 (not) successful example situations each - explain success or failure. 	<p>Evaluate the success as well as difficulties in the consideration of developmental characteristics in the training session.</p>
5 Creating knowledge - innovating	<p>Coaches and exercise instructors design principles for developmentally appropriate children + youth training in their own club,</p> <p>... establish their basic understanding of developmentally appropriate child + youth training.</p>	<p>Conceive basic principles for "age-appropriate children and youth training in your club":</p> <ul style="list-style-type: none"> - Create (and give) a short presentation (about 8 minutes) to convince parents of all youth teams of the concept and implementation in training. - Film yourself doing it - comment on the video in 3 places. 	<p>Outline recommendations (approx. 2 pages) for developmentally appropriate training in your club for all ages.</p>

Table 1

requirement situations of everyday training and competition. *Reflection* is seen as an essential step in order to process practical experiences into new insights.

A second aspect is the so-called *meta-reflection*. It is about making sure of one's own learning progress, i.e. recognizing whether and which competences have been acquired, what one now knows and can do more than before. This is considered significant for the self-effective application of acquired competences. In connection with the listed characteristics of *cognitive activation*, *everyday life relevance* and *reflection*, instructors also take on a "new role" as *facilitator* or *learning companion* - and precisely not as instructor and knowledge mediator. This understanding of the role ties in directly with the FGQ's understanding of education (2005, p. 12), in which education is presented as a reflexive process: One cannot be educated, but only educate oneself. Educational processes can (...) at best be stimulated and moderated. Learning content and experiences should always be brought back to the individual and related to his or her experiences.

Recommendations for quality development:

For **learning situations**, it seems to make sense to derive so-called "**laboratory situations**" for training courses from topic- or sport-specific requirement situations and to develop sport-specific **learning tasks** for different contents and levels. On this basis, **learning tasks** for all activity steps of knowledge acquisition (1) and knowledge utilization (2-5) as well as **occasions and methods for reflection** would have to be concretized; if necessary, as a structure of a dynamic pool of tasks and reflections.

Examination Culture

The *examination culture* is based on the fundamental principle that only those competences are examined for which transparent *learning objectives* are available and which have been targeted with corresponding *learning tasks*. In this sense, the *examination culture* is about making the interaction of knowledge and skills the subject of examinations.

While the *task culture* (see above) is about learning and competence development, the *examination culture* is about performance and *proof of competence*. Analogous to the task culture, the orientation is based on the characteristics of *cognitive activation*, *relevance to the daily life*, and *reflection*. In the examination culture, a distinction is made between performance tasks and comprehensive examination situations (Figure 3).

Examination culture: performance tasks

Performance tasks form the core of *examination situations*. Competence-oriented performance tasks are - analogous to learning tasks - always complex and open tasks that have to be solved independently by means of *cognitive activity*. The examinees must independently select aspects that are relevant for the solution of the task from the pool of acquired knowledge and skills. For this purpose, knowledge and skill components must first be available and retrievable. Competence-oriented *performance tasks*, however, are more than just tasks that require "merely" the ability to remember. Competence-oriented *performance tasks* are transfer tasks in which knowledge and skills are to be applied to changed knowledge contexts or requirement situations. In competence-oriented *examination situations*, it is therefore "forbidden" to set tried and tested *learning tasks* again as *performance tasks* in examinations.

Performance tasks are intended to test the interplay of knowledge and skills, which is targeted in the *learning objectives* and *learning tasks* of the activity steps of knowledge acquisition (1) and knowledge use (2-5) (Figure 3). In the following, "examination cultural basic ideas" of the activity steps 1 to 5 are outlined and exemplary *performance tasks* are formulated, which are oriented towards the learning objectives on the topic of *developmentally appropriate child and youth training*.

1 Acquiring knowledge: Newly acquired knowledge should be reproduced and explained. Reproducing (alternatively: naming, listing, etc.) is initially simple reproduction, the recalling of learned knowledge. Simple reproduction tasks should only be used as 'introductory tasks'. The actual test performance lies in explaining new networked knowledge. For this purpose, performance tasks are to be set as transfer tasks in which knowledge is to be applied to specific contexts.

Exemplary *performance tasks* for the corresponding learning objective and learning task are listed in Table 1.

2 Using knowledge - planning: For this activity step, the ability to (1) relate acquired knowledge to practical requirement situations is to be demonstrated. The examination performance lies in planning one's own actions on the basis of knowledge and making appropriate decisions.

See Table 1 for exemplary *performance tasks*.

3 Using knowledge - implementing: Performance tasks aim to implement (1) acquired knowledge and (2) action planning in practical action. The examination performance is recognizable in whether and to what extent knowledge and planning are consistently realized and, if necessary, flexibly adapted.

See Table 1 for exemplary *performance tasks*.

Performance tasks that go beyond the "simple" implementation of planning link this activity step with further activity steps. The task "Explain adjustments" formulated in the example can also be used for (1) Acquire knowledge; the task "Make adjustments" marks the transition to (4) Use knowledge - evaluate.

4 Using knowledge - evaluating: This is about the ability to evaluate planning and implementation on the basis of knowledge. The examination performance lies in evaluating one's own actions against the background of the (1) acquired knowledge as well as the (2) planning and, if necessary, to carry out a modified planning.

See Table 1 for exemplary *performance tasks*.

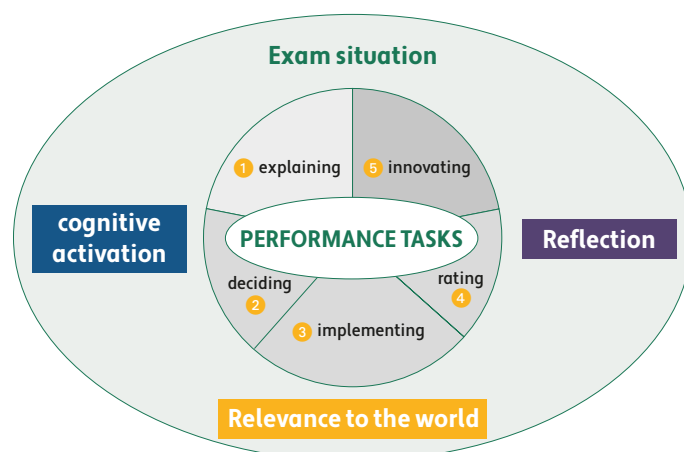


Figure 3: Examination culture

5 Creating knowledge - innovating: It is to be examined whether and to what extent a flexible further development and dissemination of the acquired and used knowledge can be carried out. The examination performance lies in developing and justifying innovative new things (e.g. recommendations for action) with the inclusion of the (1) acquired knowledge and the experiences gained with it (2-4).

See Table 1 for exemplary *performance tasks*.

In learning objectives and learning tasks (see above) for (5) *Creating knowledge - innovating*, the individual design of the role of coach and exercise instructor is also targeted. Since subjective meanings and values are particularly shaped, an objective evaluation in examination situations does not seem appropriate.

Examination culture: Examination situation

An entire *examination situation* consists of several *performance tasks* that are coordinated with each other. Thus, we speak here - in extension of individual *performance tasks* - of *complex examination situations* which are to be solved independently by means of cognitive activity. "Complex" means here that an *examination situation* is always oriented towards several activity steps. The above-mentioned examples of the *performance tasks* of individual activity steps can be bundled into the following *overall task* (e.g. project work):

- Design an age-appropriate training session on ball carrying, conduct (video recording) and evaluate it!
- Select a specific age group. Consider and explain motor development characteristics!

Regarding the basic principle of the interplay of active knowledge and reflected ability, examinations are strictly speaking only *competence-oriented examination situations* if *performance tasks* bring together the activity steps for (1) knowledge acquisition and (2-5) knowledge use. For this purpose, we distinguish between a *minimum* and an *ideal standard*.

Minimum standard: This lies in the linking of a *performance task* for the use of knowledge (2-5) with a *performance task* for the explanation of the knowledge components used (1). Intermediate examinations in which (1) acquired knowledge is recorded in isolation but linked to examinations on knowledge utilization during the course are conceivable. Something similar would be conceivable in the format of a portfolio examination. Competence-oriented examinations on knowledge utilization (2-5), on the other hand, are not competence-oriented without the inclusion of relevant knowledge components.

As formats, written examinations or examination discussions seem suitable, especially for (1) acquiring knowledge and (2) using knowledge - planning. Exams in multiple-choice format are not considered to be competence-based exams.

Ideal standard: This lies in the linking of several *performance tasks* for knowledge utilization (2-5) with a *performance task* for explaining the basic knowledge (1). Project work, for example, is suitable as a format, since the openness and complexity of tasks are broadly defined and concretely linked to the requirement situations of the coach's and exercise instructor's daily life. Moreover, a project work (see also example above) can be combined very well with presentations, homework or portfolio.

In addition to *cognitive activation*, there is - parallel to the task culture - also an orientation towards the features of *daily life relevance* and *reflection* in *competence-oriented examination situations* (Figure 3). *Examination situations should be related to the real world:* This can be ensured via various aspects:

- *Performance tasks* refer fundamentally to specific *requirement situations* of training and competition (see section "Requirement situations" in part I of the article on page 7 f. in this special edition), pick up on these and address complex tasks with *relevance to the real world*.
- "Original target groups" can be "brought in" to *test situations*, for example to design a training session with a "real" youth team.
- *Examination situations* can take place in places that are very *authentically related to the real world*, e.g. directly in the home club. A training could also be video-recorded, shared online and worked on until the final examination.

Examination situations should also include *reflection*: In the sense of so-called meta-reflection, examinees can submit an assessment or expectation of the examination performance in advance in order to discuss this together (examinee, instructor). After an examination performance has been passed, these and further development perspectives can be reflected upon. Such a reflexive "processing" of the examination situation is a conceivable step towards a self-effective assessment and application of the acquired competences as well as towards the individual shaping of one's own role as coach and exercise instructor.

ment and application of the acquired competences as well as towards the individual shaping of one's own role as coach and exercise instructor.

Recommendations for quality development:

For **examination situations** it seems to be helpful to select **examination-suitable requirement situations** with which an examination of the acquired competences can be designed.

On this basis, **performance tasks** for all activity steps of knowledge acquisition and use as well as **reflection methods** with which examination performance and learning developments are addressed would have to be concretized. If necessary, as a structure of a dynamic task and reflection pool.

For association-specific framing, it would also be helpful to define **examination formats** (e.g. projects, portfolios) and **minimum/ideal standards** for linking knowledge and skills.

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COMPETENCE ORIENTATION AND DIGITALISATION IN COACHING

Hardly anything has challenged the didactic teaching work of coaches education in the last ten years as much as the quality development towards "digitalisation" and "competence orientation". Digitalisation is associated with keywords such as multimedia, online environments and, at the latest since Corona, video conferencing (Fabinski & Vohle, 2021). Competence orientation can be characterized by the successful interplay of knowledge and skills, which comes into effect in the culture of learning objectives, tasks, and examinations and – according to the promise – should lead to an effective "outcome" (Sygusch et al., 2020).

So, what are the challenges for the coach developers? Digitalisation and competence orientation are irritating previous teaching work. First, it concerns the skill-

ful use of educational technologies and digital tools, which requires at least a certain affinity for technology (tool set). Second, it concerns the planning and implementation of activating tasks for the interaction of knowledge and skills in a blended learning format (Skill Set). Third, individual beliefs and established habits about teaching and learning are put to the test, for example, in that it is not the selection of content that is called for, but rather the consistent orientation toward requirement situations and concrete goals, as well as empathetic learning support with personalized online feedback (Mind Set).

Challenges of this kind - tool set, skill set, and mind set - can be unsettling and call for stepping out of the comfort zone. Digitalisation and competence orientation demand openness from coach de-

velopers (and the learning coaches) and a further development of the own teaching competence. Sports organisations must recognize and acknowledge the importance of this personnel development process. The good news: digitalisation and competence orientation are working together.

Complementing the articles on digital education (Vohle, 2017) and on the DOSB competence model (Sygusch et al., 2020), this article sheds light on the connecting lines: the interplay between both approaches (Vohle, 2022). Our guiding thesis is that competence orientation can benefit from didactically motivated digitalisation and provide innovative impulses.

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1. Competence orientation through digitalisation

In an increasingly digital society, educational processes in schools, universities, the world of work and thus also in the German Olympic Sports Confederation (DOSB) can no longer be justified without digitalisation (cf. Wendeborn, 2021). At the same time, digitalisation in the sense of digital transformation remains "blind" without a substantive and normative definition. If this idea is incorporated into the existing DOSB competence model (Sygusch et al., 2020), then digitalisation plays a role at more or less every level of the competence triangle (Figure 1) or must respectively be considered by each cornerstone:

- The **culture of learning objectives** focuses on the requirement situations of coaches. Certainly, the vast majority of training and coaching situations involve face-to-face contact in the sports hall or on the sports field (Sygusch et al., 2020a, p. 44). However, the situations in which coaches are required to work already in-

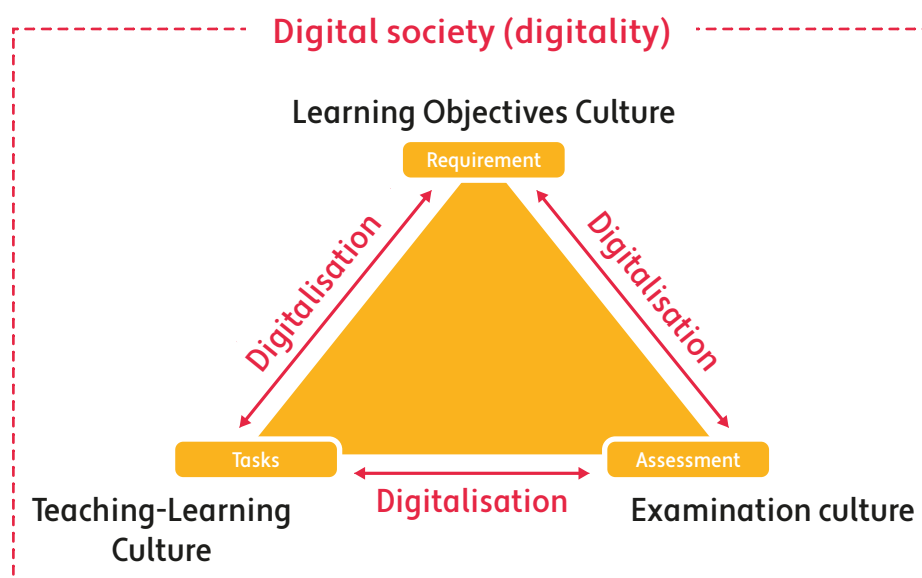


Figure 1: Digitalisation in the DOSB competence model

tegrate digital possibilities, for example in training preparation¹ or in the analysis and evaluation of training and competition data.

- The **teaching-learning culture**² focuses on task design. Tasks translate learning objectives into concrete learning activities, but they also prepare students for examination situations. Both perspectives are considerably expanded by digital possibilities (cf. Section 2).

- Assessment, i.e. the evaluation (and reflection) of competences in the broadest sense, is at the center of the **examination culture**. Here, too, digitalisation opens up new opportunities for determining the development of competences (e.g., portfolio work) and for checking to which extent learning objectives have been achieved.

Explaining all three relationships would go beyond the scope of an article. We have therefore decided to focus first on the **teaching-learning culture** (Figure 2). Here, competence orientation and digitalisation are in a close exchange. This interplay can be concretized with the following questions:

1. What contribution do *digital formats* such as "blended learning" offer to connect the activity steps of competence acquisition and different learning locations? How can "blended learning" contribute to the interplay of knowledge and skills?
2. What opportunities do *digital tools* provide to encourage coaches in education to engage in independent cognitive engagement with tasks, such as exploration and experimentation,

analysis, comparison, and cooperative problem solving?

3. How can digital networking and transparency trigger a *digital teaching attitude* among coach educators that makes it more likely that competence-oriented teaching-learning processes will also have a lasting effect?

2. Interplay in three aspects

In order to further differentiate the interplay between competence orientation and digitalisation, we take up the categories of *format*, *tool*, and *attitude* and analyse their connection to competence orientation.

Competence orientation through digital formats (skill set)

Early on, media didactics spoke of a didactic innovation through blended learning (Reinmann, 2003). Innovative was not only the simple mixture of online and face-to-face phases, but also the interplay of different learning phases and locations, diverse methods, and appropriate educational technologies to head for challenging learning goals. "Blended learning" understood in this way forms the qualitative basis for methodically implementing the didactic features demanded by competence orientation. Using the keywords "Acquiring knowledge, using knowledge and creating knowledge" (Figure 3) from the DOSB competence model (p. 45 f.), we would like to explain the "blended learning" format using an example:

One way of implementing blended learning for competence orientation in coaches education is to create a three-phase structure consisting of online, face-to-face and online: The on-site presence in the sports school can be extended by asynchronous – i.e. time-shifted – learning phases at home or in the home club. For example, a training course begins with an **online phase** in which the participants work on tasks asynchronously in a time window of, say, seven days. In the process, prior knowledge can first be acti-

vated by recording their own training in their home club on video and commenting on sequences from it. In a next **online task**, this prior knowledge is confronted and connected with "objective" knowledge from sports science (e.g., via instructional videos, texts, digital lectures): How do I do it? What do the teaching experts recommend? How does one relate to the other? This is exactly what is meant by "acquiring knowledge"!

With this networked knowledge, the **attendance phase** is entered. At the sports school, the "new knowledge" flows into the planning of concrete training measures, which are practically implemented and evaluated on the field. Here, the presence enables spontaneous reflection processes, in which feedback and corrections by coach developers and peers are also integrated.

In the final **online phase**, further tasks aim to deeply anchor the networked and tested knowledge through systematic reflection processes – also with reference to the preliminary phase and, if necessary, further testing in the home club – and thus to create new, reflexive action knowledge for oneself personally.

Competence orientation through digital tools (tool set)

So far, we have not specifically talked about digital media, online learning environments, digital learning tools, in short: educational technologies (Niegemann & Weinberger, 2020). As the term implies, digital technologies should be called educational technologies when they are used in (non-)formal educational settings for learning purposes. Since educational technologies are technical products or the result of certain understandings of teaching and learning (learning paradigm), they can also be roughly divided into types: There are educational technologies that serve more to convey or transfer information, and those that are characterised by users becoming active themselves and producing content (*user-generated content*). This empowerment of the user to produce content corresponds with a constructivist understanding of learning that focuses primarily on self-activity, social exchange, and fellow learners (Reinmann & Mandl, 2006). If one looks at current educational technologies with symbolic, logical and enactive symbol systems against this background of the idea of the participatory web (cf. Bruner, 1974), then one can exemplarily name "weblogs" for writing texts, "concept maps" for creating knowledge visualizations and "video annotations" for commenting on audio-visual media.

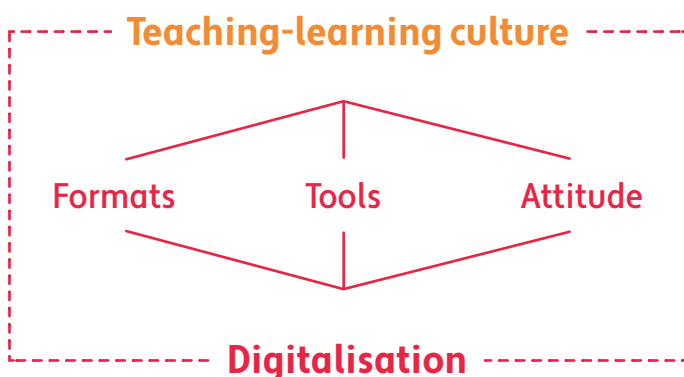


Figure 2:
Digitalisation in the
competence-oriented
teaching-learning
culture

¹ For example, digitally available training tools: www.dfb.de/trainer

² The term "task culture" is still used for "teaching-learning culture" in the DOSB competence model (e.g. Sygusch et al., 2020a, p. 43). In ongoing exchanges with sports associations, "teaching-learning culture" has proven to be more practical.

All three digital tools are characterized by their asynchronous and construction-oriented use, i.e., people use them in a time-shifted manner and also work collaboratively on knowledge products, which is why they are also referred to as cognitive tools (Vohle, 2009). Since the beginning of the corona pandemic at the latest, these tools have been systematically supplemented by the use of video conferencing systems and whiteboards, in which simultaneous, i.e. synchronous, exchange between people and visually supported collaboration are possible (cf. Figure 4).

For the competence-oriented teaching-learning culture, asynchronous tools are particularly an "advantage" because they require, and thus support, deep processing of information through independent and collaborative knowledge production, in line with the characteristics of cognitive activation, relation for everyday life, and reflection (Sygusch et al., 2020b, pp. 46-48), specifically:

- **Cognitive activation:** If, for example, I am given the task of not only watching a video on the topic of coach behavior, but also actively commenting on the parts of the video where I have questions, want to formulate my own thoughts or express criticism, then this forces me to engage in independent and constructive discussion and prevents passive consumption of the video.

- **Relation to everyday life:** If, for example, I am given the task of recording, presenting and discussing my own training in my home club on video (see example in section Skill Set) or of testing training plans from the attendance phase in the home training (see example Tool Set below), documenting them digitally and presenting them, then a reference to everyday training (= relation to everyday life) can hardly be realized more directly.

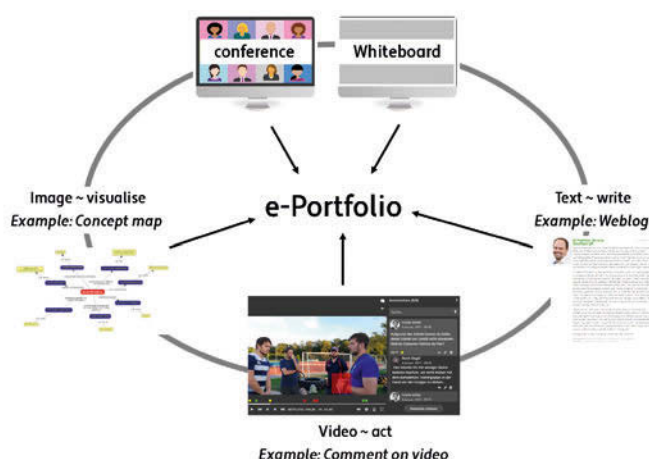


Figure 4: Competence-oriented learning tools



Figure 3: Competency-based blended learning (basic model)

- **Reflection:** Reflecting on my own coaching actions (planning, implementation, evaluation) and my own learning progress in the above-mentioned digital tasks is an essential step in processing these practical experiences into new insights. Digital tools (e.g., e-portfolio, video annotations, weblog) require such in-depth reflection and, in turn, enable immediate feedback from trainers.

Of course, it is now important to combine this technological potential with intelligent didactic learning tasks, because the exact knowledge content that is activated and the depth of processing depends decisively on the quality of the task. In the teaching-learning culture of the DOSB competence model (Figure 5), the task is oriented toward the activity steps for acquiring knowledge (activities 0 and 1), using knowledge (2 to 4) and creating knowledge (5).

We will use an example to illustrate how the activity steps and characteristics of the teaching-learning culture can merge into the "blended learning format":

We revisit the above-mentioned blended learning format (Skill Set section). The participants are to shoot a cell phone video of their own teaching practice in

their home club before the face-to-face meeting in the sports school. Alternating between online and face-to-face phases, you will be given the following tasks for each activity step (0) to (4):

Online phase 1

(0) Activating prior knowledge:

Task: Through a three-minute video, demonstrate (a) what the training objectives are in the session, (b) what the verbal instruction is in front of the team, and (c) how the team implements the exercise form. Upload the video to the online environment (ideally through an appropriate app) and comment on the corresponding parts.

(1) Acquiring knowledge:

Task: Engage with the uploaded text on the topic of "Good Training Practice". Use this theoretical input to comment again on your own training practice in this video. Justify your understanding of good teaching in a maximum half-page blog post - taking into account your prior understanding and insights from the theoretical input (text).

Mentoring: Instructors (and peers, if applicable) provide digital feedback on these blogs.

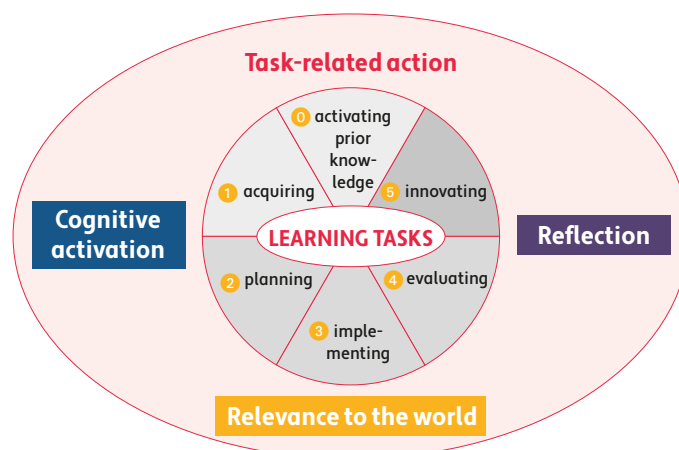


Figure 5: Teaching-learning culture in the DOSB competence model (Cf. Sygusch et al., 2020b, S. 46)

(2) Using knowledge – planning:

Task: In tandems, design a training plan based on the new expertise. Write down this plan in the weblog.

Note: This may require synchronous arrangements organized via a video conferencing system and split screen.

Mentoring: Since instructors read all planning processes in the online environment, they can take corrective action and provide feedback as needed.

Attendance phase:**(2) Using knowledge – planning:**

Task: Discuss your training plan with a tandem (of the same topic), give each other feedback and optimize the planned units. In two tandems, choose one unit to implement together.

(3) Using knowledge – implementing:

Task: Try out the selected training session with the whole group.

Mentoring: instructors and peers provide brief feedback, which is noted by the implementing dual tandems.

Online phase 2:**(4) Using knowledge – evaluating:**

Task: Summarize and structure your own impressions and feedback on your training session in a "concept map". Evaluate the strengths, weaknesses and optimization measures of your training unit on the basis of your new expertise. Compare your "new level of competence" with the one from the first online phase in a blog: To what extent has my teaching competence changed? What didn't work so well for me and why? What dimensions of the training particularly resonated with me? Consolidate video comments, "concept map" and blog content into an e-portfolio and draw a conclusion.

Mentoring: The instructors provide differentiated feedback as a guide for their own next steps.

Competence orientation through digital attitude (Mind Set)

The third and last category to be explained here during the interplay is that of attitude. By a digital attitude in the competence-oriented teaching-learning culture, we mean that instructors first of all see blended learning as a format (see section Skill-Set) that considerably expands the spectrum of the competence-oriented teaching-learning culture. Furthermore, a digital mindset means that instructors master the available tools (see Tool-Set section) and use them in a profitable and innovative way for cognitive activation, lifeworld relevance, and reflection in the teaching-learning culture. By demonstrating how teaching and

learning with digital formats and tools can "work" and contribute to the success of targeted skills acquisition in coaches education, instructors can act as role models for the use of digitalisation, which will certainly continue to develop rapidly, in coaches' everyday training and competition activities.

The digital attitude is so important to us because we have seen from our many years of educational and research experience how attitude and mindset shape the understanding of competence orientation and digitalisation! Anyone who is convinced that learning works according to the transport metaphor, according to the Nuremberg funnel, is more likely to orient himself or herself to the good old curricula or the well-rehearsed set of slides when it comes to competence orientation. When it comes to digitalisation, he or she will also tend to reach for educational technologies that focus on information transfer or automated memory tests. Such an attitude undermines the opportunities that arise respectively from competence orientation and digitalisation. Such an attitude also ignores the potential of the interplay as outlined here. Now, a positive attitude or an attitude conducive to learning does not fall from the sky; rather, they are the result of a socialization process, and they are relatively immune to impulses for change. But here, too, educational technologies and competence orientation offer opportunities for an interplay.

Attitude also means "digital learning support"

In the blended learning scenario outlined in examples 1 and 2, the possibility for teachers to provide feedback on produced outputs was built in at several points: written weblog posts, structural overviews in the form of "concept maps", videos or video comments. These "artifacts" represent intellectual or action-related products of the participants and were usually produced with a great deal of commitment. Accordingly, there is an increased expectation for instructors to give feedback on this personal effort. Such online mentoring of learning activities is central to success, as it demonstrates genuine interest on the part of instructors in the skill development of coaches and their particular case. And this genuine interest is, in turn, an important condition of a teaching attitude that is oriented toward the learners - in this case, the coaching prospects - and that one would also like to see in the coaches and their work with athletes in the long term. Exactly such a long-term idea is

pursued, for example, through the use of e-portfolios: Here, the aim is to document one's own learning process in the context of coaches education and training, to condense the resulting learning artifacts into small learning stories, and ideally to enter into a kind of meta-learning process over a period of years that makes one's own learning (and its conducive as well as obstructive conditions) comprehensible and "presentable". This becomes practically relevant for examinations, for example, when candidates for the A license are to show how they have developed a team over several months. Once e-portfolio work is part of formal training, there is a good chance that the e-portfolio will also be used for one's own further self-organized competence development - a so-called lifelong learning - which after all should not end with a training course (Häcker & Lissmann, 2007).

3. Model-related conclusions

The skill and tool examples were intended to illustrate how the interplay of competence orientation and digitalisation can be "translated" in such a way that we can recommend it to novice teachers with a clear conscience. In this translation effort, however, we have also somewhat simplified or rigidly interpreted the DOSB competence model: We have pretended that the phase distribution should always start with an online phase, and the examples also suggest that this first online phase must always start with knowledge acquisition, i.e., activation of prior knowledge and confrontation with objective knowledge. This is by no means the case! The DOSB competence model effectively allows much more creative scope for didactic imagination in the choice of learning phases and locations as well as the primary knowledge processes (Figure 6). In the example from the contribution to the DOSB competence model (Sygusch et al., 2020b, p. 47), the start of the course in an attendance phase takes place as follows:

Attendance phase:

(0) Activating prior knowledge: Look at the pictures of training situations with E- and A-juniors: What do you look for in explanations in children's training, and what do you look for in half-time talks with U19-juniors?

(1) Acquiring knowledge: Compile a list of characteristics of motor and psychosocial development of adolescents from existing texts.

(2) Using knowledge – planning: Design a unit on age-appropriate technique training. Consider selected development

characteristics in training objectives, practice and game forms.

Online phase:

(3) Using knowledge – implementing: Implement the training design in your home club and create a video for it. Show how you explain the designed exercise or game forms to the team (1 min) and how the group implements the exercise (4 min).

(4) Using knowledge – evaluating: Comment on your video of the training session. Justify the planning and real implementation of objectives, exercises and game forms. Select two successful and two unsuccessful example situations per video commentary.

(5) Creating knowledge – innovating: Conceive basic principles for "age-appropriate child and youth training in your club" and present them in a short talk (approx. 8 min) to the parents of all youth teams. Film yourself and comment on the video in three places!

Didactic imagination usually grows with advancing expertise and experience, and one does well not to repeat the same pattern over and over again if one wants to expand one's teaching competence (Baumgartner, 2011).

4. Conclusion and Outlook

Organized sport and, with it, coaches education and training are facing major challenges: Competence orientation and digitalisation are to be expanded in the course of quality, efficiency and flexibility expectations. Not infrequently, these objectives come into conflict with each other, because not every increase in quality comes with an improvement in efficiency, and not every increase in flexibility also increases quality. Accordingly, it is important to set the *primacy of quality* and ask what contribution competence orientation and digitalisation can make.

The premise of our article was that competence orientation and digitalisation are not two independent tasks, but rather two methodological approaches that mutually enrich and support each other. Three aspects of the interplay were used in order to illustrate what that can look like in concrete terms: blended learning formats connect different knowledge processes and learning locations, digital tools promote cognitive activation and reflection processes, and finally, systematic feedback and portfolio work make an open and appreciative teaching attitude likely.

The training and further education of coaches in the DOSB will continue to

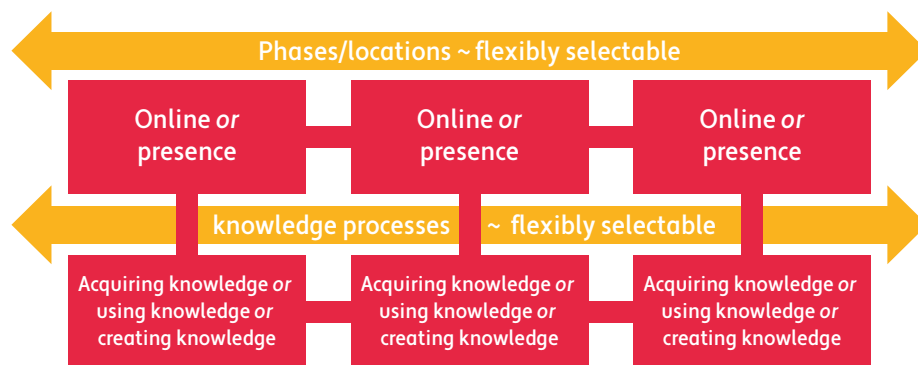


Figure 6: Generic blended learning model based on the DOSB competence model

change in the coming years, and Corona was not the first to call for this. A key condition for the successful implementation of "digital competence" in federal sports federations and umbrella organisations is cooperation: an exchange about implementation conditions for successful practical projects, a sometimes controversial exchange about quality criteria that sports science considers necessary and the sports federation considers feasible, and an exchange of and about tasks and learning resources in which competence orientation and digitalisation have been effectively linked - to name just three examples. The one-two play is a good way to make cooperation practical.

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