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Competency Development through Teacher Research – Opportunities and Limits

Our intention is to clarify if and when which contributions can serve school-related research work in the sense of practitioner research (Zeichner/Noffke 2001; Dick 2003) and/or whether action research (Altrichter/Feindt 2004) can assist in teacher competency development. Our aim is therefore own research of teachers and its effects – but not regarding the empirically more secure question of how reflection competency of teachers and education students can be increased by means of research-related education and continued education. Here, we distinguish between structure and process:

- Structure models describe the tectonics of competencies. They are applied as a way to derive partial competencies that are required to overcome the challenges of an action realm (e.g. Czerwanski et al. 2002; Jank/Meyer 2002, p. 164 ff.).
- Development models (Huberman 1991; Max 1999; Messner/Reusser 2000) analyze acquisitional processes in the building of competence – they are often represented as part of the reflection-action spiral.[1] They are used to lay claims to and to formulate concepts for the training of teachers.[2]

The development of action and reflective competence is considered a requirement for the professionalization of teaching. To this day, it is still argued how "competency" can theoretically be defined in a satisfactory way.[3] The question regarding the important aspects of success requirements and the procedure of competence development is also still quite open.

The discussion on professionalization is – at least in the German-speaking arena – dominated by structural-theoretical professionalization elements. It assumes teacher action in its structure to be uncertain, instable, and not-planable because "at its core, incompatible requirements crash into each other" (Schütze et al. 1996, p. 333). Successful dealing with this complexity represents a balancing act of teachers that has a structural similarity to a research project. It requires reflexive distance to the own everyday practice as well as an abundant action repertoire. Structural-theoretical professionalization element efforts culminate in the requirement of a "double habitus of practical-professional ability and scientific reflexivity" on the part of teachers (Helsper 2001, p. 15). Current questions on the theoretical construction and the operationalization of the "double habitus" are however still open (Broszio 2002). In section three, we will make a suggestion regarding this.

1. Research as a Means towards Professionalization?

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1 Schön 1983; Krüger/Lersch 1993, p. 105 ff.; Altrichter/Posch 1998; p. 17, p. 327; Korthagen et al. 2002, p. 55 ff.

2 Terhart 1991; 2002; Oser/Baeriswyl 2002; Dirks/Hansmann 2002; Kiper et al. 2003

3 See the discussion in ZfPäd, Jg. 51, H. 2/2005; Oelkers 2003, p. 112 ff. as well as the discussion in this article.

Teacher research (student research too!) means asking questions. It also means applying databases and a methodically-controlled analysis of the requirements and consequences of own teaching. Here, ethical questions are to be considered and consequences are to be derived from the data achieved (National Research Council 1996, in Dick 2003, p. 39).

This kind of research can serve various purposes: First, it can create local scientific knowledge that by means of a "closure ladder" (Altrichter/Posch 1998, p. 99 ff.) can find its way into the academic school and professionalization research. Second, it can provide impulses in the area of school development (Herzmann 2001; Popp/Reh 2004). And third, it can create professionalization effects among the participating teachers. The slogan "Professionalization through Research"[4] has thus become a household name in academic circles. The respective literature discusses the professionalization effects hoped for in this area[5]:

- The creation of an action-oriented knowledge base/the extension of professional-practical knowledge,
- an increase in problem-solving ability,
- the optimization of educational decisions/an increase in the operative nouveau of rationality,
- a change in situation perception and meaning by using changes in perspective, multi-perspectivity, and reframing (Prengel 1997; Fichten/Dreier 2003),
- intensification of communication with students and colleagues (Zeichner/Noffke 2001),
- a change in long-term stabile belief structures and concepts,
- and finally, a strengthening of personality and a change in the "professional self" (Bauer et al. 1996).

Concrete data that could confirm these assumptions are nevertheless rare:

- The prevailing models on professional development of teachers (e.g. Huberman 1991; Dreyfus/Dreyfus 1986; Bauer et al. 1996, for a survey see Messner/Reusser 2000; Koch-Priewe 2002) greatly factor out the issue of teacher research and its relation to competency development.
- Surprisingly, even where a long tradition of teacher research exists (e.g. at the well-known Laborschule in Bielefeld), there are hardly any publications to be found on the professionalization of these teachers (an exception: Döpp/Schulz 2005).
- Even Uwe Hericks' and Ingrid Kunzes' empirically-proven findings on self-imposed developmental tasks for new teachers is missing a category of "the development of research competency" or "research conduct" (Hericks/Kunze 2002).

We have many reasons to question this flimsy empirical basis:

- From a purely quantitative perspective, there are – at least in the German-speaking realm – simply not enough teacher researchers. Teacher research regularly materializes in the case of an external impulse, or – as seen at the Laborschule in Bielefeld – a internal structural cornerstone. "100% pure" teacher research in the

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4 Feindt/Meyer 2000; Dirks/Hansmann 2002; Obolenski/Meyer 2003

5 See Fried 2002; Dick 2003; Moser 2003; Fichten/Gebken/Obolenski 2003; Popp/Reh 2004

sense of an individual, self-initiated, self-accountable research activity is thus very rare (Altrichter/Thaler 1996).

- Teacher research is for the most part a non-existent part of teacher education.
- The perception of competency development mandates a post-action self-observation (Fichten 2005; also see Kade/Seitter 2004). We find interesting, fruitful results where researching teachers are led to this kind of reflection (see Blaser 2002; Dreier 2003; Vogt/Templin 2003; Behrens et al. 2004).
- There is still no research on classroom effectiveness, i.e. research specializing in the effect that teacher research has on the learning success of students.[6] This is mostly due to methodological reasons.

There is still not enough second-order research on the motives, experiences, requirements for success, and the effects of teacher research (see however Feindt 2002, p. 50 ff.; Feindt, in print). Based upon our twelve-year, continually-evaluated cooperation with researching teachers, we however formulate a few initial hypotheses on the mechanisms and effects of competency development through research which is partially confirmed by means of the assumptions listed above, and some of which, however, is relatively achieved:

- Own research has different effects depending upon whether a teacher is in the survival, mastery, or routine phase of his/her career (Fuller/Brown 1975).
- Own research requires the ability and willingness to make a change in perspective and/or to take on a new perspective not automatically, but only when the taking on of a new perspective has been practiced.
- Research while studying – particularly when writing a university thesis – does not automatically lead to the creation of a researching demeanor. It can also result in an internal rejection of the concept (Peters 2000, p.15).
- Own research enriches when it is related to your own teaching and – upon first glance – has unsolvable problems as a feature (Altrichter/Posch 1998).

Our conclusion:

> **Proposition 1:** There is no automation when it comes to increasing professionalization through teacher research.

Research plays a part in professionalization when reflexive distance is continually created to the own research action, and when the research results are professionally fed into the teaching and school development. This means three things:

(1) Sustainable professionalization effects appear only when research and professional teacher conduct are set up and perceived as two independent practices to which an individual value is assigned.

(2) Sustainable development of compentencies assumes a certain reflection nouveau of the person applying them.

(3) Research activity that has no consequences leads to an easy demotivation from the participants.

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[6] Stephan Huber (2005, p. 62) summarizes a small survey of experts he conducted regarding the influence of practitioner research on student learning success: There are no concrete findings, but all experts consider positive effects to be probable.

Therefore, implementation efforts are an essential part of the work that for a long time have been a given among action researchers (Vogt/Templin 2003).

2. Empirical Findings on the Professionalization Effects of Action Research – The Oldenburg Model Attempt

From 2000 to 2005, a Bund-Länder Commission (BLK) model attempt was conducted at the Carl von Ossietzky University of Oldenburg on the topic of "Lifelong Research Learning in Schools, Seminars, and Universities". The "Oldenburg Team Research" groups developed as part of the model attempt were comprised of students, interns, and professional teachers. They worked together in small groups, individually examining school-specific research questions. We started our work based upon the concept of action research developed by Peter Posch and Herbert Altrichter (University of Klagenfurt) (Altrichter/Posch 1998). But our work expanded upon this concept (Fichten et al. 2002; Fichten et al. 2003), and we developed a curriculum for an introduction to team research, repeatedly testing and re-working the content.[7]

A team was made up of three to nine members, among which were one or two teachers. The teams met in the nine to twelve months of team work in 10 to 25 team meetings and in three to four day-and-a-half workshops that were organized by the Oldenburg "Research Workshop for School and Teacher Education". The university professors were not team members. They were responsible for the support system, and contributed to the project in the role of "critical friends".

We continually systematically observed the proceedings of the 70 total team research activities, and conducted various evaluations. A few results of these second-order-research activities will be summarized under the aspects of competency development and professionalization. The results derive from one-on-one interviews, group discussions, and survey findings from the time period 1998-2004.[8]

2.1 The Effect of Team Setting

Research in a team with partners having an equal amount of authority represents a challenge for experienced teachers. Therefore, the social architecture of research (Fichten et al. 2004 a; see Feindt 2002, p. 54 ff.) received particular attention in all of our evaluation information:

> **Proposition 2:** Social architecture (the team setting) has professionalism-promoting effects, not just the research work itself.

We observed the following effects that were a result of the research setting:

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[7] This will be published in 2006/07.

[8] A total of 30 teachers who in some cases had cooperated for ten years, and about 350 education students who were part of a research team between 1992-2005. A total of between six to eight experienced teachers participated in each of the transcribed evaluation rounds. We therefore draw upon a narrow data base, so only initially tendencies can be referred to. Many of the research reports mentioned in the following have been completely or partially published; others can be seen at the Oldenburg Research Workshop. An overall bibliography on Oldenburg team research can be received by post or e-mail.

- The majority of surveyed teachers and students expressed praise, some even downright euphoria about their work within the team. Almost all had the sense of having further developed their team competency (Fichten 2004; Lennartz 2003; Obolenski 2005).
- Communication density and discourse on team work create special setting moments which are often missing in everyday school life. They lead to an improved communication competency ("I learned how to listen to others"[9]), which as a result contributed to a clear role fulfilment of the various positions among the cooperating colleagues.
- The teams were arenas of reflection and an opportunity for a change in perspective (Fichten 2003). The team partners served as a kind of "reflection assistance" ("I can't teach and do research on myself at the same time. To do this, I need others who also participate and help").
- The team setting required a conscious and engrossing dealing with the research content – particularly so, because the teachers were put under an unusual legitimation pressure by the students also participating in the research, something rarely experienced in everyday professional life. Here, aspects of subjective theories were expatiated and expounded, which allowed access to reflection on the unspoken "professional knowledge" of the teachers (Radtke 1996; Horstkemper 1996; O´Hanlon 1996).

It is difficult for inexperienced teachers to grasp their own learning processes in everyday school life. They see the great deal of work and its results coming from it, but not the personal learning progress itself.

Proposition 3: A conscientiousness of your own learning processes is easier within a team.

2.2 Extention of the Knowledge Base

The expansion and reconstruction of the knowledge base is an essential, often-claimed effect of teacher research (Altrichter/Posch 1998, p. 13; Dick 1992, p. 121 ff.). Surprisingly however, it often had only a secondary importance for those teacher researchers we questioned. One teacher, whose research involved the educational comprehension of elementary school teachers, admitted to finally realizing the complexity of her own educational comprehension as a result of this research.

The low importance of knowledge enrichment could be a result of the Oldenburg team research curriculum, in which the school-related research question to be addressed stands at the forefront, meaning that the incorporation into the research condition on the (self decided) research question acquires a subordinate meaning.

Proposition 4: The dominance of social-emotional aspects of cooperative research can lead to the furthering of knowledge being corrupted.[10]

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[9] This and the following quotes come from the interviews and group discussions with the teacher researchers who participated in the model attempt.

[10] Andreas Feindt (2002, p. 62) speaks here about the "balancing act between cognition and cake."

2.3 The Importance of Reflexive Distance to Actual Teaching

Team research makes it possible to create a reflexive distance to long-internalized thinking and everyday routines:

- The teacher researchers reported successfully removing themselves from their "own thinking schematics" and were able to consider "the points of view of others": "My perspective of teaching changed once I started taking a closer look at my own teaching." "In a certain way, I stand outside of myself and consider my teaching more carefully."
- Everyday routines are not eliminated. Instead, a better awareness of them is achieved: "You suddenly see that you've fallen back into the old routines of teaching, but at least now you realize it."

A requirement for the effectiveness of these positive effects is, for one thing, the ability to clearly articulate your own position regarding the research question during the team work. Also important is the willingness to assign "validity to the viewpoints of others" and deal with them constructively, and not immediately reject them.[11]

We haven't yet mentioned the nouveau, i.e. the breadth, depth of analysis, and reach of this kind of reflection. Teachers having a high level of professionalism deal differently with research findings than those with less professional experience. They know that research results offer (at best) heuristic rules of thumb, but cannot be converted into receptologies. They therefore have no intentions to apply them in an actual decision-making context, and they refrain from linear derivations of action consequences.

Professionality of own thinking and action reveals itself in flexible, reflected "access" to situation-adequate situation analyses and approaches (Schön 1983). From this, we also see that in research and, especially in an implementation process, reflexive intermediate steps are necessary. This allows a derivation of values, validity, and usefulness of the achieved research data.

2.4 Development of Perspective Competency

The heterogeneous, generation-bridging team composition created "multi-perspectives" in the processing of research questions which can be applied to the quality of the research findings. A change in perspective in not an attitude, but rather an activity.

- "It took quite a while to get to the point where our varying viewpoints were at a place where we could actually say that we were researching the same thing" (Feindt 2002, p. 58).

The activity must be "organized" (see Reh 2004, p. 368). This serves "research with a perspective" (Fichten 2003):

- Clear relational structures and role distribution are essential to the team. A team supervisor can assist if they are missing or partial.

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[11] One Oldenburg student criticized how the team research "did nothing" for her professionalization, because the teacher neither revealed the contextual discussion, nor indicated his own views. The teachers themselves will experience an expansion of their horizons only when the students can consciously present their perspectives.

- Opportunities to derive various perspectives must be created. This is analogue to the creation of different ways to read texts. This serves (among other things) the process model on action research developed for our team research (Fichten et al. 2003, p. 139) and the research method reader edited together to meet the needs of the teacher researchers (Fichten et al. 2004 b).
- Processing of various perspectives of the research content must be done according to "technical" rules – e.g. with the assistance of the research journal (Altrichter/Posch 1998, p. 26 ff.), with the writing and compensation of memos, or with reflection techniques (Fichten/Wagener 2005).

The ability to orient the various perspectives towards the research topic and deal constructively with their differences is something that can be learned. We refer to this as perspective competence (Meyer/Klapper, in print). It equates technical ability with "dispositional professionalism." It is required so that research results may be used in the teaching process. It also represents, independent of teacher research activities, an important element of professional thinking and action.

2.5 Dealing with Antinomians of Professional Behavior

Core competency of the structural-theoretical professionalization concept means the ability to recognize the antinomians of professional behaviour, analysing them, and keeping them in proper balance (see above). Our evaluation data indicate that an insight into the antinomian character of teaching behaviour appears every so often ("I learned to wiggle my way through conflicts"), but are often covered over by routine creation processes.

- Interaction with antimonies has greatly "normalized" most notably in the mastery phase, i.e. they are no longer seen as oppositional. Only when routines "run out of gas", i.e. when failures occur that are no longer removable, is this an occasion for a re-adjustment of the own action program.[12]
- The processing of antimonies is most successful when personal teacher problematics are the research focal point. Two examples: In team research on "kids who won't talk" (in: Meyer 1997, p. 229 ff.), the antimony of the necessity of grading on the one hand, and the insufficient evaluation possibility of oral performance due to "silence" on the other hand was investigated regarding the risk of unfair grading. In an investigation on "throwing kids out" (Blaser 2002), the discrepancy was analyzed of, on the one hand, punishing disruptive student behaviour, and on the other hand, injuring personal rights and coming into conflict with the aims and goals of the school.
- We repeatedly observed that where teacher research is combined with the establishment of school development goals (e.g. the introduction of student councils, analysis of the effect of field trips), that the consciousness of antinomian structures was volatilized.

We conclude: Research activity of teachers can contribute to the antinomian character of professional behaviour, particularly in the strengthening and "reframing" (Northfield/Loughran 1997) of attitudes and beliefs when the own teaching is made into part

[12] See the starting points of research described by Altrichter/Posch (1998) and that were defined by practitioners.

of the research content. The action research principle “investigate your own work” (Altrichter/Posch 1998, p. 15) is therefore confirmed through our observations.[13]

2.6 The Transfer of Research Competence into Didactic Action Competence

The teachers surveyed by us all expressed having achieved the following by means of team research on the continued development of their own teaching:

- “My lessons used to be kind of chaotic; the students participating in the research demanded a strong structure in the team meetings. I’m better now at applying this to my own teaching.”
- My ability to conduct conversation while teaching improved through the communication with the team.“

Clearly, these effects of the research activity are especially effective where the own teaching is put under the microscope, and where (as a result of this) the students participating in the research were allowed to observe the lessons of the respective teachers. The external observation of the own teaching is seen as a “reflection that gains insights.” Feedback led to improvements in teaching methods. These effects take hold when the viewpoints of the students (from the classroom) are considered within the research project. The teachers were often surprised at the diversity of the students’ points of view (Ledebur/Vogt 2005). The critically observing view of other colleagues’ and the own teaching changed situation perception, and contributed to a restructuring and a more flexible attitude towards teaching.

On the other hand, we repeatedly observed that a teacher whose lessons are methodically rich and technically demanding draws from these sources, producing unconventional ideas for the research.

2.7 Research and Personality Development

Research not only promotes professional development, but personal development as well. We continually observed an increase in professional self-confidence with the teachers as well as with the students participating in the team research. The experience acquired at the school regarding finding an audience for the research among colleagues and students and, with this, influencing school developmental processes, promoted a feeling, particularly among the students, of “having finally done something practical and useful.” This was also true for the experienced teachers. Three statements:

- “You gain a better sense of independence.“
- “I now enjoy experimenting more.“
- “The term ‘knowledge’ is not really sufficient to describe what we did. [Research] brings me in my entire role as a teacher to a new perspective, and causes a process of reflection in my work. It also brings new impulses.”[14]

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[13] Students participating in the investigation of the actual lessons are unable to maintain this principle. However, they mostly have high levels of success due to their curiosity about their future profession, and have not yet formed the corresponding routines (Schröder 1999).

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A requirement for personality development is found in the ability to see yourself as "needing improvement" and "able to learn." Ewald Terhart (2002, p. 101) referred to this as "pragmatic professionalism." Signs of this kind of a developmental attitude can be found with the Oldenburg teachers. A doctoral candidate doing research writes: "Only teachers who continually pose questions regarding their teaching and critically analyze and reflect upon it are, in my opinion, capable of developing their teaching and personality further. With this, they can avoid a solidifying of hard-set patterns and confusion about everyday issues" (Dreier 2003, p. 254)

Research is experienced by many teachers as feedback situations. Feedback on a teacher's lesson is, according to Hertramph/Herrmann (1999), not only good for an evaluation of teacher conduct, but also strengthens the feelings of self-effectiveness. The research provides teachers with the positive experience of being able to actively form their own work themselves. These positive effects are also true for feedback from and with students. Burkard/Eikenbusch/Ekholm (2003) use empirical data from Scandanavia to indicate how a culture of feedback with students can obtain valid and reliable impulses for school development.

A willingness to learn on the part of experienced teachers is also a valuable "attitude of reception" when dealing with research results. It is more all-encompassing and comprises more than just the expansion of the professional base of knowledge. It subsumes many partial processes and different efforts for development among the primacy of a holistically understood process of professionalization.

3. A Pragmatic Gradation Model for the Analysis of Research Competence

Those wishing to do research need research competency. Research competency is – similar to reflection competence – feasible in various dimensions and on different levels. It offers the opportunity to borrow from the model analyses of reflection competence in the modelling of research competence.[15] These are mostly three-level models (Kansanen 2005, p. 98) and strongly recalls the reflection level model created by Erich Weniger in 1929 (see Meyer 1993). Empirical studies on the analysis of research competency of teacher researchers are, as far as we know, not yet in existence. We therefore, as part of a Bund-Länder Commission (BLK) model attempt, developed a pragmatic model for the analysis of this competency. It stood the test in the practical work with researching teachers as an analytical framework, but itself has not yet been empirically proven.[16] The model is thoroughly presented in Meyer (2003), and assumes the following theoretically-supported aspects:

(1) Competencies are entireties. They are always comprised of several dimensions of thinking, action, and feeling.

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[14] These kinds of determinations support the notions of action researchers like O´Hanlon (1996, p. 66) "that there is no professional development without personal development".

[15] Dick 1992; Loughran 1996; Neuweg 2000; Dinkelman 2000; Korthagen et al. 2002, p. 141 ff.; Fichten/Dreier 2003; Fichten 2005.

[16] The analysis pattern does not serve as a replacement, but is instead a "bottom-up expansion" of the academic theoretical discussion on competency development that is sure to continue into the coming years.

(2) For our purposes, competency always has elements of knowledge, ability, and assessment (Jank/Meyer 2002, p. 146).

(3) Competencies are tiered within themselves, because there is always more or less the realization of knowledge, ability, and assessment.

(4) Gradation models require an empirically rich gradation principle, e.g. the increasing complexity of the task, the increasing independence, or the creativity of the problem solution.

(5) The dimension and gradation create a specific "tectonic", i.e. an internally-structured formation of individual competency constructs, which must be analytically distinguished from the process of competency acquisition.

Our model is concretized in the structural conditions for research competency development presented in section two. The width of the dimensions and the depth of the gradations make it clear how and why research can make a contribution towards personality development.

Figure 1

The dimensionalization borrows from the learning goal taxonomy (TEO) developed by Bloomsche in the 1950s, which in turn takes from the commonly-used occidental trilogy on critical thinking, moral values, and practical conduct by Immanuel Kant. We used the five levels of the PISA study in our work as well. The gradation criteria is that of the growing independence of research reflection and action. An extension by means of the criteria of growing creativity would be imaginable.

The fifth, integrative level incorporates the theoretical construct of the double habitus (see above) formulated by Werner Helsper. However, the question remains of whether the formulation of a triple habitus would be of greater consequence. The answer to this question is dependent upon whether ethical aspects and questions of confidence building and self-effectiveness are seen as either "competencies" or more as – in contrast to this – attitudes.

4. Success Requirements for Competency Development through Research

Maverick research is rarely successful (see above). A process-initiating and structure-providing support system is essential for introducing teaching professionals into the action research models. This is required that they may be advised during the process of fine-tuning the research question and method selection, to help them acquire resources, and support them in their implementation efforts. The building blocks of this kind of support system can include:

(1) A "**community of practice**" and/or a "professional community" (Altrichter 2002) helps build research competency, create publicity, organize feedback situations, and build the confidence of the researchers.

(2) An **institutional consultation** that accompanies the research and implementation processes. This is offered e.g. by the Laborschule scientific institution, the Oldenburger Forschungswerkstatt, or the coodinating group doing school-assisting research at the Landesinstituts School in Bremen. It helps to clarify technical questions, acquire and ensure resources, and assists in the creation of contacts with scientific institutions and/or individual professors and researchers.

(3) Teacher researchers need to learn how to deal effectively with public criticism. A **gradation model of publicity** that has emerged almost everywhere serves well wherever teacher research has established itself. On an initial, more intimate level, teacher researchers can present their findings in team workshops (Fichten/Wagener 2005). On a second level, research reports can be presented at conferences and as part of "in-house" publications. On a third level, a publication of research reports and participation at conferences can be organized.[17]

(4) Teacher research requires **own value criteria**, through which the conventional triad of reliability, validity, and objectivity can be expanded (see Zeichner/Noffke 2001; Fichten et al. 2002; Huber 2005). It is important that these value criteria are discussed, varied, and internalized by the participants. This helps to strengthen confidence in the quality of the work being done.

(5) A **work coalition** and an **ethical code** agreed upon by the researchers help to resolve conflicts occuring e.g. between education obligation and research curiosity (Altrichter/Posch 1998, p. 18; Junghans/Meyer 2000; Fichten et al. 2002).

(6) Those new to research need a **supervisory coaching staff** to obtain process security, cushion the blows of motivation incursions, and overcome disappointments.

5. Literature

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