

‘By the way...’ research and the methodologically implicit pieces of information

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Abstract

Among the planned preliminary phases of the Teacher Motivation Strategy (TMS) research, a regularly observed phenomenon was the formulation or supplementation of participants' reflections. Those were relevant to the research instrument or to the research situation and also relevant to the research topic, but were outside of the process. Following the pilot data collection, the desire, interest and enthusiasm of the teachers and students were detectable beyond the research situations. In connection with the topic and the question 'How teachers motivate you?', participants often made spontaneous observations and shared information outside the methodological structure, which revealed the limitations of the research situations and the deficiencies in measurement tools or methods. Potential data was included in those statements beginning like 'By the way ...', 'I think ...', '... well, I would never write that down!', 'I wouldn't say it in front of the others anyway'. During the pilot phase the reflections of the researcher given to the experienced effects and impulses affected the research results by constructing the final research process through method selection, research instrument and data procession planning. The update and change of various aspects aimed to develop a more refined and systematized research, in order to get results that reveal real problems and help the actors of pedagogical processes to find constructive solutions. The cases, exemplified from a scientific and a methodological point of view, tangentially yet significantly articulate the emergence of valuable data embedded in the research process. The primary purpose of this paper is to exemplify the phenomenon in research practice and to encourage the reader to develop and apply research methods aimed at minimizing data loss for more efficient exploration and resolution of pedagogical issues and questions.

Keywords: qualitative research methods; data loss; methodologically implicit data; focus group interview

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1. Introduction

The inductive form of natural science knowledge typically aims to represent nature-based phenomena in a specific system, to explore cause-and-effect relations and to reflect on them objectively (Nahalka 1997, 23). Nahalka (1997) presented constructivism in contrast with objectivist-based epistemologies – primarily referring to the works of Ernst Glasersfeld, a prominent representative of constructivism. It describes recognition as an undefinable concept that interprets human knowledge as the result of construction. According to this, one's inner world is shaped by information, which is processed, interpreted and organised with the help of cognitive and active processes, a kind of learning that creates knowledge. Falus (1993) talks about a new paradigm that contradicts the positivist approach. It perceives the research of pedagogical phenomena as interpretable and constructible, based on a given correlation system. In 1999 Szabolcs Éva published a study about the appearance of qualitative research methods in parallel with the constructivist approach, focusing on pedagogical research. The above mentioned were only a few among the first pedagogical works that established and formulated the guidelines where domestic qualitative pedagogical research could be developed.

The examination of the researcher's role became prominent due to the emergence and rise of qualitative research methodology. Such methods were created or adapted (e.g. field research and participant observation from ethnography), which did not focus on the objectivity of the external observer, but rather on the exploration of the characteristics of human community and the representation of realistic information and data. The researcher primarily focuses on the individual in order to overcome its own preconceptions (Szabolcs 1999, 346). According to the representatives of qualitative research, the relationship between the researcher and the object of the research object is dynamic and reviews the examined problems repeatedly. It also describes the researcher as someone who can adapt to the constantly changing research situations (Sántha 2007, 170). Undertaking subjectivity and the 'systemic examination of subjectivity' means that the phenomenological approach focuses on the individual. The value of this kind of research is in the effort to understand the lives of those for whom one has pedagogical responsibility (Tesch 1995, 48, cited in Szabolcs 1999, 346).

The opposition between qualitative and quantitative paradigms is emphasised less and less in the international scientific world. However, the energetic processes of qualitative studies – in a self-reflecting way – recreating their own dilemmas and reconsidering those questions and problems, which may appear in relation to all researchers and studies related to qualitative research methodology. The present study is concerned with the issues of relevant information and data outside the research process.

The focus of the scientific work related to the current research was the examination of the teacher's motivation strategy. The main question was what tools and methods were used by the teacher, to implement the conscious or unconscious strategies behind its motivating activity. The investigation was based on the notes of classroom observations, on the data including teachers' reflections on their own

practice revealed by a questionnaire, and also on their reflective responses based on observed classroom practice. The (informal) confirmation of the motivational power/effect of the tools used (or not used) by the teacher was outlined during focus group discussion with students, as well as by the observation of classroom activities and behaviour and their ideas and thoughts on motivational methods.

This study does not attempt to present the results of the Teacher Motivation Strategy research. In this article, a specific methodological dilemma is presented through a particular case.

2. Methodological aspects of the research related to the case description

During empirical research the facts and their sources became known in a direct way, the necessary data and information is uncovered with the help of methods that often require the active participation of the researchers. The aim is to get answers to the researcher's questions and collect the necessary data to verify or to refute the hypotheses (Creswell 2012, 15).

2.1. Methodology of the research

The research is based on a mixed paradigm displaying both quantitative and qualitative methods. The process follows the qualitative-quantitative structure defined by Creswell (2012: 12). In exchange for authenticating validity and reliability the work was accomplished using sequential model (Sántha, 2009: 100-101) and triangulation typologies (Sántha, 2009: 102- 103; 2015) as well as striving to implement systematic perspective triangulation (Sántha, 2015: 29).

Regarding pilots, the teachers' views were explored in five institutions (Somogy, Fejér and Heves county), based on convenience sampling, and the students were surveyed in two institutions (80-85 pupils).

2.2. Data collection procedures

Based on the research plan, teachers' views were examined by an unstructured concept map – in the beginning the structured tree model was used – as a special data collection procedure (Sántha 2009, 71; Szivák 2002, 70–84). The task of the teachers was to depict their views on motivation based on the given concept, then to share their own views on their motivational activities.

The students expressed their preference on procedures and their views about the motivational activities, the tools and methods used by their teachers during group discussions (Mayring 1999) and the semi-structured focus groups.

Focus group interviews represent a qualitative research methodology that facilitates the exploration of various aspects of interactions and discourses among participants. The utilization of video recordings enhances the detailed analysis of non-verbal communication, body language, and group dynamics (Krueger & Casey 2014). The questionnaire associated with the focus group interview aims to collect

supplementary data on participants' opinions and attitudes, thereby fostering the triangulation of qualitative and quantitative data.

It is crucial that the moderator maintains neutrality to avoid influencing participants' responses. The use of video recordings assists researchers in capturing the non-verbal elements of the discussions, which enhances validity by allowing for the analysis of the full spectrum of communication (Morgan 1997).

To ensure the reliability of focus group interviews, it is important that moderators are trained and experienced in managing group dynamics. The use of standardized questions and structured interviews further increases reliability by ensuring that all groups respond to the same set of questions (Krueger & Casey 2014).

During the participant observation, researchers recorded data on the teacher's motivational repertoire used in the lesson and on the reactions elicited from students, then the teacher's previously defined views and the actual practice was compared.

Classroom observation was followed by a structured questionnaire which contained the same items for both teachers and students, and it reflected on the motivating activity of the teacher.

3. Intermezzos of the research process – data out of research¹

The formulation or addition of participant reflections related to the research measurement tool (questionnaire) or to the research situation (focus group discussion or classroom observation), relevant to the topic of the research but outside of the process was recorded as a phenomenon wedged between the planned stages of the complex research.

3.1. An example for the forced redesign of data collecting in the research process

The task was to create an unstructured conceptual map – a structured tree model – aimed at exploring the teacher's opinion about motivational factors free of influence. The teachers were asked to represent a conceptual system that reflects on their views in a hierarchical system. In the period of data collection teachers refrained from the task of creating a structured tree model, and then the task of creating a hierarchical system reduced their willingness to participate almost to zero (~n 20). This situation induced the usage of a different measurement tool, and later the modification of asking questions. The researchers encountered two defining factors (withdrawal of participation and modification of the measuring tools) which explicit and implicit aspects had a strong impact on the research process, however the data relevant to the narrative can be represented outside the framework of theoretical and research ethics.

¹ Out of research – data (OUR-data).

3.2. Data from narratives outside the planned research process, ‘By the way...’ inter-research situations

This study employed a multi-faceted data collection approach, integrating a student questionnaire, researcher notes from focus group interviews, and video recordings. The student questionnaire consisted of three principal questions, which were also central to the focus group interviews. These core questions were administered in written form, with supplementary probing questions introduced during the discussions to elicit deeper insights and further clarification.

Recall a situation in which you found enjoyment in classroom activities or school-related tasks.

Which specific subject or activity was it?

What subject-related activities do you engage in during your free time?

What factors motivate you to engage in your hobby?

If I were a teacher, I would motivate my students by...

If you were the teacher, what strategies would you employ to motivate your students?

How would you increase in-class participation?

What measures would you take to enhance student performance?

How would you foster an environment where students work with enthusiasm?

How do your teachers currently motivate you?

What actions do your teachers take to encourage active participation in class?

How do they capture and sustain your interest?

What methods do they use to enhance your academic performance?

Student responses to these key questions were collected in written form, while the researcher notes and video recordings were employed to corroborate, supplement, and refine the data derived from the questionnaires.

The study was conducted during a single class period, with an approximate duration of forty-five minutes. Prior to commencement, verbal consent for video recording was obtained from the students, supplementing the pre-existing written parental consent forms. For students who opted out of participation, alternative supervision was arranged by the institutional coordinator. Additionally, students were provided the option to position themselves outside the camera’s field of view if they wished to participate in the study without being recorded. All procedures were strictly adhered to voluntary participation protocols.

After the student pilots, the enthusiasm of the students could also be seen outside the research process. In relation to the topic and issue of ‘How do teachers motivate you?’ additional comments were often made outside of the documented research process, which revealed the limitations of the research situations and the shortcomings of the measuring tools or methods. Conversations on the corridors – ‘Anyways, I think...’ or ‘I would never write this down... or talk about it in front of others’ – contained information (potential data), which could have an influence on the research results and could help the exploration of real-life problems and more efficient solutions.

During the focus group discussion students attempted to talk about general terms and to describe their teachers in a way they believed to be appropriate. However, during informal conversations in the corridors or in the yard, several students stated that they don't feel like their teachers are motivating them because 'grading or the prospects of punishments are not actually motivating or not like that'. The students came up with suggestions how teachers could motivate them during the research situations. But later they declared that nothing would peak their interests they just felt the urge to say something in that situation. Mainly their goal was to meet the expectations of their parents but on most days, they just wanted the lessons or the days to 'get over with'.

3.3. Methodically implicit information which does not appear in the research data

One could see an example for the teachers' avoidance of measurement tools. In that case, the researcher revised the research plan and used a different method to record the necessary data. However, one may come across an aspect that cannot be corrected, ignored or taken into account.

A few months after the pilot research, some of the participating teachers stated that while creating the concept map – instead of their own views – they used 'Internet' content, that they considered relevant. Others outlined theories and structures they acquired during their studies.

In the days after the focus group discussion a large percentage of students expressed their feelings that several teachers 'don't even motivate them' and they also had difficulty while articulating what would help. The concepts of sanction and motivation appeared as equivalent, just as the concepts of grading (giving marks) and motivation were blurred in the narratives.

4. Dilemma of the researcher

4.1. Authenticity

A significant part of educational research is applied research, which aims to understand and develop practice. In addition to scientific compliance – the validity of the process – is also important from a social point of view. It is significant that the results could be interpreted not only as a research product on its own but as a factor which also meets the ecological validity as an external validity factor. This means that the results of the research structure, which is more and more similar to everyday life situations, can be effectively and productively applied in professional practice (Brewer & Crano 2000, cited in Truijens et al. 2019, 9).

There is a consensus that when collecting data one must strive to maintain focus, adhere to theoretical and methodological frameworks, and to minimize data loss. In research, especially in a qualitative research process – several research sub-units (e.g. preliminary or follow-up research), methodological stages (choice of tools, usage or application of methods), (chronological) phases (data collection,

data analysis) can be separated – emphasising the process nature of the research. The derived data and evidence can appear in a systemized way though fitting into different interpretive frameworks, they can also appear complementary to each other at different levels and functions of the research (Coubert & Talbert 2006, 491).

Compliance with the form and content requirements of scientific research, the research paradigm, test methods, the steps and regulations of data collection and data analysis make the research scientific and valid. The strict formal rules, possible scope restrictions, and the capacity of the researcher can result in data loss (Vida 2022, 104) and lead to the distortion of the results. Preserving the diversity of relevant data, and filtering inadequate data or data outside the theoretical framework can be achieved by creating the appropriate structure, organising, and recording (Coombes & Coombes 2001).

4.2. Relevance

What is the importance of this information? Can one incorporate this obtained information into the further units of the research? What should the researcher do with this significant information, which is outside the research situation? How should these implicit pieces of data, influencing the concept, appear in the publication of the scientific work? What should be considered as data? How should factors that influence and hinder the research process be dealt with? Flexibility and/or authenticity? Which aspects of research ethics should prevail? Should the researcher follow the assigned routine or reflect on the changed, newly discovered research situation?

The systematic addressing of emerging questions, their integration within holistic theoretical frameworks, and the rigorous adherence to foundational research methodology principles constitute the initial steps on the path toward resolving the issues at hand.

5. Theoretical solution

Can independent research uncover a problem or a phenomenon, or a planning process that also calculates with unexpected events and information, be a solution (Mrázik 2021, 400)? In case of examinations that are less complex or take place in a shorter period of time, the occurrence of unexpected events has lower probability.

The researcher’s avoidance of personal involvement is expected but it can develop during longer time spent with the research subjects. Presumably, as (necessary) trust develops, it results, that students reveal more about themselves during informal conversations.

The data – (and measurement tools) beyond its validity aspect – in the course of its examination and exploration can provide epistemic validity, which is a suitable disciplinary framework for the researcher. In which a congruence is constructed for different concepts appearing on different levels (Truijens et al. 2019), captur-

ing the theoretical variables that occur without failing the reliability of the research (Messick 1980, 1987, 1989; Moss 1992). In this case the authenticity of the research is not only defined by the research plan and systemization, as well as the measurement tools and data analyses, but also by the theoretical framework of the research.

6. Summary

This study aims to demonstrate some real phenomena experienced in the process of practical research activity outside the planned examination process which presented various questions and dilemmas. The presentation of the cases is more like a problem statement which is a factor that all researchers – especially those who use qualitative research methodology – must take into account.

Choosing the appropriate research method can contribute to a more conscious and comprehensive planning of the entire research process and also to a competent behaviour of the researcher in unexpected research situations. The goal is to apply the results effectively in professional practice. It is necessary to uncover the sensitive problems remained hidden, such as loss of trust, lack of motivation, school anxiety, perception of pedagogical work by students, student or teacher burnout, lack of professional knowledge, incapability, and performance anxiety, etc., and find solutions.

Researchers need to find the method by which the implicit factors of the research problem can be revealed, data loss can be eliminated, and the information can be properly structured. In the research process of teacher motivation strategies, data outside the methodological framework but remaining within epistemic validity, was used to refine the research process, fully striving for ethical research behaviour and disciplined subjectivity (Erikson 1958, 65; Sántha 2009, 108–110).

As a result of integrating inter-research data, new perspectives and deeper interpretative frameworks have emerged. The research process was further enriched by incorporating investigative elements such as semi-structured focus group interviews. Following the questionnaire phase, participants engaged in what appeared to be an informal conversation, seemingly detached from the formal research process. However, this interaction was, in fact, a carefully planned and deliberately structured semi-structured narrative focus group interview conducted in a relaxed research environment.

Building on the students' natural inclination to communicate, a "spontaneous research space" was created, where participation rates exceeded 80%. Data previously gathered through informal corridor conversations, which were once seen as incidental and unstructured, were now transformed into valuable research data through intentional design and contextualization within the research framework.

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