

Possibilities for Research into the Development of Pedagogical Skills in Resolving Educational Situations

Abstract

In this paper, the author presents his view on research activities involving the problems/issues associated with the development of educational skills related to resolving educational situations. It presents the outcomes of a research study whose main aims were to diagnose knowledge about these problems/issues in educational situations, and to suggest and to design, implement, and verify the suggested methodology in practice.

Key words: Action research, educational situation, solving educational situations, methodological work with educational situation, development of educational skills

Introduction

The starting point of the research study was the methodology elaborated for resolving educational situations using modelling as the method for developing pedagogical skills. The complex research study strategy, which included elements of action research, qualitative and quantitative methods and techniques, and the collation and analysis of the collected data, was validated in the process.

Starting point for the research study

The problems/issues associated with educational situations and their resolution is a topic which raises a great deal of inspiration as well as a great number of questions. One of the key problems is how to form a terminological understanding

of the problems/issues, how to diagnose a given situation, how to describe it, and how to resolve it. The final basic question is: “In what way could it contribute to educational/pedagogical skills development?” Since we consider the above-mentioned questions as highly topical and essential, they formed the foundation and starting-point of the theoretical observations herein presented (Chudý, 2004, 2005), as well as for the research study undertaken.

From a research perspective, we attempted to view the whole set of problems and issues from the point-of-view of the development of educational skills (this term will be used throughout this paper, and it can be understood to include pedagogical versatility, adaptability and flexibility) for student teachers.

Thus, our endeavours were oriented on the elaboration of a theoretical point-of-view and starting-point that could serve as the basis for our conception and resolution of the research study in question.

The question we began with was: “Are the “pedagogical” and “student teacher” publics sufficiently equipped with the theoretical knowledge and observations regarding educational knowledge and the development of educational skills and the resolution of educational situations that can be used in their everyday working practices?” In asking this question, two potential answers immediately came to mind – Yes and No.

If yes, then what methods do we use to develop educational skills? – and if no, what is necessary to be done in order to improve the qualitative changes to the given state? In answering this question, we set ourselves aims resulting from the possible responses.

While drawing up a conception and potential resolution for the given problems and issues, we unearthed a whole range of other questions – these then served as stimuli for a more precise orientation of the research study.

Within the context of the thematic reduction of the topic, we restricted our research study orientation on resolving the following questions: “Is it possible to develop educational skills through resolving educational situations?”, and “Does the resolution of educational situations influence the development of educational skills?”

Research study aims and questions to be answered:

The author’s contribution provides a perspective on research studies relating to the problems and issues regarding the development of educational skills through the resolution of educational situations. We herein present a research study whose aims were to diagnose people’s knowledge of the given problems/issues, and to suggest and design a solution, to actually conduct the study, and to verify the methodology created for the resolution of educational situations in practice.

Table 1. depicts the explicit aims and their transformation into research study questions to be answered.

Table 1. Formulation of the research study's aims and questions

Aims – at the content level:	Aims – at the methodological level:
To diagnose the current state of awareness/knowledge regarding the problems/issues associated with educational situations among a selected sample of students	To evaluate the merits and inadequacies of the Incomplete/Partial Sentences technique (used) in Questionnaire № 1 when mapping awareness/knowledge about the given problems/issues.
↕	↕
Research questions – at the content level:	Research questions – at the methodological level:
What are the content awareness/knowledge levels about the given problems/issues among UI and DPS students?	What merits and inadequacies are shown by the Incomplete/Partial Sentences technique when diagnosing the awareness/knowledge about the given problems/issues?

Legend: UI = University Institute; DPS = Department of Pedagogical Sciences

Designing the research study:

In the preliminary research study conducted in 2003 (Chudý, 2003), it was shown that it is necessary to adapt the formulation of questions and to create a rigidly set category of responses – with a view to the enormously differing responses arising from using differing terminological frameworks (cf. Table 2).

Table 2. Questions and categories of responses in the questionnaires

Initial questions:	Response categories:
What do you consider an “educational situation” to be...?	Educational activities in schools, relationships between pupils/students, relationships between teachers/pedagogues, communications between teachers/pedagogues and pupils/students, disciplinary problems
What do you consider a problematic “educational situation” to be...?	Bullying, “bunking off”/absenteeism, conflicts between pupils/students, pupil/student tuition problems, aggressiveness, breaking school rules and regulations, drugs
How do/would you react to an “educational situation” when it arises...?	Personal conversations, professional assistance/advice, visiting PPPs*, visiting drug abuse advisory services/drop-in centres, punitive extra work, disciplinary measures/proceedings

Initial questions:	Response categories:
Do you collaborate with your colleagues in the course of resolving educational situations...?	Meetings with the principal, debates about the problems/issues, reporting problems/issues to the class teacher, resolving the situation on your own

Legend: PPPs* = Pupil Pedagogical Psychiatrists

As is clear from the categories and potential range of responses identified in the preliminary research study, educational situations are judged to be at the level of problems and issues (within) a school environment and teachers/pedagogues perceive them almost as being problems involving the school, disciplinary issues, and dialogues with pupils/students (Chudý, 2004, 2005).

As regards the individual steps of the research study set out in Part 1, we decided on a more complex research strategy that would include both quantitative and qualitative views on the collected data analysis.

The interpretation of the outcomes of the questionnaire were “buttressed” by a content analysis of the state of the given problems/issues at Pedagogical Faculties at universities and other tertiary educational establishments in the Czech Republic – which formed the basis of the research study on educational skill problems/issues, and ways of developing these at the above-mentioned institutions.

A significant item was the thematic development of educational skills and the indices for the occurrence of resolutions of educational situations in subjects taught at a given school.

The outcomes of the research study are depicted in Table 3 below. The actual design of the research study is shown in Table 3.

Table 3. Design of the research study

Data collection phase:			Data analysis phase:
Data collection methods:	Sample:	Data sets:	Data analysis methods:
Incomplete/Partial sentence technique	130 students	1,615 responses to the Incomplete/Partial sentences (Questionnaire № 1)	Quantitative analysis of responses
			Qualitative analysis of responses
Content analysis	15 PdF*	75 tuition disciplines, courses, etc.	Qualitative analysis of responses

Legend: PdF* = Pedagogical faculties

Sample studied

The research study was conducted in the period between November – December 2003, and covered students in the study programmes “Teachers of Informatics” and the “top-up” Pedagogical Studies at TBU (Tomas Bata University) in Zlín.

With the aid of the research tool – i.e. Questionnaire № 1 (Tab. 2), which was designed by ourselves and which was oriented on identifying the levels of awareness/knowledge about educational situations and their resolution we investigated both the theoretical knowledge and practical experience of 130 students.

The selection of the sample investigated was deliberate and included students of the above-mentioned disciplines. Of the overall number of 130 students, 75 were women and 55 men.

Data collection – approaches and methods

In the data collection phase, we made use of the **Projective Techniques Exploiting Incomplete/Partial Sentences Method** (Mareš, 1996). We formulated these sentences as incomplete/partial sentences, to which the respondents had to respond - completing them in such a way as to express their perception and understanding of the given terminology, as well as their ways and means of resolving the indicated educational situations.

Data analysis – approaches and methods

The analysis of the research material we collected (i.e. the full data set) took place according to the following steps:

- Analysis of the responses to the incomplete/partial sentences, which included the description of absolute and relative frequencies of the responses to the incomplete/partial sentences and a qualitative (i.e. content) analysis.
- A content analysis of study disciplines at universities and tertiary education institutions in the Czech Republic – including descriptions and the expression of the outcomes through models of the development of educational skills.

The choice of various approaches to the analysis of the research materials is in accord with the triangulation method for data analysis used in attempts to increase the validity of a research study.

Presentation and analysis of the research materials

Within the framework of the quantitative analysis, we attempted to identify data and information regarding the relative and absolute frequencies of individual responses. It is not possible to understand qualitative descriptions of the outcomes of our research activities as (being) the main result – but rather, as serving as the

starting ramp for a further stage in the research study and for further research activities.

Analysis of the responses to the incomplete/partial sentences

The analysis of the incomplete/partial sentences whose outcomes are presented here, ranged on the borderline of the **Open Coding** Approach (Strauss, Corbinová, 1999), and the **Qualitative Content Analysis** method (Mayring, 1983).

Our efforts were to create a picture of the responses to the incomplete/partial sentences – which would express on the one hand, the frequency of a certain thematic character and their motives – and, on the other – which would identify their sense.

Using the picture created, we were able to evaluate both their content and their orientation with regard to the problems/issues involved in the resolution of educational situations; as well as suggestions for the modelling of students' views on the problems/issues involving educational situations.

How did we approach the situation? First of all, we created transcripts of the students' responses to each of the four statements contained in the incomplete/partial sentences. Since it is necessary to break down the text into its subsidiary/partial responses which themselves make a certain sense when applying the open coding method, we created these transcripts to meet these requirements. Then, we assigned codes to the individual responses contained in the transcripts.

For certain transcripts, we had to create a variety of codes. In order that our depiction of the knowledge and awareness of the students to be easily comprehensible at first glance, it was necessary to assume an approach which would reduce the complexity of the research materials. We continued by grouping these codes into categories. Thereby, we were able to shift from codes to categories, which are more abstract and of a more generalised character.

It is necessary to point out that, just as we have already pointed out earlier in the preceding sections, the preliminary research showed that it is necessary to prepare the categories used to transform the codes in advance, such that they express a greater level of generality in the second phase of reduction.

The result of this categorisation was that we arrived at some very interesting facts. Our pre-set categories virtually do not differ in any way from the categories arising from paraphrasing, from the 2nd reduction and ensuing generalisation, and to the response to the question: “*What do you consider a problematic educational situation to be....?*”, which included remarks regarding disciplinary problems of various types.

These were then submitted to “re-editing” of the basic categories which served in the second phase of the research study – i.e. in research study №2 as categories of suggestions for the modelling of educational situations.

The presentation of these results is elaborated in the form of tables, which we have ranked in the following approaches. We present a selection of student responses in a table (i.e. Table 4: Examples of processing and the presentation of their results - a more detailed description of the methods and results can be obtained from the author of this paper).

Furthermore, the table also contains categories of a higher order of generalisation, which are clustered according to responses of closely corresponding meanings of the responses. For each category, we include qualitative data – e.g. the absolute and relative frequencies.

Each table is also accompanied by our brief commentary where we give a description and interpretation of the results – which we attempt to support through the inclusion of texts (i.e. citations of students' responses).

Table 4. Responses to the incomplete/partial sentence: “What do you consider a problem educational situation to be...?”

What do you consider as an educational situation....?:	Inducted category:	Number of responses:	
		Absolute frequency (N ^o)	Relative frequency (%)
<i>S/He said to me that I am...</i>	Malicious gossip/speaking badly about someone behind their backs	21	9.4
<i>S/He copies (cheats) because..., constant “burping”...</i>	Behaviour in class	20	9.1
<i>She is going out with him because, he got a good mark because...</i>	Jealousy	63	28.3
<i>Don't do it, or else...! I attacked him because...</i>	Fights/Scuffles and their various expressions	35	15.7
<i>I took it from him because...</i>	Infringements of privacy	45	20.2
<i>We won't talk to him, because...</i>	Inter-group conflicts	38	17.1
Total of evaluated responses:		222	

Commentary:

Stimulation question: “*What do you consider an educational situation to be...?*” – allows us to determine the respondents' perception and interpretation of educational situations. They respond to the question about what they consider an educational situation to be, according to how they imagine it to be. In the overall summary of the students' responses (where n = 222), we have identified 7 categories of pre/conceptions regarding educational situations.

Interpretation:

Among these categories and definitions, we ranked the following:

- **Malicious gossip/speaking badly about someone behind their backs** – s/he said ... – talking behind someone's back, aggressive/verbal attacks, ridicule/taunting remarks, etc.
- **Verbal arguments** – verbal differences of opinion caused by misunderstandings between the people involved, disagreements, name calling.
- **Harassment/Bullying** – behaviour which is perceived by the other person as harassing or sexually unpleasant – gestures, looks, verbal expressions, making fun of one, bullying, physical attacks, etc.
- **Behaviour in class** – interrupting/disruptive behaviour, copying/cheating, burping, etc.
- **Jealousy** – towards fellow-students/pupils, friends due to personal lack of success in school, their “going out” with someone...
- **Fights/Scuffles and their various expressions** – The use of force/violence, threatening behaviour including physical attacks on a person.
- **Infringements of privacy** – taking a person's things without their permission, reading private communications/diaries, etc.
- **Inter-group conflicts** – at the current time conflicts rage based on racial, gang, or belief/opinion motives, attacks because one belongs to “the other/“wrong” group.

Content analysis – interpretation of the results:

The outcomes of this questionnaire-based research study led us to conduct a content analysis of the development of educational skills at universities and other higher educational institutions in the Czech Republic – where we concentrated on the development of skills for the resolution of educational situations.

We included some 15 PdF (Pedagogical Faculties) in our investigation. We then performed an analysis of the results and its results were interpreted qualitatively and the subsequent outcomes are models for the development of educational skills.

Commentary:

The results of the content analysis show clear elements of innovation in the study plans and orientations of many of the pedagogical faculties in the Czech Republic. This innovation is targeted and concentrated predominantly upon the innovation of the curricula of study disciplines.

These study disciplines are, after their innovation, oriented on the individual development of the personalities of budding/future teachers/pedagogues in the

sense of their linkage of theoretical and practical preparation, which is not individualised, i.e. many disciplines (now) have an interdisciplinary character and express a tendency and direction towards the integration of multiple scientific professional fields.

We can state that many disciplines are conceived as psychological-pedagogical disciplines based upon a qualitative approach to the problems/issues associated with educational skills, and are set up on a humanist approach as regards the choice of methods as well as a more constructive implementation of the curricula of these disciplines.

Conclusions of the research study:

- The outcomes of our research analysis, oriented on knowledge and observations concerning the problems and issues regarding the resolution of educational situations and the development of educational skills are summarised in the table below (Table 5) and also expressed as a flow-chart (cf. Figure 1).
- We have tried to elaborate a methodological plan and description of solutions for educational situations as a vehicle for educational skills development.

Table 5. Educational skills development Models

Educational skills model:	Theoretical starting-point:	Development goal being tracked:	Methods:	Author of the model:
Socially communicative	The Dynamic Theory of Personality – K. Lewin	Unification of terms/expressions and anachronisms, Social teaching, anticipation and intervention	Micro-teaching, simulations, situational methods	E.Vyskočilová
Social personality traits	Non-directive education – C. Rogers – in its wider humanistic conception	A humanistic approach to pupils/students, New conceptions of teacher/ pedagogue roles, Inter-disciplinary integration	Communication, the development of social personalities	V. Spilková
Social psychology	The Dynamic Theory of Personality – K. Lewin – in its interactive personality development sense	Unification of anachronisms and events, self-acceptance in a group context	Self-perception and self-reflection, Interaction in problematic situations	J. Rězáč

Educational skills model:	Theoretical starting-point:	Development goal being tracked:	Methods:	Author of the model:
Pedagogically (self-)reflective	Gestalt (Holistic) approach, humanistic pedagogy, the Theory of Profession-related Identity	Alternative programmes, role changes, a reflective approach, professional identity	Situational reflection, cooperation, pedagogical creativity	H. Kantorková – Lukášová
Reflective educational skills	Socio-cognitive teaching and learning – J. Piaget – in the constructivist theories of education	Pedagogical competencies, pedagogical self-reflection, construed pedagogical knowledge	The mastery and training of education skills (teaching/learning styles, interventions, etc.)	V. Švec
Educational skills with an individual orientation	A humanistic approach to education, pedocentrically oriented conceptions and alternative models	Individual pupil/student development, development of communicative education skills, development and reflection activities	Micro-teaching techniques, self-reflection and analysis, balances	T. Svatoš

Summarisation of discussion about the outcomes, and conclusions

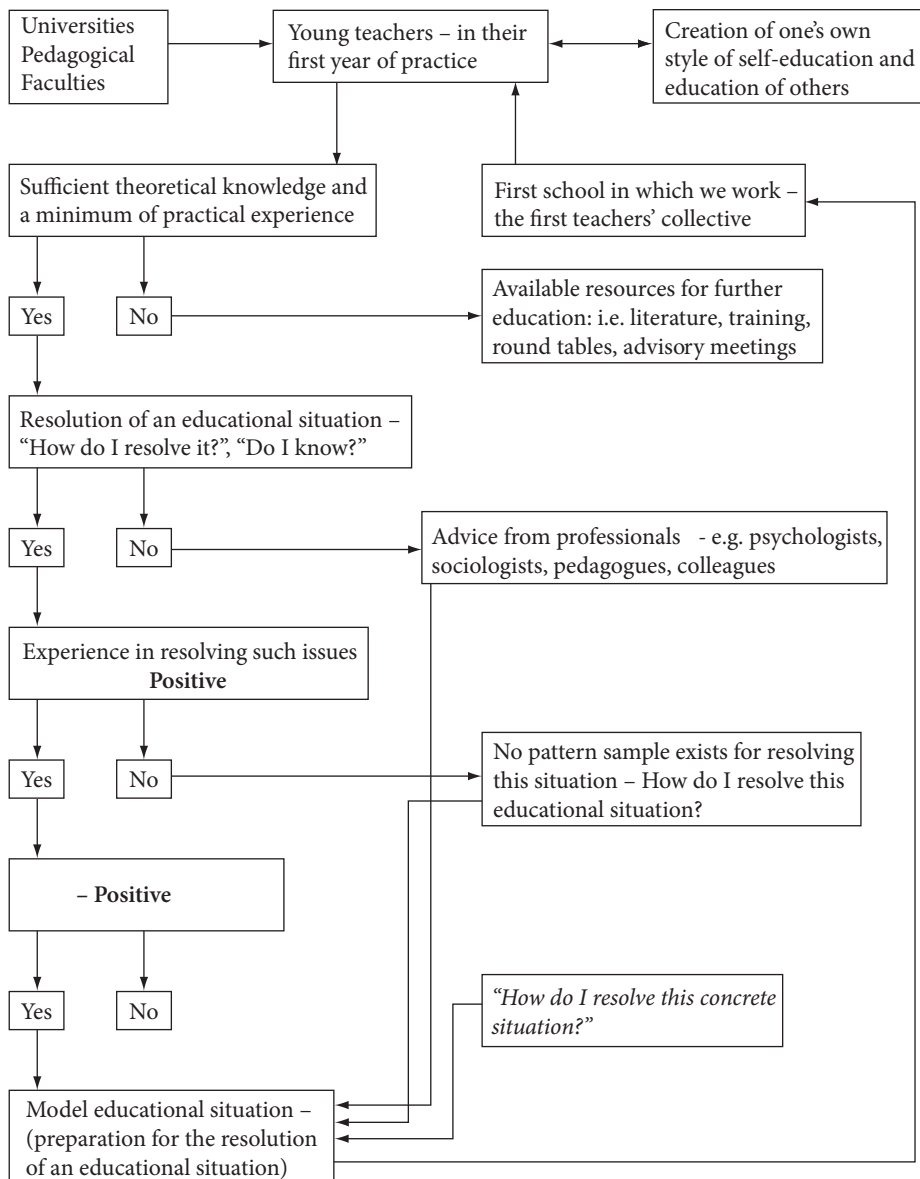
In general:

The aim of this research study was to diagnose the (level of) knowledge and degree of the application of such observations regarding the problems/issues relating to educational situations and the possibility of resolving them through the use of the modelling method.

How well did we manage to meet these aims? What is the “degree/level” of (their) knowledge? Here, we will try to provide a summarisation of our conclusions:

- Information about educational situations is – for the majority of the sample respondents, associated with educational activities and with behavioural problems.
- The degree or level of awareness of information about problems/issues in educational situations is low, and it is therefore necessary for the theoretical aspect of teacher trainee preparation to devote itself to the definition and delimitation as well the verification of the terminological definition of educational situations in scientific disciplines to include a given aspect of these problems and issues (e.g. the Theory and Methodology of Educational Activities, General Pedagogy, Resolving Educational Behaviour Problems, Pedagogical Communication, etc.).

Figur 1. The necessity for more theoretical and practical preparation for resolving educational situations



- This knowledge about educational activities and their conception are – at least according to some of the respondents, “overly” theoretical and it is therefore necessary to alter the orientation of teacher trainee preparation. This should be founded upon the theoretical-practical level and should be supported by training sessions targeted on resolving (problematic) educational situations.
- At the theoretical level, questions arise concerning the possibilities or opportunities for the definition of such basic categories like educational situations, their indices, the development of educational skill, and so on. It is therefore necessary to make these basic categories even more specific and, using research studies, to attempt to underpin the determinants for high-quality teacher trainee preparation and resolving educational situations.
- A fundamental question still remains to be answered with regard to the resolution of educational situations and the methodologies that we chose for our research study, and that is to determine the specific features/indices which characterise and delimit the resolving of educational situations, from the methodological aspect as a method for educational situations. Basing ourselves upon the sample respondents’ responses, we hypothesise that the basic classification indices are: the aim of model educational situations, the quality of the elaboration of educational situations for learners and the degree of auto-regulation, the quality of the chosen educational situations, the quality of the educational activities of the teacher in question, and the outcome(s) of model educational situations – (here, we would like to present their characteristics in a summarised form – author’s note):

□ **Educational situation aims** - the aims of educational situations may be expressed *explicitly* and publicly presented – but it can also be *hidden* (i.e. implicit). This is not expressed verbally – or even presented in any other way, but it is possible to assume the fact – to derive it from the preparation of the person realising the project (as long as they plan their educational situations – i.e. the modelling of educational situations).

The aim(s) must be *consistent* – expressing explicitly or implicitly the content of the educational situation, and targeted on the behavioural educational and “tuition” educational aims of the thematic areas being covered.

We thus only talk about the *inconsistency* of educational situations aims, when these are not directed towards the aims of the thematic areas being covered – since they contribute nothing to the fulfilment of the set aims.

□ **The quality of educational situations** - the severance of educational situations directed towards changes in thinking in the course of the practical realisation of educational situations – here, projecting some of the theoretical bases – i.e. initial experience with training sessions modelling educational situations.

This evokes new knowledge and awareness in its participants about *How to resolve concrete situations?*, and forces them to reflect upon the possibility of using these solutions in the real world, in real time, and in real environments. Through this process, the course serves to create new dimensions of thinking and resolving educational situations in the participants (thus leading to training their thought processes and how to apply them).

Similarly to psychosomatic conditioning (cf. Vyskočilová 2000), we know how to breakdown educational situations according to the possibilities used in the course of the training programme into:

- *The instructive* educational situation – the teacher trainer’s role is not to change anything for everyday practice, but simply to justify in theory the reality of the given problems/issues. The resulting outcome for everyday practice continues to be the spontaneous resolution of educational situations.
- *The sample guide* – the teacher trainer’s role is only to alter the course participants’ working practices by providing methodological guidelines – i.e. how to do it – the theoretical base is missing or lacking. This simply has to do with some kind of guidelines which reflect working practices.
- *The descriptive* – this is not oriented on changing either theory or practice. It only has to do with some form of description of the current state of affairs – where the current state of affairs is understood at the generalised ideological level.

□ *The quality of the educational activities of the teacher trainer* are evaluated according to the following criteria:

- *Motivation* – the deliberate (conscious) motivation of the participants, even if short-term, occasionally step-by-step in the course of the model situation and prospectively through further activities in their training of their thinking patterns and solutions, we may achieve changes in the behaviour of the participants in their “real” lives. Through social and ethical values, we introduce and inculcate changes in their attitude towards themselves and others around them, as well as improvements in their resolution of educational situations.
- *Degree to which they are informed* – through the provision of clear, brief, structured information – e.g. definitions, instructions, laws of nature, etc, we can achieve an easier transition in the participants’ thought patterns towards relationships and logical associations.
- *Regulation* – the teacher trainer guides the activities of the group in the course of working individually through use of instructions and advice, while working in “special interest groups” and in plenary discussions.
- *Evaluation* – the teacher trainer evaluates the performance of those present and their standpoints relating to the problems/issues being covered as well as their activities themselves.

The methodological field

The aim of the research study at the methodological level was to evaluate the merits and insufficiencies of the techniques and methods used in the research study and in the modelling of educational situations in the course of diagnosing participants' knowledge about the preparation and resolution of educational situations. Our experience shows that the data collection phase in combination with the methodological mix – both qualitative and quantitative – proved itself as being functional in view of our pre-set (determined) aims. Despite this fact, in the course of implementing these aims, certain problems were encountered, which could be summarised as follows:

- Projective techniques based on incomplete/partial sentences showed themselves to be overly open (more than is desirable). The responses to the incomplete/partial sentences took on many forms – precisely according to the (Czech?) idiom “Every author writes/says it differently”. Many of the responses accented originality as a basis; however, a demonstrably high degree of the statements and opinions slid into cliché responses.
- Responses to the incomplete/partial sentences are, to a significant extent, differing and specifically individual since they arose on the basis of stimuli statements that were ambiguous due to their being able to be “read” in a number of ways and whose significance was variously understood by the respondents (in future research studies, we recommend the use of the term “mapping/pojmové mapování (Janík, 2005) method as a support of cross-check method.
- The responses to the incomplete/partial sentences were subjective. The data they contain are of a biographical nature, and for this reason it would be more suitable to present them in the form of casuistic case-studies, which gives them a “historical” framework in addition (Chudý, 2004).
- The incomplete/partial sentence technique shows itself to be suitable for auto-diagnostic and self-reflection purposes in pedagogical working practice.

In the course of these research studies we will discuss the internal and external dimensions of behaviour – which cannot be separated from each other. While we know how to capture the internal perspective and to describe introspection on the basis of one's own answers, the external perspective is (only) observable by another person and it is possible to “measure” this and to describe it on the basis of research methods.

Based on the observation and analysis of one's own activities, we shall try to form a unified picture of the consistency of a person who is subjected to confrontations with his activities – whereby we achieve the confrontation of their pro-

claimed and “real” expression of decision-making and conduct/behaviour in educational situations.

Conclusion

In this contribution, we have attempted to highlight certain key outcomes of this research study. The outcomes show the accentuation on the theoretical bases of the educational preparation (teacher training) of students of pedagogical fields as well as the weak (thus insufficient) exploitation of the subjective and practical experience of the “main actors” in this process themselves.

The author of this contribution has highlighted the outcomes of the research study and summarised the merits and insufficiencies of their activities in the conclusions and recommendations made for working practices at the general, methodological and praxeological levels.

The conclusion of this contribution highlights the possibilities and opportunities for further research on the given problems/issues (i.e. investigating the determinants and more precise terminological definitions of the given problems/issues) at both the theoretical and the practical levels.

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