

ADVANCES IN GLOBAL EDUCATION AND RESEARCH

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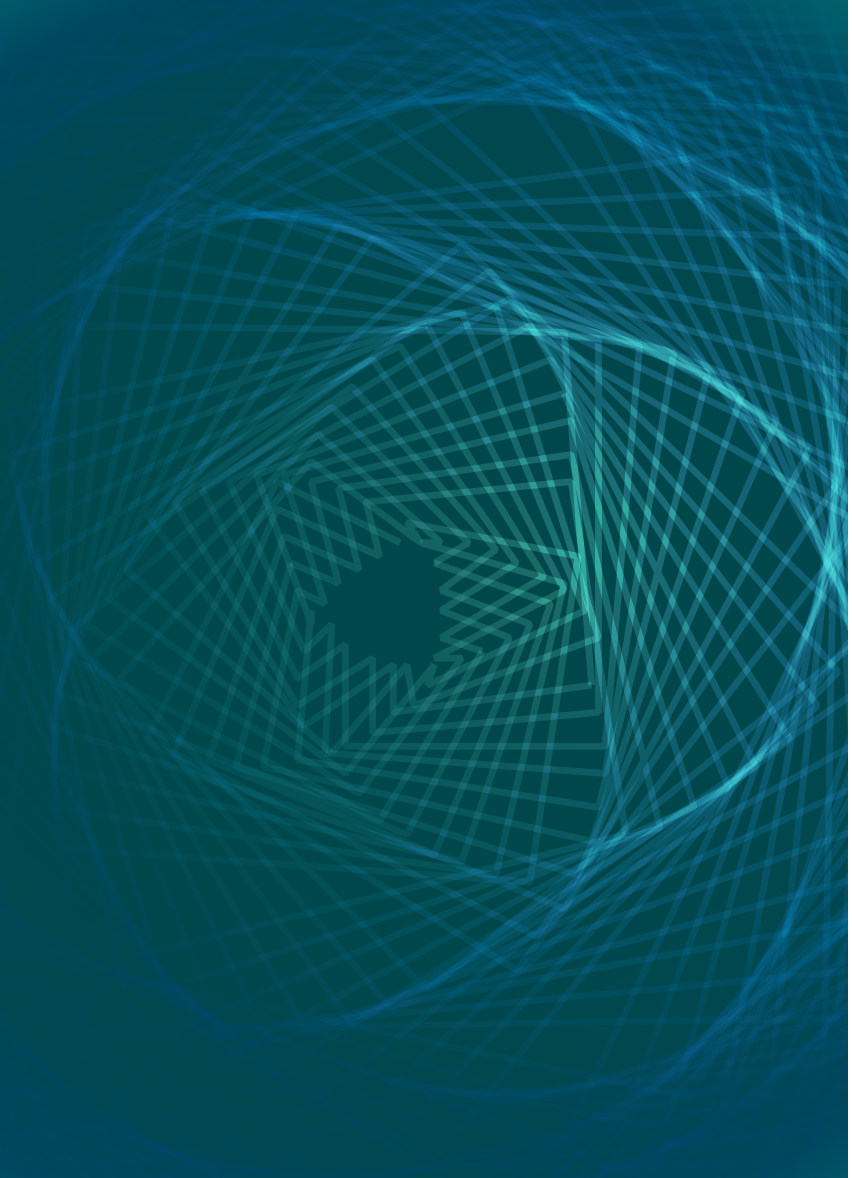
VOLUME 4

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A Pedagogical Framework for a Paradigm Shift in Emergency Paramedic Training: Rescue Service Schools Between Requirement Conflicts and Learning Culture Development

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Abstract

The discussion around changing the culture of teaching and learning with a stronger focus on competence-oriented teaching within a framework of self-development and self-appropriation is not a new discussion in pedagogy. It is apparent that a competence-oriented learning paradigm is required, the need for its implementation has been clearly recognized, however the way to achieve it remains unclear. This paper outlines the paradigm of competence-oriented teaching and learning based on the understanding of constructive alignment. This is the basis for demonstrating, from a system-theoretical perspective, contradictions and conflicting requirements between the entities of the health care system, which can only shape action (action-shaping) and the entities which are able to act (action-capable). A Framework model of field transformation for a paradigm shift in paramedic training has been developed in order to highlight starting points for everyday changes in the learning culture.

Keywords: emergency paramedic education, competence orientation, field transformation, learning culture, person-related development

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Introduction

The discussion about a change of teaching-learning cultures with a stronger orientation towards competence-oriented teaching in the context of self-development and self-appropriation structures is not a new discussion in pedagogy. And yet it seems necessary, because obviously the school world as a field of learning is now confronted with the demands and needs of practice rich in the field of action, and does not meet these demands. At the 16th Stuttgart Intensive Congress on 07.02.2020, the topic “Paradigm Shift in Emergency Paramedic Education“ was intensely discussed in a separate forum with scientists, school administrators, students of professional education, teachers, and students. A newly emerging learning paradigm emphasizing the need for

an implementation of patient-oriented emergency care was recognized, but the way to achieve its goals still needs to be found. For this reason, this paper explores the following questions:

- 1) Which conflicting demands do rescue service schools and teachers face in the design and implementation of their teaching? How do these conflicting demands complicate or prevent a change in the teaching-learning culture? How can we more competently change the role of teachers and students?
- 2) How can the “new” come into the system and a school development be designed that understands schools as learning organizations and enables a transformative learning of school administrators, colleagues and students as a learning culture change, so that they can deal with the special requirements of an emergency situation?

In the sense of the rationale of the object theories of rescue science, this paper shows how action-relevant knowledge and skills can be recognized and applied in the context of competence-oriented vocational education.

The Idea and the Problem

Erpenbeck & Sauer (2000, p. 297) state: that „[a] learning culture that promotes innovation must be competence-based, a competence-based learning culture must promote innovation.“ The reasoning for this demand is, among other things, a change in social work and occupational structures (cf. Hendrich 2009, p. 229), which Dieter Mertens (1974, p. 39) already challenged by exploring an increased adaptability of the subject. From a didactic perspective, this includes the demand for flexible learners as well as the demand for flexible teachers. This demanded flexibility of learners and teachers resonates the basic assumption that the development of professional action competence plays the central role, which should enable the learners to act independently, solving problems while remaining responsible for patient safety. The training of emergency paramedics (Not-San) takes place in the context of the formal school learning processes (cf. White 2007, p. 3), which are supplemented by practice-related activities.

The Paradigm of Competence-Oriented Teaching and Learning in Emergency Medical Training

The learning field of school is intertwined with the concrete practice and rescue science knowledge. According to Karutz (2008, p. 30ff.), in addition to specialist knowledge to carry out emergency medical measures, skills and abilities from different competence dimensions are required. An operation is always embedded in a scenario that is subject to many unpredictable situational and individual influencing factors that depend on the patient. The practical measure of hemostasis with an open fracture requires within the professional competence, in addition to technical knowledge of anatomy, pharmacology, rescue technology or tactics, concrete know-how of manual activity, for example, in repositioning and fixation for transport shearing. The cooperation takes place in a team and there is different communication between other rescue teams, emergency physicians, the patient’s relatives, the control center and hospital personnel, among other things. The speed of communication, the ability to handle conflicts and an empathic, patient-oriented attitude and appearance all contribute to social competence. Emergency and situation images are very different. Emergency images are increasingly accompanied by psychosocial disorders in the patients. Operations vary from a seemingly simple domestic

environment to a mass casualty incident (in German MANV) to disaster situations. For this purpose, emergency medical technicians need methodical competencies to utilize on-the-job problem solving in order to be able to cope with challenging situations beyond the scope of a standard mission. However, they also need learning competencies to keep themselves personally up to date with new developments in the emergency medical environment. In this respect, emergency medical technicians need the ability to think and reflect, to make decisions and to transfer knowledge, skills, and abilities to different situations, sometimes with adverse conditions, and to apply them in a patient-safe manner.

The obvious conclusion, which is based in the Emergency Paramedic Act, is that emergency paramedic training should be designed to be competency-oriented. Statements by medical experts, such as Schoolmann (2017, p. 264), that training can only be about teaching the basics and training the implementation of algorithms, seem very questionable from a rescue science perspective. It cannot only be about learning algorithms and implementing them to guidelines with blind obedience. Rather, an approach is needed that directs teaching-learning processes in such a way that competence-generating solution patterns are developed that form the basis of factual and “algorithmic competence“ and not vice versa. A conscious deviation in the algorithm, which can be justified with common sense and professional know-how, would be considered a competent decision in such situations. In this sense, the education of the NotSan (emergency paramedic) should follow the paradigm of a rescue science, which is a science of action and reflection that focuses on establishing the necessary knowledge, as well as letting the students develop skills and abilities in order to be able to act professionally in many situations. Therefore, the development of competencies cannot be exclusively oriented towards professional output, as is currently reported and observable in emergency paramedic training. Criticism is levelled at the existing reference to the procedure in the earlier training as a paramedic, as well as the use of countless freelancers without academic and in-depth pedagogical qualifications to cope with the teaching duties at the severely understaffed vocational schools of the emergency medical services, which then tend to operate with frontal, lecture-style teaching. A structural break in pedagogical thinking and action can be observed here, in which a didactic reduction oriented exclusively to professionalism takes place, especially in qualification-oriented learning scenarios. Competence orientation as part of self-education or self-directed and self-determined learning shrinks to a residual value due to educational-technological pressure of expectations. Formal specifications of a dominant subject orientation, such as in Bavaria with the Berufsfachschulordnung (BFSO 2019), also favor this. The middle ground is a knowledge transfer with traditionally handed down teaching-learning forms, which are criticized by Böttcher & Lindhart (2009, p. 7) for the school context.

With this description of the situation, it is clear that overall, this is not about a paradigm shift from a pedagogical-conceptual point of view, but about the need for competence-oriented pedagogical thinking and acting to arrive in the teaching-learning practice of emergency paramedic training. To this end, the paradigm shift can be framed as an internal phenomenon of the emergency medical services. For a consistent pursuit of competence, an approach is needed that addresses the different aspects in the social and situational-professional combinations of the learners in possible emergency scenarios and that is lead towards a rescue-scientific validation.

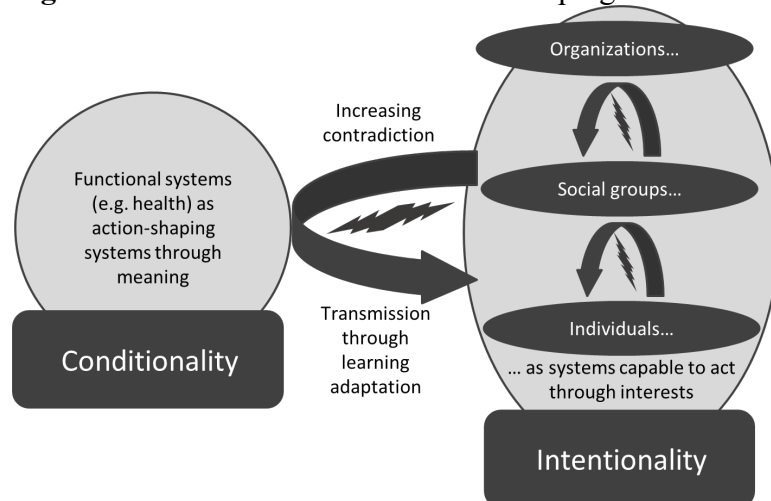
Conflicts Between Current Requirements at the Learning Locations as a Learning Barrier to Competence-Oriented Teaching in Vocational Schools

One can observe competence based on classroom instruction as one side of the coin. Beyond a pure critique of this structure, we must consider the other side of the coin. This comprehensive view recognizes the rescue service within the health system as having multiple learning opportunities beyond just the vocational school. Social interaction, integration into community culture, and understanding of an individual's methods of problem-solving all influence the context in which we find the emergency paramedic.

The formation of mental models takes place by applying previous experiences to future action, which is a promising system according to the rules and routines of the organisation and to maintain the „membership condition“ (Luhmann 1994, p. 210). In the rescue service, these are always the values, rules and norms that have been established at the rescue stations in daily operations and are cultural cues picked up from colleagues. This leads to a permanent comparison at the schools - what do I need, what does the student need and what does the future situation require. Contradictions in the teaching statements are always part of everyday life here (cf. Karutz 2011, p. 255).

In this situation, a paradox of differentiation and integration becomes visible, which can be uncovered with Schimank's (1985, p. 421f.) structural-functionalist or system-theoretical and action-theoretical perspective. This involves combining two arguments: on the one hand, the argument that societal differentiation follows the maxim of efficiency/effectiveness gains, on the other hand, the argument that it is the result of an amalgamation of interests and influence. This leads to the distinction between action-shaping and action-capable systems (cf. figure 1).

Figure 1. Distinction Between Action-Shaping and Action-Capable Systems



Source. Own representation according to Schimank 1985, p. 421ff.

With this distinction, we can view the health care system as a functional system with specific needs. The health system can be understood as an action-shaping system that ensures connected communication via generalized communication media. The ambulance service can be seen as a characteristic of the health system, as demonstrated by Fuchs (2006, p. 9) because diagnoses or emergency findings are the impetus for their inclusion. The need for an ambulance leads to the

development of regular connections within the system. Within the emergency service and emergency call logic, particular emphasis is placed on the speed of communication in terms of making a diagnosis, which can be seen, for example, in the normalized procedures of „Ten for Ten“ or the „Treat first what kills first“ ideology of the xABCDE scheme as a standard way of working.

In contrast, other systems, such as individuals, groups, or organizations, i.e., rescue squads, clinics, and the vocational schools are framed as systems capable of action. This places the actors in the center of decision making, whereby contradictions between and within both system logics seem to require mediation through learning adaptation and int-the-moment decision making. Learning itself does not „mediate“ in the literal sense, but can be understood as reflective learning and deep-impact change learning that changes based on the participants and their environment (cf. Arnold 2009, p. 6).

A decisive argument in relation to the action-theoretical position is that action is not only a result of a functional-structural determination, but is always also an expression of the production and reproduction of existing structures and processes. A high degree of standard orientation, a pronounced guideline and formalized decision-making culture characterize the rescue service and are an expression of minimizing the human factor as a possible source of error in individuals, in teams and thus in the rescue service organization (cf. Badke-Schaub et al. 2012, p. 4). This results in different cases of social differentiation. Intentional change efforts aiming at a specific goal, e.g., through competence-oriented teaching-learning concepts in vocational schools, are then rather rare in this system logic from a system-theoretical point of view. Unintentional differentiation can still be observed, as long as they fit into the logic of the system shaping the action. In terms of action theory, the view is thus turned away from individual actions and decisions and focused on community chains of actions and decisions: „Action is constituted by the intentionality of social systems capable of action within the framework of the conditionality of social systems shaping action“. (ibid. p. 428).

With this reference, on the one hand, we understand why the rescue service has such difficulties in the design and implementation of competence and student-oriented teaching. On the other hand, the need for learning at the organizational level of the rescue service schools to face up to these contradictions in a learning manner is also apparent.

A Solution: How to Get a New Paradigm Into the System

The differentiation of teaching into action-shaping and action-capable systems should demonstrate that the system affiliation has consequences for the outcomes and effectiveness of the system development. The freedom of pedagogical decisions obviously has its limits, since a non-pedagogical structure of meaning and values determines action. Jaspers (1984, p. 119) brings this up: „What I am, I become through my decisions“. This opens up a possible solution that makes it possible to integrate the „new“ paradigm of competence-oriented teaching and learning into the vocational school system. For this, a field-theoretical approach is helpful, as it can be described with Wiesner (2019a, p. 433ff.; 2019b), because it helps to uncover and understand the structures and dynamics that are already apparent in the system.

The starting point for this is the pedagogical leadership and management of a school, which faces great challenges due to the teaching staff recruited from rescue service personnel within the logic of large carriers and aid organizations, such as the ASB. While the imprint of the rescue service within the health system as an action-shaping system can namely be described as a „mechanistic system“, the implementation of a competence-oriented teaching and learning requires an open system capable of action (cf. Lane & Down 2010, p. 521). The rescue service, according to the authors, can rather be understood as a mechanical or technical system. This is loosely equivalent to a trivial machine because, in the broadest sense, both the problems and the solutions are known, because of formalized guidelines. There are proven answers. This leads to the fact that decision-makers and organization members react to challenges accordingly „algorithmically“. These technical challenges vary and can also be very complicated, e.g., how to treat an apoplexy in a 93-year-old dehydrated patient, where the knowledge of what the outcome should look like already exists.

In contrast, the challenge of consistently orchestrating competency-based teaching-learning arrangements in vocational training over three years presents itself as an adaptive and complex challenge. This is due in particular to the fact that the requirements for measuring performance are very narrowly formulated in order to consider the topic consistently in terms of goals and results. In addition, in states such as Bavaria, teaching and testing are still carried out according to the subject system. At the same time, there is a lack of confidence in self-regulated or self-determined learning processes. In the timetable, terms such as SOL lessons are then used for self-learning phases, but in fact this only means learning by „students without teachers“, because the teachers in charge are sitting in meetings and fulfilling other school-related tasks, and not accompanying students and discovering challenges “in the field”.

It can also be observed in the other federal states that there is a lack of confidence on the part of students and teachers in truly self-regulated learning. While the idea is familiar and widely discussed, in practice it is more of a challenge. Therefore, a strategy is needed to develop the self-regulation of the learners step by step by gradually increasing the complexity of the requirements and concentrating the role of the teacher more and more on the support function and individual advice as well as personal guidance (cf. Euler et al. 2008, p. 36). This requires an understanding of teaching that does not consider instruction an empty PowerPoint into which a great deal of text is copied as a basis for content, but rather places learning tasks, learner activities, and learning products at the center of didactic action (cf. Müller et al. 2020).

This is achievable if we emphasize the social character of the field within the school setting. It will not be effective to ask teachers to change their teaching alone, to apply ideas in their own teaching, but at the same time to limit the creativity of the teachers by planning the didactic year and distributing the material in a very traditional content-oriented way, thus structuring the work. In order to do this creatively and with respect to the autonomy of teachers, we cannot err on the side of forcing too much traditional structure, which can be just as detrimental as a lack of leadership and coordination.

In order for schools to meet the current challenges of society and learners in terms of a competence-oriented teaching-learning culture, their actors first need a „growth mindset“ (Dweck 2006, p. 6ff.). This mentality of action makes it possible to go through times of change: „This growth mindset is based on the belief that your basic qualities are things you can cultivate through your efforts.“

(ibid.). For a competency-based field transformation, this requires an understanding of schools as learning organizations that take into account the social and situational fabric of the stakeholders involved. With Wiesner et al. (2018, p. 4), an additional X-axis can therefore be introduced into Stacey's (1996) model as a continuum between a factual and relational orientation, and a Y-axis as a continuum between a developmental and stability orientation (cf. Figure 2). This opens up a space of the learning organization that can be combined with the phase model of learning according to Kolb (1984 cited in Möller 2006, p. 89) and the development model of a transformation-oriented school and classroom development according to Schratz et al. (2018, p. 419ff.) in order to address complex challenges and to break free from the apparent certainties of the current status quo:

Recognition: In the beginning, there is recognition in the sense of practical or concrete experience. As an initial and reception phase, phenomena, problems, challenges, etc. are first acknowledged. Here, the school system ascertains its own status quo and possible breaks that indicate a need for change and decision-making.

Analyze: Reflective observation requires analyzing the situation. The participants must begin to deal with the topics of change, find explanations for anticipated , establish relationships between information and its effects, or resolve contradictions between objects, etc. This allows one to highlight decision- and action-relevant aspects of a problematic nature in a mediated manner, in order to create better understanding.

Understanding: Understanding the situation leads to an abstract conceptualization that allows for necessary changes to be concise, focused and future-oriented. The actors must support each other, through leadership or external guidance, to collectively comprehend and acknowledge the meaning and significance of what is happening and what is changing. Understanding an integration phase is about developing coherent decision-making.

Shaping: The action phase is about developing agreed-upon ideas for future processes and actions based on the identified values noting how these can be integrated into the existing system and implemented through commitment in a way that promises success.

Just Implementing: Schools as Organizations and Spaces for Learning

Can we develop a social system that can be taught when uncertainty and lack of consent pose problems? The current emergency medical services are dominated by action, but the medical services school does not have a system of action. To address this, there are four dimensions of learning that can be used in the classroom from Pautzke (1989, p. 103 ff.) (cf. Figure 2). These describe the mode and relevant content of learning and engagement within the field transformation framework model for a paradigm shift in emergency paramedic education (cf. Wiesner, 2019a, 2019b). The underlying learning concept of social patterns (cf. Durkheim 1999, p. 109 ff.) combines personal learning with organizational learning in order to view the tension between the system shaping action and the system capable of action.

According to Arnold (2010, p. 135b), a competence-oriented paradigm shift in a vocational school requires „[...] the initiation and strengthening of a self-reflective competence in dealing with systems - one's own (internal) as well as those outside“, since human behavior can only be explained and changed in relation to its action-relevant environment. Environment has a

„prompting character“ (Ittelson et al. 1977, p. 123), which structures individual and social behavior and generates behavioral patterns. This results in the assumption that a change in behavior as something „new“ only appears possible if the institutional environment and the organizational structures can change in parallel with the self-change. In this sense, the following dimensions of an effective system and self-change can be identified:

1. Dominance of power for the development of an organizational core competence as a jointly supported learning culture, which is about learning of the legitimation experts and elites through discourse: The school management takes a key role in this, because it dictates the norms (as who or what, i.e. with which learning and working culture do we want to be perceived externally in terms of a positioning on the market?) and the strategy (what are the right things to do and change in the next 5 years in order to implement the positioning in the sense of the plan?), it determines what should constitute the core competence and through which concrete measures those goals should be made visible and focused on in the college. In this context, competence-oriented teaching-learning arrangements as an organizational core competence reveal that the approach that includes various available resources promote this one core competence (cf. Schreyögg & Kliesch, 2005, p. 10) in order to overcome the „dysfunctional flip“ (ibid. p. 18) - i.e., persisting at an existing competence level within an established learning culture. Because of this, instructional didactic action requires an organizational equivalent in leadership and organization. In this context one should follow the organization-theoretical differentiation according to institutions as a legitimate cultural and meaning-giving feature (cf. Durkheim 1999, p. 109ff.) according to the structures, processes and programs (cf. Prescher, 2009, p. 6). It needs a management-practical underpinning as an organizational framing, since the development of a learning culture cannot be reason-based alone. Educators cannot be held accountable solely as on-site teachers. The challenge is rather to focus attention on different levels of design at the same time and to involve different actors involved (cf. Euler 2005, p. 12).

2. Dominance of the learning culture, under which learning is understood as a change in the organizational knowledge base to enable contexts of self-development: Professionals, as teachers, need strong pedagogical qualifications to deal with the state of the art of curricular interaction and intervention. The desired academization in the emergency service offers a good basis to train teachers to be reflective practitioners and provide appropriate evaluation of concepts, models and paradigms of competence-oriented teaching and learning. In the center of possible school development efforts, project-oriented support offered to the teaching staff should first work for access, which a steering group on the level of the school or the level of the sponsor is responsible. A change in the learning culture needs an interplay of method training for teachers and students (1) as an aspect of pedagogical professionalization, a learning culture development within the framework of an understanding of self-determined learning in contexts of appropriation and self-development, which, for example, approaches learning with patient-process-oriented learning tasks and learning products (2) and the accompanying change of the teacher's role to that of a learning facilitator (3) and a curriculum development coordinated with this as described below (4).

3. Dominance of the institution, where learning causes a change in pedagogical attitude and a change in commonly shared self-understandings: Since not all teachers strive equally for, or perceive, opportunity, in-school training and pedagogical days are a possible starting point for an academic qualification to become a vocational educator for health professions. On such days, teachers can discuss the requirements and the concrete implementation of, for example, self-

organized learning or learning with patient-process-oriented learning tasks (cf. Müller et al. 2020) and prepare and, if necessary, test the implementation in their own lessons. The development of didactic competence is necessary for the development of competent teachers (cf. Arnold, 2012a, p. 167). This refers to didactic-methodical skills for the activating design of sustainable and lively learning processes and to the development of a pedagogical attitude supporting competence orientation and self-organization.

Arnold (2012a, p. 141f.) refers to the following four key elements, which support the competence-oriented teaching-learning process by supporting teachers in the classroom as well as through the creation of structural and programmatic conditions:

- Prepare and design a variety of approaches focused on the act of learning (e.g. joint goal agreement process and individualized learning process guidance).
- To stage the acquisition process in a lively and sustainable way (e.g. by taking into account the interests and abilities of the students and a practice-oriented learning through concrete work assignments with professionally relevant learning and work products).
- Strengthen self-learning abilities and enable self-efficiency and self-reliance (e.g. first self-assurance and confidence, then professional qualification).
- Learners can „show“ what they can do (e.g., produce products and services in skill lab or simulation training).

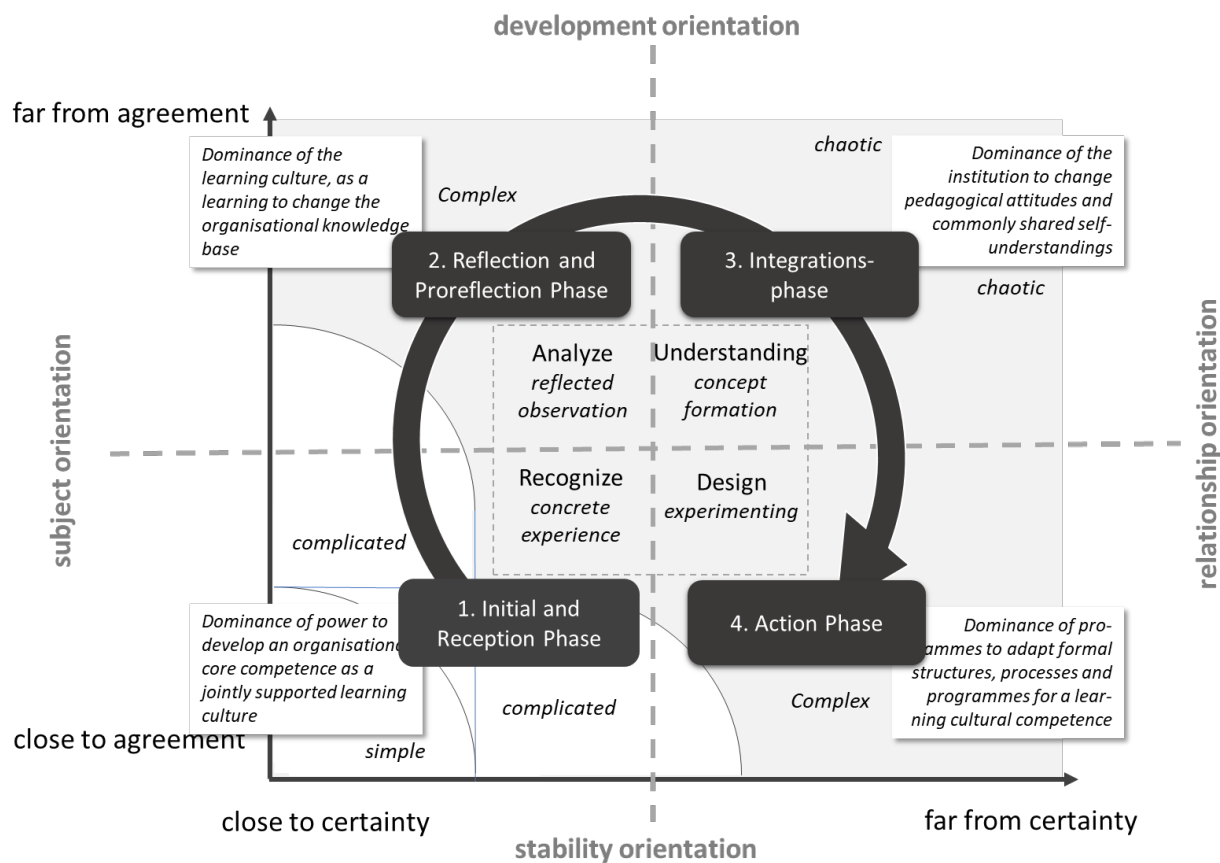
5. Dominance of programs as an organizational change through the adaptation of formal structures, processes and programs for a learning culture competence: Traditional learning cultures are often characterized by an orientation towards open-ended content, and their process acts as a kind of „guided learning“ (Arnold & Pachner 2011, p. 305). This form of learning emphasizes the superficial level of teaching, such as learning objectives, certain methods or social forms, and may neglect the learners' own search and appropriation movement (cf. Arnold 2012b, p. 482). With a competence-enabling learning culture, on the other hand, a developmental structuring can be pursued in which problems of action can be transferred into learning opportunities.

A competence-oriented learning culture competence refers to professionalization-theoretical concepts (cf. Combe & Helsper 1996), which grant both teachers and learners autonomy. Zimmer (1998, p. 4) speaks in this context of „de-schooled learning“, in which the institution of school as the original place of modern learning is linked to „life“ by overcoming fixed, institutional rituals that replace the teaching-learning process design with an orientation towards subjects and their material with learning and experiential processes designed with the help of key situations and key problems. In order to avoid purely classroom-oriented learning and traditional learning according to the „bus principle“, it is possible to equip classic classrooms as „LearnerLabs“ or to create and design a vocational school in its entirety as a „Campus Learning Space“ in order to promote processes of self-directed and self-determined learning (cf. Prill 2019, p. 10ff.).

In the context of learning culture development, however, it is not only the teachers who need to be professionalized, but also the curriculum itself, as a program feature with this goal of competence-oriented learning that incorporates developments in the field of rescue science. This includes enabling students to learn, i.e. to learn in a truly self-directed way and, to integrate two aspects in curriculum development:

- 1. Empowering students for self-determined learning requires a curriculum in which they are introduced to the methods of self-directed learning and assume responsibility for their learning, so they can gain the experience of self-efficacy within the context of examinations to be taken.
- 2. In the core curriculum, an approach is needed that first enables interdisciplinary teaching, e.g. in the form of learning situations, in order to develop the learners' action competence in an action- and experience-related way. Secondly, it is necessary to coordinate this curriculum with the curriculum for self-determined learning and to systematically apply the learning approaches and methods learned there.

Figure 2. Framework Model of Field Transformation for a Paradigm Shift in Paramedic Training



Source. Own presentation based on Zimmermann 2001, p. 5; Wiesner et al. 2018, p. 4; Wiesner, 2020, p. 98; Kolb 1984 quoted after Möller 2006, p. 89; Schratz et al. 2018, p. 419ff; Pautzke 1989, p. 103ff.

The fundamental challenge to overcome this gap is the interweaving of „micro- and macrodidactic concepts“ (Euler et al. 2008, p. 22). This can be seen in the elaborate processing of didactic annual planning within the schools. In order to really transfer learning field-related or cross-curricular competencies to a teaching activity, it needs an interconnected processing of contents

- from the learning field,
- the competencies to be achieved,
- the actions required for this and
- the transfer of real-life action situations into learning situations with

- concrete learning tasks coordinated with the development of learning products

in elaborate educational course conferences or tandem planning by teachers. This coordination between teachers is an essential feature of success, and at the same time, a prerequisite for competence-oriented learning and the development of a learning culture. Competence orientation as a didactic guiding goal requires the development of a school curriculum that is coordinated with it. To achieve this, teachers „must“ take responsibility for this task on site. A change from „lone fighter to team player“ is needed here, as Berben & Schmidt (2007, p. 181) state.

Conclusion: School Leaders as Drivers of Transformative Learning

A school transformation not only requires the transfer of information about the intended concepts of pedagogical action, but also includes concrete strategies with specific options for action, as described in the concept of field transformation (cf. chapters 3 and 4). For this goal, the concept accounts for a systemic understanding of learning and development with the interdependence of systems that shape and are capable of action, but also of individuals, social groups and the organization with its structures, processes and programs, but also of rescue-scientific knowledge itself.

Beyond the pure person-related development practice, as Franzke (2014) describes it as an expression of a one-sided „method mania“, the concrete decisions and actions by the professional leaders, specialists and teachers on the level of the organization move into the didactic field of vision. In order to enable change, a competence-oriented teaching-learning concept must strike a balance between conventional (proven) solutions and programs with unconventional (unfamiliar) paths at the level of individual guiding principles and organizational cultures. However, pressure for change as a permanent phenomenon and the permanent shortage of personnel endanger the ability of schools to innovate and change, as fundamental aspects, „such as trust, reciprocity and the organizational loyalty bond“ (Becke & Senghaas-Knobloch 2011, p. 383) are called into question. Therefore, the existing pressure to reorganize requires a methodical, core-competence-related and organizational-practical change effort that fits the socio-emotional experience of school administrators and the colleges.

In line with these challenges, leaders are viewed by the authors as key drivers of transformative learning and organizational change. As transformative leaders, leaders are the true „agents of change“.

References

- Arnold, R. & Pachner, A. (2011). Konstruktivistische Lernkulturen für eine kompetenzorientierte Ausbildung künftiger Generationen [Constructivist learning cultures for a competence-oriented education of future generations]. In Eckert, T., Hippel, A. von, Pietraß, M & Schmidt-Hertha, B. (Eds.), *Bildung der Generationen* (299 – 307). Heidelberg: Springer.
- Arnold, R. & Pätzold, H. (2008): *Bausteine zur Erwachsenenbildung* [Building blocks for adult education]. Baltmannsweiler: Schneider.
- Arnold, R. (2009): Emotionale Kompetenzen Eine wesentliche Grundqualifikation für helfende Berufe [Emotional Competencies An essential basic qualification for helping professions]. *Zeitschrift des Deutschen Verbandes für Bildungs- und Berufsberatung*, 2, 5-11.
- Arnold, R. (2010): *Systemische Berufsbildung: Kompetenzentwicklung neu denken - mit einem Methoden ABC* [Systemic vocational training: Rethinking skills development - with an ABC of methods]. Baltmannsweiler: Schneider.

- Arnold, R. (2012a). *Wie man lehrt ohne zu belehren. 29 Regeln für eine kluge Lehre. Das LENA Modell* [How to teach without teaching. 29 rules for a wise teaching. The LENA model]. Heidelberg: Carl Auer.
- Arnold, R. (2012b). Beim Lernen ist es wie beim Eisberg: Das Tragende sieht man nicht. Ergebnisse einer systemisch-konstruktivistischen Lernforschung [Learning is like being with an iceberg: you can't see what it is supporting. Results of a systemic-constructivist learning research]. *Diskurs Kindheits- und Jugendforschung*, 4, 481 – 485.
- Badke-Schaub, P., Hofinger, G., & Lauche, K. (2012): *Human Factors Psychologie sicheren Handelns* [Human Factors Psychology of Safe Action]. Berlin: Springer.
- Becke, G. & Senghaas-Knobloch, E. (2011): Dialogorientierte Praxisforschung in organisatorischen Veränderungsprozessen [Dialog-oriented practical research in organizational change processes]. In: Meyn, C./Peter, G./Dechmann, U./Georg, A. & Katenkamp, O. (Hrsg.): *Arbeitssituationsanalyse. Band 2, Praxisbeispiele und Methoden* (383–405). Wiesbaden: VS.
- Berben, T. & Schmidt, A. (2007). Gestaltung arbeitsprozessorientierter Lernsituationen für Anlagenmechaniker [Design of work process-oriented learning situations for plant mechanics]. *lernen und lehren*, 22 (88), 181.
- BFSO (2019): *Schulordnung für die Berufsfachschulen für Pflege, Krankenpflegehilfe, Altenpflegehilfe, Hebammen und Notfallsanitäter* [School regulations for the vocational schools for nursing, nursing assistants, geriatric care assistants, midwives and emergency paramedics]. <https://www.gesetze-bayern.de/Content/Document/BayBFSOPflege>, Stand: 12.01.2020.
- Böttcher, W. & Lindart, M. (2009). *Schlüsselqualifiziert. Schüler entwickeln personale und soziale Kompetenzen* [Key qualified. Students develop personal and social skills]. Weinheim: Beltz.
- Combe, A. & Helsper, W. (1996). *Pädagogische Professionalität. Untersuchungen zum Typus pädagogischen Handelns* [Educational professionalism. Investigations on the type of pedagogical action]. Frankfurt.: Suhrkamp.
- De Haan, G. (2004). Politische Bildung für Nachhaltigkeit [Political education for sustainability]. *Aus Politik und Zeitgeschichte*, 7-8, 39 – 46.
- Durkheim, E. (1999): *Die Regeln der soziologischen Methode* [The rules of the sociological method]. Frankfurt: Suhrkamp.
- Dweck, C. (2006): *Mindset: The New Psychology of Success*. New York: Random House Publishing.
- Erpenbeck, J. & Sauer, J. (2000). Das Forschungs- und Entwicklungsprogramm „Lernkultur Kompetenzentwicklung“ [The research and development program "Learning Culture Competence Development"]. In Arbeitsgemeinschaft Qualifikations-Entwicklungs-Management (Hrsg.), *Lernen im Wandel – Wandel durch Lernen. Kompetenzentwicklung* (289 – 335). Münster: Waxmann.
- Euler, D., Pätzold, G., Burg, J. von der, Thomas, B., Walzik, S., Diesner, I. & Lang, M. (2008). *Selbstgesteuertes und kooperatives Lernen in der beruflichen Erstausbildung (SKOLA)* [Self-directed and cooperative learning in initial vocational training (SKOLA)]. St. Gallen: Abschlussbericht des Programmträgers.
- Euler, G. (2005). *Qualitätsentwicklung in der Berufsausbildung* [Quality development in vocational training]. <http://www.blk-bonn.de/papers/heft127.pdf>
- Franzke, R. (2014): *MethodenWahn: mit Methode(n) in die Katastrophe* [Method (s) delusion: with method (s) into disaster]. Hannover: Alpha Press.
- Fuchs, P. (2006): Das Gesundheitssystem ist niemals verschnupft [The health system never has a cold]. In: Jost Bauch (Hrsg.): *Gesundheit als System. Systemtheoretische Betrachtungen des Gesundheitswesens. Konstanzer Schriften zur Sozialwissenschaft* (1 – 17). Konstanz: Hartung-Gorre.
- Hendrich, W. (2009). Heimliche Schlüsselkompetenzen und berufliche Flexibilität. Impulse für ein anderes Lernen in der beruflichen Weiterbildung [Secret key skills and professional flexibility. Impetus for a different kind of learning in continuing vocational training]. In Bolder, A. & Dobischat, R. (Hrsg.), *Eigen-Sinn und Widerstand* (229 – 242). Wiesbaden: VS.
- Ittelson, W. H./ Proshansky, H.M./ Rivlin, L.G. & Winkel, G.H. (1977): *Einführung in die Umweltpsychologie* [Introduction to environmental psychology]. Stuttgart: Klett-Cotta.
- Jaspers, K. (1984): *Der philosophische Glaube angesichts der Offenbarung* [Philosophical belief in the face of revelation]. München: Piper.
- Karutz, H. (2008). Förderung beruflicher Handlungskompetenz in der Ausbildung von Rettungsassistenten [Promotion of professional competence in the training of paramedics]. *Rettungsdienst*, 1, 30-37.
- Karutz, H. (2011). *Notfallpädagogik: Konzepte und Ideen* [Emergency Pedagogy: Concepts and Ideas]. Edewecht: Stumpf + Kossendey.
- Lane, D. & Down, M. (2010): The art of managing for the future: Leadership of turbulence. *Management Decision*, 48(4), 512 – 527.
- Luhmann, N. (1994): *Funktionen und Folgen formaler Organisation* [Functions and consequences of formal organization]. Berlin: Dünker und Humboldt.
- Mertens, D. (1974). Schlüsselqualifikationen. Thesen zur Schulung für eine moderne Gesellschaft [Key qualifications. Theses for training for a modern society]. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung*, 7, 36 – 73.

- Möller, H. (2006): Die Lernstilanalyse nach Kolb und ihre Konsequenzen für die Hochschul- und Schuldidaktik und die berufliche Aus- und Weiterbildung [The learning style analysis according to Kolb and its consequences for university and school didactics and vocational education and training]. In: Möller, H. (Hrsg.): *Bildung schafft Zukunft* (88 - 94). Innsbruck: University Press.
- Müller, H.-J./ König, H. & Prescher, T. (2019/2020): Arbeitsprozessorientierung in der Berufsausbildung zum Notfallsanitäter: Planungstool zur Erstellung von Lernaufgaben als Transmissionsriemen für eine kompetenzorientierte Lernprozessgestaltung [Work process orientation in the vocational training for emergency paramedics: planning tool for the creation of learning tasks as a transmission belt for a competence-oriented learning process design]. In: *Notfall- und Rettungsmedizin*, 23(1), 1-15.
- Pautzke, G. (1989): *Die Evolution der organisatorischen Wissensbasis: Bausteine zu einer Theorie des organisatorischen Lernens* [The Evolution of the Organizational Knowledge Base: Building Blocks to a Theory of Organizational Learning]. Herrsching: Kirsch.
- Prescher, T. & Rolff, H.-G. (2010). Schoolinspection and External Evaluation. Study text 7.2 of the Distance Learning Programme „School Management“. Kaiserslautern: technische Universität.
- Prescher, T. (2009): *Führung als organisationsbezogener Lernprozess: Zur Rekonzeptionalisierung von Self-Monitoring in einer erziehungswissenschaftlichen Perspektive* [Leadership as an organization-related learning process: To reconceptualize self-monitoring from an educational perspective]. Suedwestdeutscher Verlag für Hochschulschriften.
- Prill, A. (2019): *Lernräume der Zukunft. Vier Praxisbeispiele zu Lernraumgestaltung im digitalen Wandel* [Learning spaces of the future. Four practical examples of learning space design in digital change]. https://hochschulforumdigitalisierung.de/sites/default/files/dateien/HFD_AP_45-Lernraeume_der_Zukunft_Praxisbeispiele_Web.pdf
- Schimank, U. (1985): Der mangelnde Akteurbezug systemtheoretischer Erklärungen gesellschaftlicher Differenzierung – ein Diskussionsvorschlag [The lack of actor-reference in system-theoretical explanations of social differentiation - a suggestion for discussion]. *Zeitschrift für Soziologie*, 14(6), 421–434.
- Schoolmann, E. (2017). „Notfallsanitäter: Hilflöse Helfer“ [Paramedics: helpless helpers]. *Der Notarzt*, 264 - 266. doi:10.1055/s-0043-120947
- Schratz, M./Wiesner, C./Röbler, L./Schildkamp, K./George, A.C./Hofbauer, C. & Pant, H.A. (2018): Möglichkeiten und Grenzen evidenzorientierter Schulentwicklung [Possibilities and limits of evidence-oriented school development]. In: *Nationaler Bildungsbericht Österreich 2018, Band 2, Fokussierte Analysen und Zukunftsperspektiven für das Bildungswesen*. Graz: Leykam.
- Schreyögg, G. & Kliesch, M. (2005). Organisationale Kompetenzen und die Möglichkeiten ihrer Dynamisierung. Eine strategische Perspektive [Organizational competencies and the possibilities of their dynamization. A strategic perspective.]. *QUEM-report*. 94, 3 – 49.
- Stacey, R.D. (1996), *Strategic Management & Organisational Dynamics*. London: Pitman.
- Weiß, R. (2007): Wie es gehen könnte- Wege zur Anerkennung informell erworbener Kompetenzen [How it could work - ways of recognizing informally acquired competences]. *Berufsbildung in Wissenschaft und Praxis – Kompetenzentwicklung* (6), 3-4.
- Wiesner, C. (2019a): Die Arbeit mit Gruppengestalten [Working with group characters (Gestalt). Existential analysis, field transformation and relationship education]. Existenzanalyse, Feldtransformation und Beziehungspädagogik. *Erziehung und Unterricht*, 5-6, 433 – 441.
- Wiesner, C. (2019b). Das Modell der Feldtransformation: Chancen und Möglichkeiten [The field transformation model: opportunities and possibilities]. In C. Schreiner, C. Wiesner, S. Breit, P. Dobbstein, M. Heinrich, & U. Steffens (Hrsg.), *Praxistransfer Schul-und Unterrichtsentwicklung*. (S. 207–240). München Waxmann
- Wiesner, C. (2020): Strukturdynamische Modellierung von Mentoring: Bewegungen, Richtungen und Ausrichtungen [Structural dynamic modeling of mentoring: movements, directions and orientations]. In Dammerer, J./Windl, E. & Wiesner, C. (Hrsg.): *Mentoring im pädagogischen Kontext: Professionalisierung und Qualifizierung von Lehrpersonen. Wahrnehmen, wie wir bilden* (85–111). Innsbruck: Studienverlag.
- Wiesner, C., Paasch, D. & Schratz, M. (2019): Feldtransformation360 – Persönliche Führungsmodalitäten sichtbar machen [Feldtransformation360 - Make personal leadership modalities visible!] *LEA Newsletter 2018*, 14(1), 4–6.
- Zimmer, J. (1998). *Transforming Community Schools into open Learning Communities. A Ressource Paper*. International Community Education Assionciation (ICEA) http://www.unesco.org/education/educprog/lwf/dl/olc_zimmer.pdf
- Zimmermann, B. (2001): *Ralph Stacey's Agreement & Certainty Matrix*. Toronto: Schulich School of Business.