

Pedagogical Tact in Mentoring of Professional School Internships

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Abstract

Pedagogical tact, the “translator” from theory to practice, is a complex construct. A theory of tact has been developed and is tested through comparison of novice and expert teachers. One may assume that experienced practitioners are tactful if they are committed. Preservice teachers may be assumed to be less *tactful* than experienced teachers for two reasons: (a) they are not used to teaching and applying theoretical concepts in their internships, and (b) they stick “closer” to the knowledge about theories since they are still studying. Billett and Smith (2014) proposed that in professional practice an interactive enactment of knowledge is crucial. Qualitative differences between novices and experts were reported by Berliner (e.g. 2001). In a pilot study conducted in January of 2016 at a new lower secondary school in Austria five senior preservice teachers and three mentors were investigated. The preservice teachers and the mentors (expert teachers) were assessed independently for one lesson with stimulated recall. The results were coded along crucial categories in tact situations. Direct comparisons of experts and novices from the same field according to the coding system were interpreted as indicators of the validity of the assessment tool to measure *tact*. To make sure that there is indeed a difference in the experts’ and novices’ actions, the lesson interruption method (LIM; Patry, 1997b) was used to check tact relevant dimensions. First results showed a statistically significant association between the level of excitement, the level of fun and the level of notice of the surroundings during the learning process due to the estimations in the LIM of the participating pupils.

Keywords

theory practice transfer, mentoring, internships, mixed methods, reflective teaching

1. Introduction to Research on Pedagogical Tact

Mentoring can be seen as the attempt of mentors to support the mentees in translating the theories learnt in college into practical action in educational situations. This is not trivial, since there is a gap between theory and practice, as has been repeated over and over again in the history of research in education (see e.g., Patry, 2004): A *direct* application of scientific knowledge or “theory” is impossible in practice. In the late 18th and early 19th century, very first scientific pedagogues in Germany, Trapp, Herbart, and Schleiermacher, addressed this problem. The most discussed approach was the concept of *pedagogical tact* proposed by Johann Friedrich Herbart (1776-1841) in his lectures in 1802:

But in every theorist (...), if he practices his theory (...), there inserts itself quite involuntarily a link intermediate between theory and practice. There is, to wit, a certain *tact*, a quick judgment and decision, not proceeding like routine, eternally uniform, but, on the other hand, unable to boast (...) retaining strict consistency with the rule, it at the same time answers the true requirements of the individual case. Exactly because such a (...) complete application of scientific propositions would require a supernatural being, there inevitably originates in man as he is, out of continued practice, a mode of action, which depends on his feeling and only remotely on his conviction a mode of action rather giving vent to his inner movement (...) than the resultant of his thinking. (1802, in the translation of 1896, pp. 19f.; italics added)

Herbart’s concept of *tact* has been cited widely, but Herbart gave only some tentative theoretical elements to account for *tact*. Later authors, for example, Nohl (1963) and Muth

(1982) presented more sophisticated approaches. Based on these and other elements we developed a comprehensive theoretical conception of *tact*. The research proposed here aims at further elaborating this conception, and testing hypotheses derived from it. Although the theoretical conception of *tact* as presented in Patry (2012) is fairly well developed, it is still incomplete. In particular, our recent theoretical work (e.g., Patry, 2009a; Patry & Präauer, 2014; Patry & Gastager, 2017) has shown the necessity to integrate additional elements. Further, the relationships between the different elements need to be analyzed.

To date *tact* has been assessed empirically in very few studies (e.g., Symonds, 1930). The present study, aims at testing hypotheses derived from the improved theoretical conception. It is important to mention already here that we do not claim that the variables addressed here form a comprehensive framework for *tact*; nevertheless, they are regarded as important, and therefore their analysis will provide a significant improvement of the understanding of the theory-practice transfer. The following issues are taken into account:

(1) The first theoretical account of *tact* to be mentioned is Nohl’s (1963) concept of *tact* as a mesotes relationship (from Aristotle’s *mesotes*: not too much and not too little). Other references to “not too much and not too little”, not as explicit as Nohl, can be found in Muth (1982) and others. The same relationship has been addressed independently from the Geisteswissenschaftliche Pädagogik¹ in the psychological discussion of situation specificity (tentatively in Mischel, 1968, chapters six and seven, explicitly by Patry, 1991a). While Nohl did not relate “not too much and not too little” to

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situation specificity, this became a basic principle of the theory of situation specificity in behavior (see also Patry, 2000; 2011). This led to the question whether situation specificity plays a role in *tact*; although Herbart had alluded to it (see Hopfner, 2007, p. 139), this issue had not been addressed so far in the theory of *tact*. As Patry (1991a, 2009a) has shown, it makes sense to assume that tactful behavior is situation specific, which can be explained with the principle of “not too much and not too little.”

(2) Another concept relevant for *tact* that has evolved in the empiric-analytical tradition is the action theoretical model in which *tact* has been integrated (Patry, 2011). One version of this model which is regarded as particularly relevant is the Cognitive-Affective Personality System (Mischel & Shoda, 1995), which focuses on six factors (so-called cognitive-affective units, CAUs): Competence (What am I able to do?); perception (What sense do I make from the stimuli I perceive?); expectations (What will happen if I do x? What, if I do not do anything? – here, “not too much and not too little” can be applied); goals and values (What do I want to achieve?); self-regulation principles (How can I control my behavior? Which principles do I apply for this?); and emotions (What do I feel?). The CAUs are regarded as interrelated, and each of them can be activated in function of the situation (situation specifically).

(3) According to Herbart, Nohl, Muth, and many others, an action can only be considered as tactful if it satisfies some normative (ethical) requirements. In this conceptualization, the boundaries between descriptive and normative statements have to be considered. The key issue concerning the ethical foundation of *tact* is responsibility, which means that either the norm used to justify a practitioner’s action is defined by some authority (e.g., the superior like the school principal), or the norm is defined by the practitioner’s own rationally justified values system (moral judgment), including his or her fundamental norms and his or her conscience (Oser & Patry, 1994). The latter is difficult to assess since often the practitioners are not aware

of their underlying norms, and particularly the moral judgment (“*Why* do I apply this ethical norm?”) would require a special investigation (e.g., in the tradition of Kohlberg, 1984): The same practical decision can be ethically justified if argued for on a high stage of moral judgment (e.g., based on moral principles; stage 6 according to Kohlberg), but inappropriate if reasoned for on a low level (e.g., because if I help the other person, he or she will help me on other occasions – stage 2 in Kohlberg’s theory).

(4) Another tradition is phenomenology, represented particularly by van Manen (e.g., 1991; 2015) with his concept of pedagogical thoughtfulness and *tact* (see below in section 3), which is strongly influencing the concept of the reflective practitioner in internships in education of preservice teachers. Van Manen emphasized the notion that *tact* can never be seized comprehensively through social scientific methods, but rather phenomenological principles need to be applied. Further, he noted the “*Kairos* time”, which means that in education, we must seize an occasion for doing something – just seconds later, it might be too late (referring to *Kairos*, the ancient Greek god of the instant of the moment). “*Kairos* moments are pure, perfect, unpredictable, and uncontrollable moments that possess possibility.” (van Manen, 2015, p. 52).

In professional mentoring processes in internships for preservice teachers, a multiplicity of different reflective aspects as well as variables associated with the theoretical concept of *tact*, as seen above, are at stake. We focus in this research on the goal of developing deeper insight into preservice teachers’ feelings and thinking in special situations during their teaching, by providing an opportunity for thoughtful reflection. Subjective feelings and thinking often remain implicit in teaching. The focus is, hence, on the Cognitive-Affective Personality System (CAPS) as summarized above (2), with reference to the issue of “not too much and not too little” (1), while the normative (3) and the phenomenological issues (4) cannot

be addressed here, which does not mean that they are irrelevant.

According to Herbart, experienced practitioners (in our study, mentors) are not necessarily more tactful than novices (preservice teachers). Nevertheless, there are good reasons to assume that experienced teachers are indeed tactful if they are committed. Preservice teachers are assumed to be less tactful than experienced teachers for three reasons (see also Berliner, 2001, as discussed below in section 3): (a) they are not used to teach and to deal with the problems of applying theoretical concepts or models in practical situations, and (b) they are “closer” to the theories since they are still studying and passing exams etc., which means that they stick to the theories much more than expert teachers who have distanced themselves somewhat in their practical work from the theoretical approaches and models they know from their own studies and further education. On the other hand, novices are more concerned with content matters, which usually are no problem for the expert teachers, and they do not perceive the Kairos moments (van Manen, 2015) as easily as experts. The assumption is not that the preservice teachers are unable to be tactful, but that they lack experience in acting tactfully in teaching situations, which results in less tactful actions in these particular situations.

2. Bridging Theory and Practice

The transfer from theory to practice is a crucial issue in education research, since an important objective of theory-building is to provide elements that might contribute to the improvement of educational practice. Before transfer can be discussed, it is necessary to provide definitions of the central terms. A *theory* is a system of statements that satisfies certain conditions. We can distinguish *scientific* theories and *subjective* theories. Scientific theories are characterized by (1) a certain generality across different facets (Cronbach et al., 1972), i.e., they are not only valid for one single situation, person, behavior parameter, and point in time; rather, validity is claimed for many situations,

for the past as well as for the future, behavior parameters, and maybe for several people. The domain validity is not unlimited; rather it is restricted with respect to the different facets: only for some (types of) situations, some periods in the past and in the future, some behavior parameters, and some persons (so-called idiographic theories, for instance, are assumed to be valid only for one single person). (2) The statements are supported through arguments; in terms of Dewey (quoted in Phillips & Burbules, 2000, p. 31; see also Patry, 2008) one can speak of warranted assertiveness. The ways in which assertiveness is warranted depends on the epistemological perspective; for instance, empirical evidence can serve for this purpose. (3) Scientific theories are subject to criticism, i.e., critical examinations are systematically sought and provided. (4) To satisfy this condition, it is essential that the scientific theories are stated explicitly, i.e., texts describing a given scientific theory comprehensively must be available.

Subjective theories are cognitions of the practitioners about the world and about themselves (Groeben et al., 1988). (1) They have also a (limited) generalizability, but with respect to the theory-practice transfer it is important to note that in contrast to scientific theories, the domain of validity might be restricted insofar the practitioner's actions are concerned („theories in use” in terms of Schön, 1991), since for this, for instance, only situations of direct concern are of relevance. On the other hand, the conditions 2 to 4 for the scientific theories (see above) are not met: (2) The subjective theories are only marginally justified (and often with biased means; Furnham, 1988); (3) they are rarely submitted to criticism, criticisms are often denied, and testing theories means the attempt to confirm them while in science, according to Popper (1934), the principle is refuting; and (4) they are not explicit, but may be reconstructed („theories espoused”, Schön, 1991), with reconstruction involving both a reduction and a construction (addition of new features) with respect to the original subjective theory (Patry & Gastager,

2017). Scientific and subjective theories differ substantially also with respect to the content (Patry, 2014).

Practice is an action in a concrete situation. The practitioner considers only the individual case, and he or she has at least some practical goals – in education, these are educational goals.

For conceiving the transfer from theory to practice, the general model depicted in figure 1 in which we distinguish three roles is useful for conceptualizing the transfer from theory to practice; the roles may be performed by specific people, but the role of mediator can also be a simple function that is presented here for analytical reasons. The *researchers* develop and validate the scientific theory. The *mediators* communicate the scientific theory to the practitioners; this can be done through many different means, among others through textbooks or teacher education. It is important to note that the mediator does not provide the scientific theory as it is, rather it is typically a summary of it with specific foci. The *practitioners* integrate the theories proposed by the mediators into their own system of subjective theories. Based on the full system of subjective theories, on their perception of the

given situation, and on the goals, they pursue, they decide on their course of action. The “transformation function” for this is what Herbart (1802/1896) called the pedagogical tact (see section 1). The decided action is executed and has an impact (or not) on the environment. This effect is again perceived by the practitioner (feedback). In some cases, action and outcome are assessed in research and may lead to an improvement of theory.

According to this model, the following restrictions for the theory-practice transfer are important:

- Scientific theories can have an impact on action only if they are integrated into the system of subjective theories and if (and insofar) the practitioner capitalizes on them when deciding about his or her action.
- Scientific theories are distorted when integrated into the system of subjective theories.
- The practitioners have other (non-scientific) elements besides the scientific ones in their subjective theories.

Figure 1.

A Model for the Transfer from Theory to Practice

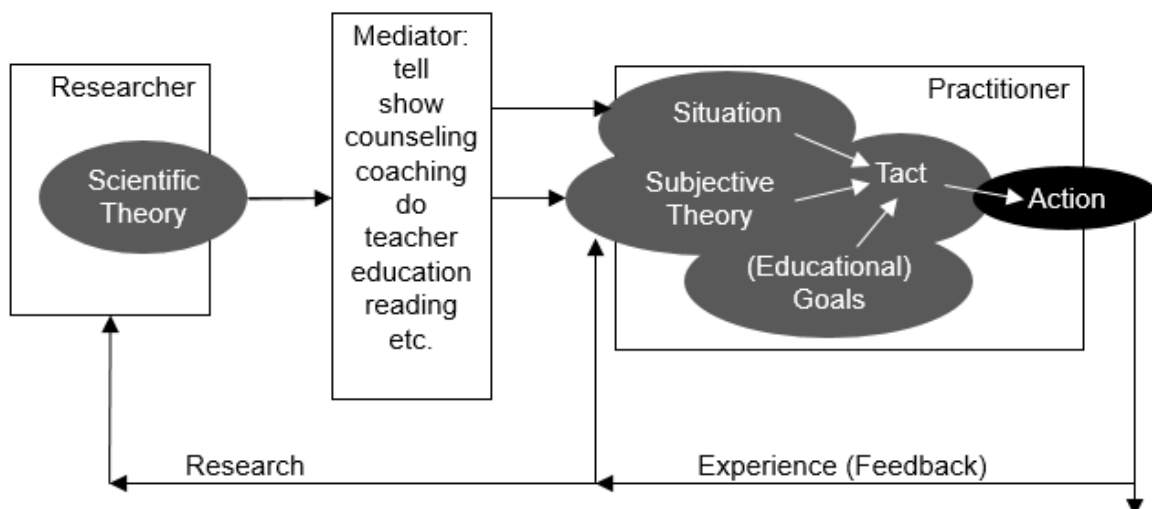


Figure 1. A model for the transfer from theory to practice (adapted from Patry, 1999)

Therefore, the theory-practice transfer is jeopardized on two levels: the transfer from scientific to the subjective theories and the transfer from subjective theories to practice. Some of the obstacles for a direct application or an easy transfer are mentioned below:

Category error. A theory is a system of statements. This is a different category (in the sense of Ryle, 1970; see Patry, 2004) than action, which is what someone does. Hence, a direct translation from theory to action is not possible by principle: It would be a categorical error. Since both scientific and subjective theories are statements, the problem addresses only the transfer from subjective theories to practice.

The generality-concreteness antinomy (following Herrmann, 1979, p. 16off.) states that the more general a statement is, the less concrete can it be. It is particularly acute when social behavior is concerned (Patry, 1991b). Theories need to be general (this applies to a lesser degree for subjective than for scientific theories), while practitioners need a maximum of concreteness for their decision-making.

Polytely. Practitioners usually pursue several goals simultaneously (goals are addressed in the CAPS discussed above). Usually, these goals are heterogeneous and often incompatible (e.g., Patry, 1997a). In scientific theories, however, polytely is almost never addressed, whereas upon request, practitioners say they have multiple goals but have difficulties dealing with them (Patry, 2005). Again, the transfer from scientific into subjective theories as well as the transfer from subjective theories to practice are challenged, yet in different ways.

Theory pluralism. Practitioners use several theories that they try to integrate (Patry, 2012), even ones that from the scientific point of view, according to the concept of Kuhn (1962), are incommensurable. In science, following Kuhn, there is competition between theories (although there are some attempts for multi-paradigmatic approaches, Kornmesser & Schurz, 2014), in subjective theories, there is at least co-existence (Gastager, 2003).

Situation specificity. Practitioners act specifically to the situation (Patry, 2000). When addressing their own behavior, they also claim to act situation specifically (Jones & Nisbett, 1971),

and upon request they provide different subjective theories for different situations (e.g., Purzeller, 2009). In science, situation specificity is rarely considered (Patry, 2009b).

“The situation talks back” (Schön, 1991). When we do something, we usually check whether our action was successful or not: We get feedback (Patry et al., 2006). Scientific statements, in contrast, are usually linear: “If I do x, with probability p, I will get y”, or “for achieving y, I can do x” (Bunge, 1967). In subjective theories, feedbacks can be anticipated: “I might try x_1 and see whether y results, and if not, I’ll try x_2 , etc.”

Unanticipated events. Everyday life (including practice) is full of surprises (see above, van Manen, 2015), particularly in social situations when one cannot anticipate fully the other people’s behavior. Such unanticipated events are seen as random errors in scientific theories, i.e., they reduce the reliability of a statement (and therefore the variance accounted for by theories). In subjective theories, they are typically not considered but upon request the practitioners mention them as important.

Emotions (also mentioned in the CAPS) are also very important in practice. Many scientific theories account for the impact of emotions on other variables that might play a role in practice, and subjective theories contain statements about emotions as well (e.g., Grabler, 2014). The relationship between the three levels has also been analyzed (e.g., Hascher & Hagenauer, 2016). Here it seems that we have the least problems for the bridging between theory and practice.

Normative requirements. Any action has a normative background because it has an impact on other people which needs to be justified ethically. Practitioners are also aware of this to some degree (Patry, 2014), whereas researchers insist on a strict separation of descriptive and normative statements in order not to commit the naturalistic fallacy (conclusion from Is to Ought), and according to Brezinka (1978), who has been very influential in research in education in the German speaking countries, normative statements must be avoided. As per Zecha (1984), they are permitted, provided they are declared as such.

This list is certainly not exhaustive. These problems and obstacles have different degrees of seriousness, and some are insurmountable by principle (e.g., the categorical difference), while others might be attenuated, although never be solved completely. Further, they are interrelated, and so a full theory-practice transfer, or some kind of direct “application” of (scientific) theory in practice, is not possible; instead, the concept of Pedagogical Tact can be used to account for the difficulties.

3. Tact in Professional Mentoring Through the Reflective Practitioner

Professional practice is characterized by interactive enactments of knowledge (Billet & Smith, 2014, p. 735), in which some inter-related attributes or perspectives of teachers influence their practice: The requirements of work, as well as the task, tools, systems, colleagues, and all the negotiations and encounters engaging with these requirements comprise the engagement in practice. Furthermore, practitioners’ engagement in practice comprise the ways and means by which their enactment is enabled and supported. And finally, practitioners’ engagement in practice emerges out of their personal understanding and construal of the goals and requirements of work. These assumptions including all the practical experiences may be said to constitute a personal or subjective epistemology in the sense of the patterns of subjective theories (see above) of practice.

A reflective practicum (internship) supports the preservice teacher’s development of professional skills for teaching. According to Schön (1987) several features make this process learnable, coachable, but not teachable. A set of determining variables consists of certain features such as design qualities, knowing in action, designing as a creative activity and as a holistic skill, and skillful designing (Schön, 1987). As we have seen in section one, van Manen (1995, p. 33) advocates a wider and phenomenological sense of tact and reflective practicum. According to him, the literature on teaching and teacher education has shown that

professional educational practices cannot be properly understood unless we are willing to conceive of practical knowledge and reflective practice quite differently from the traditional approaches. Van Manen acknowledges that reflective thinking being important not only as a tool for teaching, but also as an aim of education. He cites Dewey, according to whom the sight of reflective thinking enables us to know more about ourselves during the action. Reflective thinking converts action that is merely appetitive, blind, and impulsive into intelligent action. The suggestion that teachers need to be reflective practitioners begs the question, what the process of reflection consists of. Dewey’s thought (1933, cited in van Manen, 1995, p. 33) about the nature of reflection gives us ample opportunity to feel provoked. And van Manen (2015, p. 50) postulated that Dewey spoke about the need for developing certain qualities or traits of character such as open-mindedness or sincerity, wholehearted or absorbed interests, and responsibility as well as the need for a habit of thinking in a reflective manner. In his newest publication about tact, van Manen (2015, pp. 49-60) emphasized that knowledge of different reflective methods alone is not sufficient; there must be a union of skilled methods with attitudes for tactful thinking and acting in situations that are of special requirements for teaching. He refers to the Kairos time (see above; van Manen, 2015, p. 51) and claimed that the active practice of teaching shows the feeling of the teacher, that he or she might act with more or with less thoughtfulness.

In teaching, the provocative image of Kairos moments might be one that is striking and clarifying the human predicament when something hangs in the balance, e.g., in a difficult critical teaching situation. Preservice teachers and/or beginning teachers often seem to feel the tension or the “poor fit” between what they learned about teaching (theoretical knowledge; see also in section two) and what they discover is required in the practice of teaching (van Manen, 2015, p. 55), such as how to deal with potentially embarrassing situations.

The mentors in internships are seen as experts for reflective acting; that is the reason why they were chosen for this role. Expertise as

a theoretical concept is strongly influenced by empirical research and far away from a metaphoric terminology like the phenomenological sight used above: Experts are described and identified as teachers who are both, good and successful. Berliner (2001, pp. 463f.) gives many different accounts for expertise, such as:

Expertise is specific to a domain, developed over hundreds and thousands of hours and continues to develop; development of expertise is not linear. Non-monotonocities and plateaus occur, indicating shifts in understanding and stabilization of automaticity; expert knowledge is structured better for use in performances than novice knowledge is; experts represent problems in qualitatively different ways than do novices. Their representations are deeper and richer; experts recognize meaningful patterns faster than novices; (...) experts are usually more constrained by task requirements and the social constraints of a situation than are novices; experts develop automatically in their behaviour to allow conscious processing of more complex information; and experts have developed self-regulatory processes as they engage in their activities. (Berliner, 2001, p. 464)

Some of these issues are of interest in our study with regard to tact and hence are considered in the method of the present study.

4. Hypothesis

Training of practitioners yields changes in their understanding of theories and hence a change in tactful behavior. Training of experienced practitioners to become mentors who can convey theories and theory-practice transfer to practitioners leads them to apply a closer relationship between scientific and subjective theories. This means that such training enhances the pedagogical tact of the mentors and therefore has an impact on the practitioners' actions. Highly experienced teachers may act more tactfully than novices, however, preservice teachers may indeed be tactful, if they are

committed. Then again, preservice teachers are assumed to be less tactful than experienced teachers are, e.g., mentors. We introduced the differentiated reasons at the end of section 1 (see above).

The hypothesis of the present study is that the developed assessment system (see for an overview in section 5.1) can discriminate between tact of mentors and tact of preservice teachers. This is then interpreted as a sign of validity of the assessment system. This assumption will be used to validate the coding system. And furthermore, it is assumed that the involved pupils discriminate differences by perceiving the diversity in the teaching of the mentors and the preservice teachers.

5. Method

5.1 Mixed Methods and Constructs of Interest

The study follows the main mixed-method principles (Tashakkori & Teddlie, 2010) using the stimulated recall method (Calderhead, 1981) and the Lesson Interruption Method (Patry, 1997b).

5.1.1 Stimulated Recalls

For Stimulated Recall, a practical sequence was video-recorded; immediately afterwards the practitioner was interviewed by asking what he or she thought in situations selected by him or her or by the interviewer from the tape. The data were analyzed using a coding system based on deductive categories (constructs) following the theoretical elements presented in sections 1 and 2. The investigation process consists of two assessment steps (Calderhead, 1981; Schepens et al., 2007; Stough, 2001):

- A practical action sequence (e.g., a teacher's or preservice teacher's lesson) was video-recorded.
- As quickly as possible this recording was viewed by the practitioner and the interviewer. The practitioner – or, if it seemed appropriate, the investigator – interrupted the viewing, and the practitioner responded to the situation (between two interruptions). If needed, the interviewer

asked additional questions. The interaction between practitioner and interviewer was audio-recorded, transcribed, and content analyzed by the coding system.

The analysis will be performed on two levels. As we are currently in the data analysis phase of our study, we will not focus on the content analysis, but will present a few verbal examples of the pre-study to document some of the given statements of the pre-study.

The practical action sequence will be analyzed using a general observation system. The focus will be on para- and nonverbal expressions to permit us to combine the qualitative data, or information of the investigated persons, with the quantitative results, as is usual in mixed-method-research (Tashakkori & Teddlie, 2010). The stimulated recalls will be content analyzed with a content analysis system addressing the constructs of tact. The stimulated recall approach, appropriately used, is quite complex and requires much effort but it yields extremely rich material that permits testing the hypotheses very thoroughly. It also has specific problems that must be addressed. For instance, in such analyses there is the problem of serial influence, i.e. situation 1 (episode n+1) is serially dependent from situation 2 (episode n).

On the other hand, it must be emphasized that stimulated recall is not an appropriate assessment tool for comparisons between people (e.g., comparisons of females and males) because the within-person variance, which is the focus of the hypotheses, is much higher than the expected between-person variance. Before such comparisons can be done it is necessary to test to what degree tact and the underlying variables are cross-situationally consistent; for this, the tact in at least two practical contexts has to be assessed. Finally, it must be said that stimulated recall is very time-consuming for the practitioners. However, many practitioners said in previous studies that they benefitted very much from it: They said that it was like a supervision or an opportunity for reflection for which they usually do not have time.

The following categories were used in the content analysis:

- Subjective assumptions for explanation: How do the interviewees explain the phenomena they encounter? These are subjective equivalents of scientific theories.
- Competencies (see the first CAU in the CAPS), (e.g. Flavell & Wohlwill, 1969);
- Perception (see the second CAU in the CAPS), (Hagendorf, Krummenacher, Müller & Schubert, 2011);
- Goals (see the fourth CAU in the CAPS): What the practitioner aims at in the given situation;
- Values (see, again, the fourth CAU in the CAPS; see also for instance Bakker, 2011): What is important for the practitioner;
- Self-regulation (see the fifth CAU in the CAPS); this includes deontic normative principles, i.e. ethical principles to be followed independently from the (anticipated) consequences of the action;
- Emotions (see the sixth CAU in the CAPS);
- Unanticipated events and the aspects of recursiveness: “The situation talks back, the practitioner listens, and as he appreciates what he hears, he reframes the situation once again” (Schön, 1983, p. 131f; see section 1).

5.1.2 Lesson Interruption Method

The Lesson Interruption Method (LIM – Questionnaire) (Patry, 1997b) is a technique, which allows the pedagogue to interrupt their teaching sequence at predetermined moments in order to receive a spontaneous and immediate feedback from the learners. Usually, the feedback is provided in form of a questionnaire, which is handed out to the students. It may contain questions about the behavior of either the teacher or the students (or both). This method can be an expedient tool to collect certain tact-relevant dimensions, such as emotions or situation specificity.

Scales of the questionnaire: The questionnaire itself included 13 items. Before handing out the questionnaire, they were merged into the following four scales.

Tables 1-4: Scales of the LIM-instrument

Scale 1: varying degrees of requirements

1	Some parts of this lesson were not challenging enough.	none	some	many	all
2	The requirements in this lesson were ...	always low	sometimes low	rarely low	never low
6	Parts of this lesson were overstraining.	none	some	many	all
11	The requirements in this lesson were ...	always high	sometimes high	rarely high	never high

Scale 2: level of requirements overall

3	Altogether in this lesson I felt ...	under-challenged	a bit under-challenged	a bit over-strained	over-strained
7	During this lesson ...	much was required	rather was much required	rather was little required	little was required
12	For me, learning in this lesson was ...	easy	rather easy	rather hard	hard

Scale 3: emotional involvement

4	I found this lesson to be...	very exciting	rather exiting	rather not exciting	not very exciting
8	This lesson was ...	little fun	rather little fun	rather great fun	great fun
10	During this lesson...	I forgot everything around me, except learning	I forgot many things around me, except learning	I thought about many things around me, except learning	I thought about everything around me, except learning

Scale 4: cooperation

5	The teacher made sure that important decisions were made together by the whole class (like deciding on the rules for an assignment).	very	sometimes	little	very little
9	Concerning the cooperation of the pupils, the teacher...	fostered it very much	fostered a little	did not foster it a lot	did not foster it at all
13	The teacher made sure that the students helped each other.	very	sometimes	rarely	very little

The scale for the items in grey was inverted in statistical analysis so that (1) always equals the extreme negative and (4) always equals the extreme positive pole

5.2 Investigation and Sample

The 99 LIM questionnaires were collected between January 14th and February 23rd, 2016. Three different classes in three different grades of one lower secondary school in Austria were

Table 5: Overview for the sample of the pre-study

grade	No. of surveyed children (Mentor / Novice)		No. of inquiries in the Mentor's lessons	No. of inquiries in the Novice's lessons
5 th	23	23	5	5
6 th	5	5	5	4
9 th	24	19	4	1
Σ	52	47	14	10

Table 6: Reliability values for the four scales of the LIM-instrument

	Cronbach's Alpha
Scale 1: varying degrees of requirements	.08
Scale 2: level of requirements overall	-.47
Scale 3: emotional involvement	.76
Scale 4: cooperation	.74

surveyed. The surveyed students were between 10 and 14 years old. Ideally, the LIM questionnaires should have been handed out five times in each class. Unfortunately, this was not possible, due to time management difficulties. However, the participating teachers handed out the questionnaires as often as they could. Table 5 gives an overview of the exact composition of the sample for the performed Stimulated Recalls in the pre-study.

5.3.1 Reliability analysis of the Questionnaire

A reliability analysis with the proposed scales (see above) was done in SPSS. The determined Cronbach's Alpha values are shown in Table 6.

Due to the low reliability levels of scales one and two, a factor analysis was done in order to find scales that are better suitable.

Unfortunately, this analysis did not yield the desired results. Therefore, the first and second scale were not taken into account and are not considered in the results section below. We also considered what would happen to the Cronbach's Alpha values for scales 3 and 4, if items were deleted from the scale: For scale 3, a

higher Cronbach's Alpha of .810 (as opposed to .756) could be achieved if we deleted Item 10 from the scale. This item asks, how much of the surroundings one notices while the learning in the lesson occurs. However, we did not delete this item from the scale, as the scale only consisted of three items and we would have reduced the number of items to two items. The Cronbach's Alpha for scale 4 is the highest it can be. We could not achieve a higher value, if any item was deleted.

5.3.2 Results for the Lesson Interruption Method

To calculate the correlation between the different items on the two remaining scales, scale 3 (emotional involvement) and scale 4 (cooperation), we calculated the means of each item in the scale. We included every item that was present at least once. Furthermore, we also tried to find differences between the groups of mentors and students by doing an independent sample t-test. The significance of both the f-test (3: .825; 4: .305) and of the t-test (3: .179; 3: .657) for scale 3 and scale 4 were too high to claim a difference between these groups. Therefore, we retained our null hypothesis.

However, we also looked at the correlations of the items within the two scales and their practical implications.

5.3.2.1 Descriptive Analysis. The next tables show the descriptive analysis for scales 3 and 4 of the LIM questionnaires. The values obtained for scale 3 (emotional involvement), are shown in Table 7.

All three items for scale 4 were graded at least 97 (out of 99) times. The mean values for all three of them were rather high (3.37 / 3.15 / 3.13 out of 4). Therefore, we can conclude that the learners were engaged and focused in all of the lessons. They also had fun learning. The values obtained for scale 4 (cooperation), are shown in Table 8.

These three items were evaluated at least 98 (out of 99) times. The mean values, again,

were rather high (3.31 / 3.26 / 3.13 out of 4). We can therefore conclude that the teachers engaged with the students in making decisions and encouraged them to cooperate with each other and help each other.

5.3.2.2 Correlation. Due to the small size of the participant sample, we decided to incorporate the practical significance into our findings. The values for practical significance can be adducted, if the sample size of a study is relatively small. As this applies to our study, we will further reference this significance as well. Statistically significant results were found regarding the correlation of the items within the scale 3: emotional involvement and scale 4: cooperation. The level of practical significance is presented in Table 9.

Table 7: Descriptive data for scale three

Item	item description	mean value	standard deviation	number of measurements (N)
4	Level of excitement of the lesson	3.37	.61	97
8	Level of fun in the lesson	3.15	.71	99
10	Level of notice of surroundings during the learning process in the lesson	3.13	.66	97

Table 8: Descriptive data for scale four

Item	item description	mean value	standard deviation	number of measurements (N)
5	Important decisions were taken by the teacher and by the class	3.31	.71	99
9	Teachers' level of conveyance of cooperation	3.26	.61	99
13	Teacher's level of conveyance of mutual assistance	3.13	.67	98

Table 8: Descriptive data for scale four

Table 9: Practical significance according to Astleitner (2003, p. 51)

Correlation of the predictor with the criterion	≤0.10	0.15 – 0.33	≥ 0.37
Practical significance	low	medium	high

The table of characteristic factors regarding the practical significance is an extract of the table created by Astleitner (2003, p. 51). The indicator of the practical significance is relevant because statistical significance may provide a mathematical basis for the relevance of minimal effects, if the sample size was big enough and the measured values were scattered correspondently (Bortz & Döring, 2016), which could be negligible for the everyday practical dealings, just because. On the other hand, a high value practical significance is unsupported if the factor of randomness was not excluded by proper scientific conduct. Because individually, both – the statistical and the practical significance – do not indicate valid results, so – ideally – they should be used in cooperation with each other. The practical significance should also be seen in connection with the existing findings in the field; a medium practical significance can be seen as a meaningful finding or as an insignificant one, depending upon which significances could be found in previous studies. Table 10 shows the correlation of the items within scale three – emotional involvement.

We found a correlation between the level of excitement (item 4), the level of fun (item 8) and the level of notice of the surroundings during the learning process in the lesson (item 10). The correlation between the level of excitement (item 4) and the level of fun (item 8) can be classified as significant; the coefficient of the correlation (.682**) shows a great statistical and practical significance. Statistical and practical significance (.527**) was also found regarding the correlation of the level of excitement (item 4) and the level of notice of the surroundings during the learning process in the lesson (item 10).

A great statistical significance with a medium practical significance (.300**) is shown regarding the correlation of the items 8, the level of fun, and 10, the level of notice of the surroundings during the learning process in the lesson. This implies that highly engaged students do have more fun in their lessons and also are more focused on the learning matter. Table 11 shows the correlation of the items within scale 4 – cooperation:

Table 10: Correlation of the items within scale three

Scale 3: emotional involvement		(4) Level of excitement of the lesson	(8) Level of fun in the lesson	(10) Level of notice of surroundings during the learning process in the lesson
(4) Level of excitement of the lesson	Pearson-correlation sig. (2-sided)	1	.682**	.527**
	N	97	97	95
(8) Level of fun in the lesson	Pearson-correlation sig. (2-sided)	.682**	1	.300**
	N	97	99	97
(10) Level of notice of surroundings during the learning process in the lesson	Pearson-correlation sig. (2-sided)	.527**	.300**	1
	N	95	97	97

** . Correlation is significant (two-sided) at level 0.01.

Table 11: Correlation of the items within scale four

Scale 4: cooperation		(5) Important decisions were taken by the teacher and by the class	(9) Teachers' level of conveyance of cooperation	(13) Teacher's level of conveyance of mutual assistance
(5) Important decisions were taken by the teacher and by the class	Pearson-correlation sig. (2-sided)	1	.488**	.552**
	N	99	99	98
(9) Teachers' level of conveyance of cooperation	Pearson-correlation sig. (2-sided)	.488**	1	.444**
	N	99	99	98
(13) Teacher's level of conveyance of mutual assistance	Pearson-correlation sig. (2-sided)	.552**	.444**	1
	N	98	98	98

** . Correlation is significant (two-sided) at level 0.01.

We found a relationship between the items, important decisions were taken by the teacher and by the class (item 5), teachers' level of conveyance of cooperation (item 9) and teacher's level of conveyance of mutual assistance (item 13). The correlation between all three items was statistically significant with coefficients of correlation of .552** (items 5 and 13), .488** (items 5 and 9), as well as .444** (items 9 and 13). This means that all three correlations show a high practical significance as well, and it implies that students who are able to participate in the decision-making process in class show a higher willingness and/or ability to cooperate and help each other. We also did a correlation analysis of the two scales three and four with each other and found a correlation coefficient of .452** (sig. 2 sided: .000; N = 99) – the correlation is significant (two-sided) at level 0.01. This correlation also shows a high practical significance, which implies that a high level of cooperation in the classroom leads to a high level of emotional involvement in the classroom and vice versa.

5.3.3 Statements and examples from the Stimulated recalls

As the analysis processes for the present study is still ongoing, we present verbal statements how

the preservice teachers and the corresponding mentors spoke about some tact-relevant aspects in the videotaped lesson. These illustrate, first, the respective constructs of the coding system (see above); it must be mentioned, though, that these are the first codifications. The statements are from three mentors and five preservice teachers teaching the pupils of the sample of the LIM questionnaire presented above.

Concerning the construct, subjective assumption of explanation, one mentor stated: "Because this is a number [mathematics lesson] which children cannot understand – but Iris (The name has been changed.) has a lunatic ambition and she becomes quickly aggrieved, if she has the feeling to be dismissed. Because she wants to know how it works. She feels easily hurt, if I don't make an effort to explain it." (Code 01). "If Peter does not receive his TLC (tender loving care) all the time, he will get no air for breathing and he will cry all the time. If he receives his TLC, he will be working all the time quite well." (Code 01)

For competencies, one preservice teacher spoke about the relevance of theories: "Why is the theory important as well? Well, in sports the pupils should know the different terms for gymnastics, they need not know everything but some things about how it works in sports. (...)

When I started studying sports at the University of Education, I did not know anything from my own schooldays and I had the wish to know more about the terms in physical education. (...) I think if we teach the kids very all-roundly, they will feel good in their later life.” (Code 04).

For perception, a mentor said: “I don’t perceive, if Sarah does not understand right now. Well, I am really mindless of it.” (Code 01)

A student spoke about goals as follows: “The pupils needed the time that we have thought before [in our didactic analysis for this lesson]. The pupils did not have a clue about that.” (Code 03)

Concerning the values in a recorded tact-relevant teaching situation, another mentor said: “I like [it] when the pupils are asking me because this is a sign of confidence. (...) To me, sitting on the floor in a circle is fine. I like to speak with the pupils on the same personal level. That is important to me. (...)The teacher is then not the person who is telling them how it works, because we can reach goals collaboratively and consensually. That’s the reason why I like that.” (Code 02)

With respect to emotions, a mentor stated: “The kids were leaving the classroom highly satisfied and for me, that’s really a giant pleasure.” (Code 01). And finally one statement concerning Meta-cognition resembles: “Tom adopts a kind of ‘mum-and-dad-role’ in this step and we make no bones about that.” (Code 01)

6. Discussion

In the LIM-questionnaire, it is fascinating that there is a statistically identified connection between the level of excitement, the level of fun and the level of notice of the surroundings during the learning process in the lesson due to the estimations of the participating pupils. Moreover, the practical significance of the correlation of the “emotional involvement” and the “cooperation” is interesting because we find these concepts in the coding system for the qualitative analysis (material) as well, i.e., corresponding to emotions, values and goals.

However, what we can clearly state at this phase of the analysis is that the estimations of the involved pupils show no differences between the mentors/experts and the preservice teachers/novices. The hypothesis, hence, is refuted so far in both the Lesson Interruption Study as well as in the Stimulated Recall Study. Full analysis steps will enlighten states concerning the tact-hypotheses.

We see in some verbal statements and particularly in the several practically and statistically significant correlations that the theory-practice transfer in terms of tact can be elucidated with both methods through analysis of the data gathered in the way described above. This is a potential for the full study concerning the difference in tact-relevant situations of internships. We want to focus on working out primarily of the verbal material some aspects enhancing the development of the professional self (Bauer & Logemann, 2012). While the methodological approaches described above seem appropriate, the analysis turned out to be more complex than anticipated.

For doing professional and reflective internships, it is important to develop wholehearted or absorbed interests in cooperation with mentors and preservice teachers as well as in cooperation with the pupils on the teaching level in the classrooms (Clutterbuck et al., 2012).

Finally, there remains an aspect that is a difficult challenge especially for practitioners, teachers, social pedagogues and so forth, who are beginning in teaching, communicating, mediating students in tact moments. As Van Manen stated:

Yet much of teacher preparation remains stuck in the traditional epistemology of practice and suffers from practical flaws as far as the interactive reality of the classroom is concerned. And as a result of the emphasis on reflective practice in teacher-education programs, preservice teachers have been pressed to live up to the expectation that good teachers are reflective teachers. But they have not

always learned where and how the reflective process should enter the life of teaching. Some beginning teachers receive the strong message that they should not only be reflective in the pre-active and the post-active phases of teaching but that, in the thick of classroom action, teachers should be constantly thinking about why and what they are doing while they are doing it, constantly considering alternatives to their aims and methods, (...). (van Manen, 2015, p. 58).

7. Limitations

In this pilot study, we gained valuable experiences, and preliminary conclusions were drawn; in particular it was shown that tact-relevant variables can indeed be assessed this way. However, several methodical flaws were identified:

1. Although the instruction for the stimulated recall was almost standardized, we got responses of very different distinctiveness. This needs more standardization in function of the theory so that hypotheses can be tested.
2. The length of the units of analysis (situations) varied greatly, but we tried to keep that within a limit.
3. The validity of the coding system needs to be established when we are doing the analysis with the whole data material that we gained in the main study for 34 people, 13 mentors and 21 preservice teachers.

Notes

1. Geisteswissenschaftliche Pädagogik (humanities education in English) is a theoretical perspective developed in the early twentieth century that views the reality of education as the result of historical development and takes into account the social challenges of the time.

Author Note

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References

- Astleitner H. (2003). Praktische Signifikanz. *Journal für Lehrerinnen- und Lehrerbildung*, 3, 48-53.
- Bakker, D. (2011). Humanistic teaching in practice: Exploring its normative professionalism. In: W. Veugelers (Ed.), *Education and Humanism. Linking autonomy and humanity* (pp. 145 – 161). Rotterdam, The Netherlands: Sense Publishers.
- Bauer, K.-O., & Logemann, N. (Eds.) (2012). *Effektive Bildung. Zur Wirksamkeit und Effizienz pädagogischer Prozesse*. Münster, Germany: Waxmann.
- Berliner, D. (2001). Learning about and learning from expert teachers. *International Journal of Educational Research*, 35, 463-482.
- Billett, S., & Smith, R. (2014). Learning in the circumstances of professional practice. In S. Billet, C. Harteis & H. Gruber (Eds.), *Springer international handbooks of education: International handbook of research in professional and practice-based learning*. (pp. 733-757). Dordrecht, Netherlands: Springer.
- Bortz, J., & Döring, N. (2016). *Forschungsmethoden und Evaluation in den Sozial- und Humanwissenschaften* (5. vollständig überarbeitete Auflage). Berlin, Germany: Springer.
- Brezinka, W. (1978). *Metatheorie der Erziehung. Eine Einführung in die Grundlagen der Erziehungswissenschaft, der Philosophie der Erziehung und der Praktischen Pädagogik*. München, Germany: Reinhardt.
- Brezinka, W. (1990). *Grundbegriffe der Erziehungswissenschaft: Analyse, Kritik, Vorschläge* (5th ed.). München, Germany: Reinhardt.
- Bunge, M. (1967). *Scientific research II: The search for truth*. Berlin, Germany: Springer.
- Calderhead, J. (1981). Stimulated Recall: A method for research on teaching. *British Journal of Educational Psychology*, 51, 211–217.

- Clutterbuck, D., Poulsen, K.M., & Kochan, F. (2012). Developing successful diversity mentoring programmes. An International Casebook. New York, NY: Open University Press.
- Cronbach, L. J., Gleser, G. C., Nanda, H., & Rajaratnam, N. (1972). The dependability of behavioral measurements: Theory of generalizability for scores and profiles. New York, NY: Wiley.
- Furnham, A. F. (1988). Lay theories. Everyday understanding of problems in the social sciences. New York, NY: Pergamon Press.
- Gastager, A. (2003). Paradigmenvielfalt aus Sicht der Unterrichtenden. Subjektive Theorien über Handeln in „traditionellen“ und konstruktivistischen Lehr-Lern-Situationen. Lengerich, Germany: Pabst.
- Grabler, S. (2014). Das Dual Processing Self-Regulation Model von Boekaerts (2006) und Subjektive Theorien Studierender zum Verfassen ihrer Masterarbeit im Zusammenhang mit Situationsspezifität. Unpublished Master's Thesis, Department of Education, University of Salzburg.
- Groebe, N., Wahl, D., Schlee, J., & Scheele, B. (Eds.). (1988). Forschungsprogramm subjektive Theorien. Eine Einführung in die Psychologie des reflexiven Subjekts. Tübingen, Germany: Francke.
- Hagendorf, H., Krummenacher, J., Müller, H.-J., & Schubert, T. (2011). Wahrnehmung und Aufmerksamkeit: Allgemeine Psychologie für Bachelor. Berlin, Heidelberg, Germany: Springer. Retrieved from <http://dx.doi.org/10.1007/978-3-642-12710-6>
- Hascher, T., & Hagenauer, G. (2016). Openness to theory and its importance for pre-service teachers' self-efficacy, emotions, and classroom behaviour in the teaching practicum. *International Journal of Educational Research*, 77, 15-25.
- Herbart, J.F. (1802). Herbart's ABC of sense-perception and minor pedagogical works, translated, with introduction, notes, and commentary, by William J. Eckoff, 1896. New York, NY: Appleton. http://www.archive.org/stream/herbartsbcfsensooherbuoft/herbartsbcfsensooherbuoft_djvu.txt, retrieved 17 September 2013.
- Herrmann, T. (1979). Psychologie als Problem: Herausforderungen der psychologischen Wissenschaft. Stuttgart, Germany: Klett.
- Hofer, M. (1986). Sozialpsychologie erzieherischen Handelns: Wie das Denken und Verhalten von Lehrern organisiert ist. Göttingen, Germany: Hogrefe.
- Hopfner, J. (2007). Pädagogisches Handeln zwischen Intuition und Urteil. In B. Fuchs & C. Schönherr (Eds.), *Urteilkraft und Pädagogik. Beiträge zu einer pädagogischen Handlungs-theorie* (pp. 133-143). Würzburg, Germany: Königshausen & Neumann.
- Kleinginna, P.R. & Kleinginna, A.M. (1981). A categorized list of emotion definitions, with suggestions for a consensual definition. *Motivation and Emotion*, 5, 345-379.
- Jones, E. E., & Nisbett, R. E. (1971). The actor and the observer: Divergent perceptions of the causes of behavior. In E. E. Jones, D. E. Kanouse, H. H. Kelley, R. E. Nisbett, S. Valins & B. Weiner (Eds.), *Attribution: Perceiving the causes of behavior* (pp. 79-94). Morristown, N.J.: General Learning Press.
- Kohlberg, L. (1984). *Essays on moral development: Vol. 2. The psychology of moral development*. San Francisco, CA: Harper & Row.
- Kornmesser, S., & Schurz, G. (Eds.). (2014). *Die multiparadigmatische Struktur der Wissenschaften*. Wiesbaden, Germany: Springer VS.
- Kuhn, T. S. (1962). *The structure of scientific revolutions*. Chicago, IL: University of Chicago Press.
- Mischel, W. (1968). *Personality and assessment*. New York, NY: Wiley.
- Mischel, W., & Shoda, Y. (1995). A cognitive-affective system theory of personality: Reconceptualizing situations, dispositions, dynamics, and invariance in personality structure. *Psychological Review*, 102, 246-268.
- Muth, J. (1982). *Pädagogischer Takt* (3rd ed.). Essen, Germany: Neue Deutsche Schule.
- Nohl, H. (1963). *Die pädagogische Bewegung in Deutschland und ihre Theorie* (Sechste, unveränderte Auflage). Frankfurt/M, Germany: Schulte-Bilmke.
- Oser, F., & Patry, J.-L. (1994). Teacher responsibility. In L. Anderson (Ed.), *The international encyclopedia of education*, 2nd edition, volume „Teacher education“ (pp. 6048-6053). Oxford, UK: Pergamon.
- Patry, J.-L. (1991a). *Transsituationale Konsistenz des Verhaltens und Handelns in der Erziehung*. Bern, Switzerland: Lang.
- Patry, J.-L. (1991b). Der Geltungsbereich sozialwissenschaftlicher Aussagen: Das Problem der Situationsspezifität. *Zeitschrift für Sozialpsychologie*, 22, 223-244.
- Patry, J.-L. (1997a). Eine Person – mehrere Werte. *Überlegungen zum intrapersonalen Wertpluralismus*. *Pädagogische Rundschau*, 51, 63-81.
- Patry, J.-L. (1997b). The lesson interruption method in assessing situation-behavior in classrooms. *Psychological Reports*, 81, 272-274.
- Patry, J.-L. (1999). Educational theory and practice from a critico-rationalist point of view. In G. Zecha (Ed.), *Philosophy of education – Advanced volume on critical rationalism and educational discourse* (pp. 191-239). Amsterdam, The Netherlands: Rodopi.
- Patry, J.-L. (2000). Kaktus und Salat – Zur Situationsspezifität in der Erziehung. In J.-L. Patry & F. Riffert (Eds.), *Situationsspezifität in pädagogischen Handlungsfeldern* (pp. 13-52). Innsbruck, Austria: StudienVerlag.
- Patry, J.-L. (2004). *Der Pädagogische Takt – Brücke zwischen Theorie und Praxis. Ein Essay*. In A. A. Bucher (Ed.), *Erziehung – Therapie – Sinn. Festschrift für Heinz Rothbucher*, Salzburg 2004 (pp. 145-168). Münster, Germany: Lit.
- Patry, J.-L. (2005). Intrapersonaler Wertpluralismus in der Erziehung: Theorie und konkrete Beispiele. In C.

- Giordano & J.-L. Patry (Eds.), Wertkonflikt und Wertewandel. Eine pluridisziplinäre Begegnung (pp. 135-150). Münster, Germany: Lit.
- Patry, J.-L. (2008). „Warranted assertibility“ im wissenschaftlichen und politischen Diskurs am Beispiel der Diskussionen um die Bildungsstandards. Schweizerische Zeitschrift für Bildungswissenschaften, 30, 135-144.
- Patry, J.-L. (2009a). „Nicht zu viel und nicht zu wenig“: Grundlagen praktischen Tuns. In D. Bosse & P. Posch (Eds.), Schule 2020 aus Expertensicht. Zur Zukunft von Schule, Unterricht und Lehrerbildung (pp. 285-291). Wiesbaden, Germany: Verlag für Sozialwissenschaften.
- Patry, J.-L. (2009b). Des Kaisers immer neue Kleider. Über das Finden und Vergessen von Theorien zur Situationsspezifität in der psychologischen Forschung. In C. Giordano, J.-L. Patry & F. Rüegg (Eds.), Trugschlüsse und Umdeutungen. Multidisziplinäre Betrachtungen unbehaglicher Praktiken (pp. 91-110). Berlin, Germany: Lit.
- Patry, J.-L. (2011). Methodological consequences of situation specificity: Biases in assessments. *Frontiers in Psychology*, 2:18. doi: 10.3389/fpsyg.2011.00018. Retrieved from http://www.frontiersin.org/quantitative_psychology_and_measurement/10.3389/fpsyg.2011.00018/abstract.
- Patry, J.-L. (2012). Pedagogical tact – concretizing a tacit dimension in pedagogy and rendering it measurable. In B. Bergstedt, A. Herbert & A. Kraus (Eds.), *Initiating learning* (pp. 99-113). Münster, Germany: Waxmann.
- Patry, J.-L. (2014). Mokymas per tyrimus ir tyrimai per mokymą; Mokslinių ir subjektyvių teorijų palyginimas. Teaching through research – research through teaching: Comparing scientific and subjective theories. *Aukštojo Mokslo Kokybės/The Quality of Higher Education*, 11, 12-43 (in Lithuanian and English). <http://dx.doi.org/10.7220/2345-0258.11.1>.
- Patry, J.-L., & Gastager, A. (2017). Subjektive Theorien. In A. Kraus, J. Budde, M. Hietzge & C. Wulf (Eds.), *Handbuch Schweigendes Wissen. Erziehung, Bildung, Sozialisation und Lernen* (pp. 92-106). Weinheim, Germany: Beltz.
- Patry, J.-L., & Präauer, V. (2014). Eine differenzierte Analyse zum Pädagogischen Takt. In R. Coriand & A. Schotte (Eds.), "Einheimische Begriffe" und Disziplinentwicklung (Herbartstudien, Bd. 5, pp. 201-226). Jena, Germany: edition Paideia.
- Patry, J.-L., Harter, S., Höller, M., Höllhuber, R., Imani-Geyer, M., Uibner, M., Watschinger, M., & Widmer, M. (2006). Feedback-Schlaufen: Von der Rückmeldung in der Unterrichtssituation bis zum Forschungsauftrag – eine Herausforderung für die Lehrerbildung. In J.-L. Patry & C. Giordano (Eds.), *Theorie und Praxis – Brüche und Brücken* (pp. 1-17). Münster, Germany: Lit.
- Pervin, L. A. (1993). *Personality: theory and research* (6th ed.). New York, NY: Wiley.
- Phillips, D. C., & Burbules, N. C. (2000). *Postpositivism and educational research*. New York, NY: Rowman & Littlefield.
- Popper, K. R. (1934). *Logik der Forschung*. Tübingen, Germany: Mohr.
- Purzeller, A. (2009). *Unterschiedliches Denken in ähnlichen Situationen? Eine Analyse Subjektiver Theorien von Erziehungspersonen an den beiden Beispielen ‚Mangelnde Zahnhygiene‘ und ‚Kommunikationsprobleme‘*. Unpublished Master's Thesis, Department of Education, University of Salzburg.
- Rothermund, K., & Eder, A. B. (2009). Emotion und Handeln. In V. Brandstätter & J. H. Otto (Eds.), *Handbuch der Psychologie: Vol. 11. Handbuch der Allgemeinen Psychologie - Motivation und Emotion* (pp. 675-685). Göttingen, Germany: Hogrefe.
- Ryle, G. (1970). *Begriffskonflikte*. Göttingen, Germany: Vandenhoeck & Ruprecht.
- Schepens, A., Aelterman, A., & Van Keer, H. (2007). Studying learning processes of student teachers with stimulated recall interviews through changes in interactive cognitions. *Teaching and Teacher Education*, 23, 457-472.
- Schön, D. A. (1983). *The reflective practitioner: How professionals think in action*. London, UK: Temple Smith.
- Schön, D.A. (1987). *Educating the reflective practitioner. Toward a new design for teaching and learning in the professions*. San Francisco, CA: Jossey-Bass.
- Schön, D. A. (1991). *The reflective practitioner. How professionals think in action* (paperback edition). Hants, UK: Ashgate.
- Stough, L. (2001, April). Using stimulated recall in classroom observation and professional development. Paper presented at the Annual Meeting of the American Educational Research Association (Seattle, WA, April 10-14, 2001).
- Symonds, P. (1930). An analysis of tact. *Journal of Educational Research*, 4, 241-254.
- Tashakkori, A., & Teddlie, C. (Eds.). (2010). *Handbook of mixed methods in social and behavioral research* (2nd ed.). Thousand Oaks, CA: Sage.
- Van Manen, M. (1991). *The tact of teaching: the meaning of pedagogical moment: The normativity of pedagogical thoughtfulness*. London, Ontario: Althouse Press.
- Van Manen, M. (1995). On the epistemology of reflective practice. *Teachers and Teaching: theory and practice*, 1, (1), 33-50.
- Van Manen, M. (2015). *Pedagogical Tact. Knowing what to do when you don't know that to do*. Walnut Creek, CA: Left Coast Press.
- Zecha, G. (1984). *Für und wider die Wertfreiheit der Erziehungswissenschaft*. München, Germany: Schöningh.

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