

DEVELOPMENT OF PROFESSIONAL VISION IN ART EDUCATION VIDEO INTERVENTIONS

MAGDALENA NOVOTNÁ

Charles University, Faculty of Education, Art Education Department, Prague, Czech Republic, e-mail: magdalena.novotna@pedf.cuni.cz

Abstract The study investigates the professional vision of pre-service, elementary-school, art-education teachers and presents a video-intervention methodology based on a wider transdidactic approach. The author uses a concept of the professional vision, well-known in teaching mathematics and sciences and seeks to establish it in the domain of Art Education. The study analyzes thirty-four student-written reflections based on watching a video recording of an art education lesson using a modified Stockero's categorical system. The study shows what subject-specific phenomena the students notice in comparison with the experts, and focuses on how they reflect them. The results demonstrated a low number of noticed phenomena with a low ability of the knowledge-based reasoning. The findings were used to develop a video-intervention methodology at the Faculty of Education of the Charles University, Prague, with the aim of improving the professional vision of pre-service teachers. The text presents briefly the video-intervention methodology.

Keywords:

art education,
professional
vision,
reflective
practice,
video-intervention,
pre-service
teachers.



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Introduction

Video-interventions are one of the forms of practice-based education of pre-service teachers. The complex educational situations are shown to pre-service teachers on a video recording. In order to analyze those, it is necessary to use the frame enabling the students to make relations to the individual moments or phenomena. Paying attention to such situations in education and their reflection represent teacher's skills that are important for high-quality teaching. Those skills are connected with the ability to reflect on whose importance has been stressed in education since 1980s. Reflective approach is often used in the teacher's training; for instance, it is the key element of student's practices. Nowadays, many authors pay attention to professional vision in the education as evidenced by numerous studies in mathematics, biology and other subjects.

The presented study is a part of a broader, transdidactically-oriented research, realized at the Faculty of Education of the Charles University, Prague. The following text describes the professional vision of pre-service, elementary school teachers in art education with the aim to map their qualifications. A low level of art education in Czech elementary schools has been stressed many times, for example, Šobáňová (2016). One of its reasons can be a low quality of professional skills of the teachers.

The concept of professional vision was introduced by Goodwin (1994) in the context of linguistic anthropology as a set of discourse procedures that the subjects use to structure important phenomena in order to be able to understand them. In connection with the education of teachers, Sherin and van Es (2009) mentioned two subprocesses, namely noticing and knowledge-based reasoning. Experts understand noticing as a process of distinguishing important and less important phenomena in the education. Reasoning about the noticed reality relates to the teacher's ability to evaluate and interpret the situations in the education. The professional vision is a dynamic interaction that affects the teacher's thinking and action. In the context of professional training of the teachers of mathematics, Stockero (2008) confirmed the effect of analysis of the videos on the level of reflection and attentiveness given to the pupil's thinking. It has been shown that even a short video-course has an impact on the noticing skills of participants, such as more specific comments, more attention to subject-specific thinking and less on pedagogy, more attention to pupils and less to the teacher (Stockero, 2008). The literature also describes the shift of

videoclub participants from the evaluation of situations to their interpretation (Sherin & van Es, 2009; Stockero, 2008), while interpretations occur less often, and most interpretations are naive statements (Uličná 2017). Blomberg et al. (2011) show also that the skill of professional vision is subject-specific. They highlight the possible link between choosing a field of study and how and what future teachers of the given field perceive during the lesson. Robová and Novotná (2018) compared what attitude students of two different subjects of study, the art education and mathematics, adopted in the video-interventions.

Video-interventions can take different forms. Some video-interventions allow participants to view their own videos or videos of colleagues. In others they can watch video recordings of other people.

Simpson and Vondrová (2019) distinguish two different approaches in video-intervention methodology, one based on situated cognition and the second on cognitive learning theories.

The first approach understands learning as grounded in authentic activity and accentuates the inquiry and communities of practice. Bloomberg et al. (2014) thus encourage open reflections on videos. The second approach, based on cognitive learning theory, uses videos as illustrations of the previously studied theory. It includes explicit frameworks for a more structured analysis of videos, implicitly directing the attention (Santagata & Guarino, 2011; Stockero et al., 2017).

Method

The research seeks to investigate which phenomena and situations pre-service teachers (from now on, PST) notice in art education lessons, compared to the experts. The expert group included six researchers and two lecturers from the Department of Art Education, Faculty of Education, Charles University, Prague. The survey analyzed written reflections of PST based on the observation of a video of a lesson in art education.

The survey questions were the following:

1. What phenomena do PST notice in the video of the art education lesson, compared to the experts?
2. What do they think about the noticed phenomena?
3. What theoretical knowledge do PST use to explain the noticed reality?

Participants

A total of 34 PST in their fourth year of a 5-year study took part in the art education research. All of them were students who frequented art education courses in two study groups. Two students did not deliver the reflections. The selection of participants was made to map their professional vision at the end of the professional education before starting their educational job.

Instrument: Description of the Video-recorded Lesson

I used videos of authentic classroom situations to capture PST's noticing skills. Some researchers (for example, Schäfer & Seidel, 2015) use short clips, others use whole lessons (for example, Star et al., 2011). I used the video recording of a whole 45-min art education lesson that took place in Grade 7, specialized in arts and digital technologies. The lesson was chosen as it included a number of interesting features related to the subject. However, it was not an example of a good practice.

The video-recorded lesson started with a presentation of the three-month project focused on the photographic portrait. Then the comprised lessons, aids and materials were planned. The teacher opened the lesson with questions, such as: "What face is it?" The pupils put down their associations individually. Quotations of famous authors served for inspiration, such as Zenon's quote: "That's why we have two ears and one mouth to listen more and speak less." Then the pupils discussed their observations and collectively formulated the main ideas.



Figure 1: Group work in the classroom. The teacher discusses quotes with pupils.

Source: Own.

A partial task helped the pupils to talk about their own identity. In the next part of the lesson, the teacher assigned a partial art task. It extended the previous brainstorming into the material creation and led pupils to think about the following questions: Who am I? How do others see me? How do I see myself? The pupils took photographs of each other. The printed photos were then used to make collages that would express their personal characteristics. The ground colour characterized the author's personality.



Figure 2: Examples of the artwork

Source: Own.

The Expert Phenomena: Identification of Important Moments

In order to be able to explore PST's noticing and reasoning, it was necessary to identify what was considered important by the experts. In order to distinguish the content-specific important moments in the lessons, the experts first had to negotiate their ideas of quality teaching in their subjects. The selection of specific phenomena for the expert comparison was realized on the basis of consensus of the whole research team. Six most significant phenomena were selected for each subject. Then particular codes were assigned to them (see Table 1).

Table 1: Expert phenomena, examples of PST's comments

AE1	Wider Art project	Enables the teachers to use a deeper approach in a limited number of AE lessons per week. Pupils are taught to think contextually. Hard to plan and reflect. Notes made by the pupils.
	Example	“First it seemed to be strange how, at the beginning, the teacher dictated to the pupils what they should expect in the next lessons but then it well matched the context of the whole lesson.”
AE2	Art production – a necessary part of AE lesson	The core of the phenomenon is a stereotype assumption that an AE lesson must include a creative activity. Creation is considered to be a cognitive process of cultural transformation and making of the meaning.
	Example	„Never it occurred to me that other things except the creation, painting etc. could also be a part of an AE lesson.”
AE3	Communication in AE lesson	Meaning making and semiotics; communicative dimension of the AE curriculum.
	Example	A situation can be seen when children say to each other what they know about him/her.”
AE4	Unclear task instructions	Teacher changes the instructions. The process of instructing pupils is unclear. Pupils do not understand the instructions.
	Example	“In this stage the teacher changes the instructions of the task about four times and the pupils seem to be confused. It takes about 15 min for all groups to finish the task. I suggest that the teacher writes the instructions on the blackboard and thus prevents the pupils from receiving different instructions.”
AE5	Lesson topic	The lesson content is related to the inquiry about one's identity. Portrait is a classical form of its expression.
		“Each pupil had to give a thought to him- or herself and probably found out something new, which was important in his/her opinion. To express something linked to him or her, what the others did not see or know, was a bit intimate, but it matters in the art -to express one's opinion, feelings, ideas, etc.”
AE6	Pupils' comments	PST noticed pupils' comments.
	Example	“Example of a pupil's statement: “The face determines the human identity, it expresses his/her spirits, importance of the listening (two ears and one mouth).”

Note: AE, art education.

Data Collection

The task of reflecting on the video was assigned to the students as follows: “You can see the video recording as many times as you want. Then write a reflection about the recording; the extent of the text is not limited. You should mention what you found interesting and what was important from your point of view. Do not be afraid to present your views, there is no correct answer. You will not be evaluated on the basis of the text you write. I would ask you to formulate your opinion in whole sentences.” The students were working at home and the texts were handed in electronically.

Data Analysis

The students’ texts were divided into semantic units always including only one phenomenon. If a student expressed the opinion concerning a phenomenon several times, their comments were involved in one unit. The split was done by one researcher and another one checked the validity. Any inconsistencies were negotiated. In that way a total of 87 units were established.

Coding the Noticing and Reasoning about Expert Phenomena

In order to identify the nature of reasoning, I used a framework based on Stockero (2008). I kept the codes of description, explanation, and theorizing and omitted the codes of confronting and restructuring that I could not see in the collected data.¹ I added three aspects of the data which were not explicitly included in Stockero’s framework: evaluation, alteration² and prediction (Table 2). The comments classified as description and evaluation were considered to be of a lower quality than those of explanation and theorizing, as PST did not connect what they observed by using their subject-specific or general knowledge. One comment could be integrated into several codes. An example can be the following statement that was coded as a description, explanation and alteration: “At the beginning of the lesson the teacher dictates to the pupils what will happen in the course of future lessons. It seems to me that by doing that the teacher lost precious time that could be spent on art

¹ Stockero analyzed group discussions which, presumably, were richer than the individual responses.

² This is a part of Stockero’s Restructuring, but many alternative actions suggested by our PST were naïve or general and thus hardly provided signs of restructuring.

production. Perhaps the pupils could better be given a printed plan of lessons.”

Table 2: Coding framework

Code	Characterization
Description	Recounting of what can be seen in the video.
Evaluation	Subjective judgment of what was seen in the video, without reasoning why.
Explanation	Naïve explanation of what was seen in the video, or explanation based on one’s own experience as a pupil or as a teacher.
Theorizing	Generalization of what was seen in the video. Some theorizing is necessary (use of professional terms, pedagogical concepts).
Alteration	Any suggestion of an alternative action to what is happening in the lesson.
Prediction	Connection of what was seen in the video with a future state, for example, what effect the event might have on pupils’ future understanding or use of the subject matter.

Research results

Noticing of Important Moments

Figure 3 shows what phenomena PST notice. Most often they include AE5 – Face and identity (76 %) and AE1 – wider art project (74 %). Less than one half of PST took notice of the AE4 (unclear assignment of the task, 47 %) and AE2 phenomena (the lesson did not include visual art production, 38 %). Few students took notice of the communication dimension of the lesson (AE3, 12 %) and the concrete statements of the pupils (AE6, 9 %).

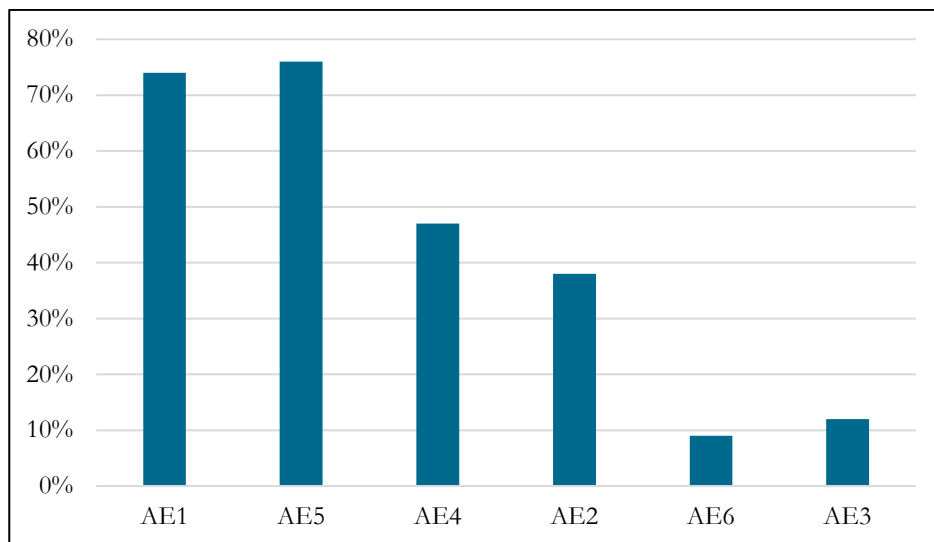


Figure 3: Relative numbers of commented expert phenomena

The data suggest that, in average, the students noticed 2.6 specific phenomena out of a total of 6. No PST noticed all 6 phenomena. All PST noticed at least one expert phenomenon. Considering the extent of the text, the combinations of the noticed phenomena that are a part of the data are not mentioned. However, they showed that PST who noticed only one phenomenon always noticed either AE1 or AE5, i.e. the phenomena that were noticed most often of all. I therefore think that those phenomena were well noticeable.

Knowledge-based Reasoning

Figure 4 shows what level of reasoning was achieved by PST. It can be seen that 16 % of comments were classified as belonging to the description code and 30 % were evaluation statements. The relative amount of explanation statements that reflected one's experience but not the theory, reached 44 %. Only 10 % of the comments could be considered to be theorizing reflections.

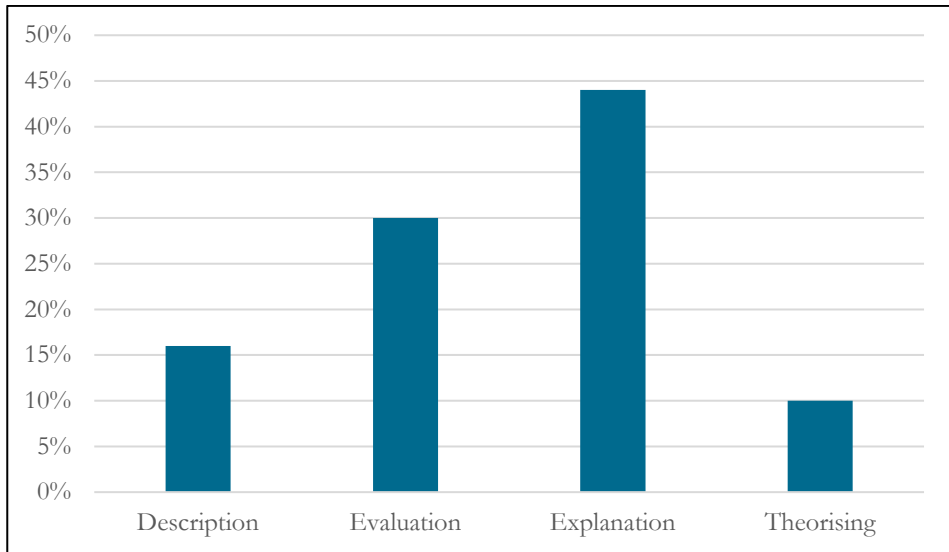


Figure 4: Levels of knowledge-based reasoning

Theorizing

It can be seen that students rarely theorized. Evidently, they did not see the theory studied in the context of the educational situations and were not able to use it well for providing the reasons. Most often the students theorized about the AE5 phenomenon or about the lesson content. If the phenomena that the students theorized about little or not at all were studied, researchers could get information on the so-called white sites. They represent questions for which PST did not find any support in the theory, namely the questions of visual production, communication in the art education and the meaning making.

Alteration and prediction

Alteration and prediction are considered to be a higher level of thinking since they provide the reasons. In case a PST suggests an alternative solution of the educational situation, he/she must consider what would be prevented by making the change. The data show that the alteration and prediction were most often coupled with the explanation. Figure 5 shows that the relative values when PST were using alteration and prediction, 23 % and 21 %, respectively, were higher than those of the

theorizing. The phenomena when alteration was used most frequently were AE1, AE4 and AE5. Predictions were also most often related to those phenomena. They mostly represented practical suggestions like: “At this stage the teacher changed the assignment about four times and the pupils look confused. All groups finished the task within 15 min. I suggest that the teacher puts down the assignment on the blackboard and thus precludes providing another assignment to the pupils.”

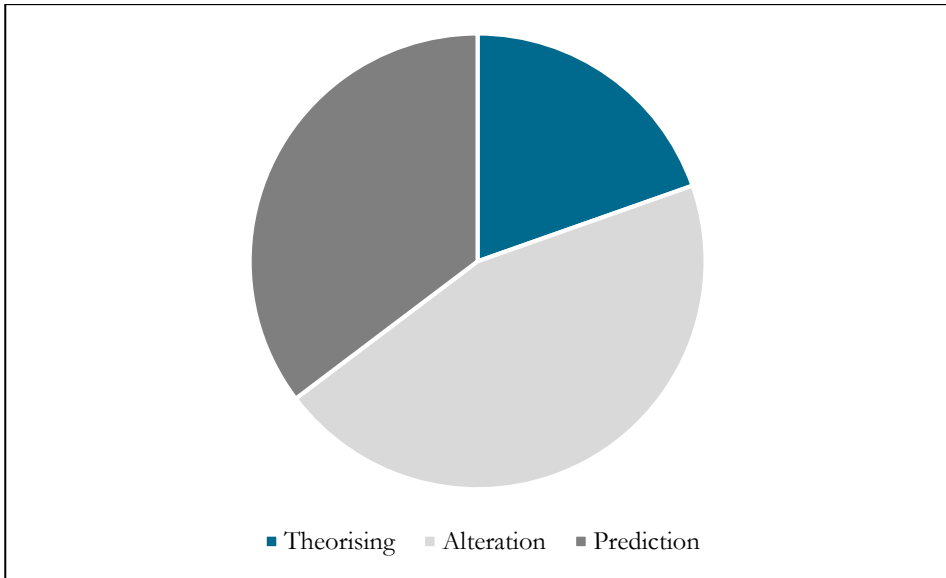


Figure 5: Higher-level, knowledge-based reasoning

Discussion and Conclusion

The PST noticed a low number of phenomena, on average 2.6 phenomena out of a total of 6. The study of Vondrová and Žalská (2015) also monitored the phenomena with a low rate of noticing and discussed the connection with the way how the phenomena had been selected. Star et al. (2011) mentioned a rate of 53 % of the noticed phenomena and distinguished more and less important situations in the education process.

In their reflections, PST most often focused on the planning and structuring of the visual art project and on its topic, but less on the role of the teacher in the assigning of tasks. PST repeatedly expressed surprise at the record in the exercise book in the art education lesson: “I was quite surprised that almost one lesson dealt only with speaking, thinking and preparatory works. I have never seen this...”

I assume that this phenomenon could be caused by the fact that the previous didactic study was aimed practically. PST learned to plan visual art tasks. However, they did not pay attention to the fact how the teacher implemented the task planned. The video recording used was a suitable tool for a discussion about project planning. The issue of planning in the integrated art education is mentioned in the studies of Kafková (2013) and Roeselová (1997). The broader visual art projects enable us to make a deeper insight in the topic even in the case of a small number of lessons per week. They teach the pupils to think in the context, to link gradually acquired experiences and to compare various solutions. They are demanding, with respect to the planning done by the teacher, by combining various approaches and a reflection (Kitzbergerová, 2014).

Only 15 % of the comments concerned art production (AE2). None of them had a solid support in the theory. It is evident that PST do not consider art production to be a cognitive process or a process of cultural transformation of the content (Goodman, 1996; Slavík, 2013): “It may be a little conservative, but for me art is all about creation. The concept is certainly good for artwork, but in this lesson, it was more about creating the idea, thinking about work, rather than about art itself.”

The video recorded only the introduction of the project. The lesson was not primarily focused on the art production. The criticism of the absence of the art production in the lesson is not appropriate. However, the idea that an art education lesson has to include a material production by the pupils is deeply rooted. An idea that the art education lesson is aimed at receptive actions in the sense of the interpretation of artifacts was not widely accepted by PST, even though gallery and museum pedagogy has become a part of the art education (Fulková, 2019; Wagner & Schönau, 2016).

In reflections, PST gave the opinion on the unclear assignment of the task (AE4). The statements reflected that the teacher, in reaction to the students' questions, repeated the same assignment and did not detail it or formulate in a different way: "When assigning the task- collage, the teacher repeats it twice. Unnecessary. Why didn't she say it once? Pupils could have written it on the blackboard or on the paper for the second time. Why didn't one of the pupils repeat the assignment instructions the second time?"

The video-recorded situation well illustrated the fact that the art task assignment is a process of a mutual clarification of the ideas between pupils and the teacher, in contrast to other subjects where the task has a clear and brief form of the assignment. PST have not yet realized this aspect of art education.

The lowest rate of noticing exhibited communication in art education lesson (AE3) and pupils' comments (AE6). In connection with this finding (see Šobáňová, 2016) I assume that, if PST did not reflect the communication dimension of the lesson and meaning making, there is a risk that they will not include those aspects in their own teaching. PST are blind to pupils' comments. It is surprising in a lesson that was mostly devoted to a discussion, where many views of the pupils are presented. Unfortunately, the photodocumentation of quotations did not make a part of the video recording. The studies of Blomberg et al. (2011), Stockero (2008) and Novotná (2017) also pointed out the dominance of general statements over the specific ones. I am confident that an important task of the subject didactics in the art education is a development of PST in the area of semiotics and visual symbols and in strengthening of the communication component of the art education.

Figures 4 and 5 show a high rate of non-justified reasoning, a high rate of naïve explanation and a low rate of complex thinking. Similar findings concerning elementary-school teachers, pre-service teachers of mathematics and pre-service English-language teachers were reported by other authors, namely Pavlasová et al (2018), Santagata and Guarino (2011). I am convinced that the "oriented" noticing of educational situations connected with the proposing of alternative solutions, the interest in pupils' thinking and the capacity to its prediction lead to the development of more complex thinking of PST.

The results indicate that PST were not able to duly use their theoretical knowledge when they should have provided reasons to justify the phenomena observed. It opens the discussion about the role and form of the theory in teacher's training (Slavík et al., 2014). The question of selection of a suitable theory for the professional formation of teachers matters here. The results of the analysis showed that PST did not comment on the subject matter of the lesson. The key term "portrait" appeared in the reflections only nine times, which is not much, as the term was used in the lesson repeatedly.

Here I can see space for a better aiming of the professional subject skills. PST did not think about the medium of photography, its role in the lesson, the possibilities, the approach, the portrait photography, they were not writing about the application of the medium of photography. The relation between the form and the content in art is thought as the key one (see Eisner, 2004; Gajdošíková, 2019) and nowadays as inseparable. In my analysis, it was noticeably easier for the students to use their knowledge obtained in the planning of the teaching and in the use of the project method in the lesson, i.e. in the practically-focused teacher's skills.

Video-interventions should be a way to link the practice with the theory (Korthagen et al., 2011) and to develop PST metacognition (Janík et al., 2016; Sherin & van Es, 2009; Stockero, 2008). In led discussions, it was possible to contextualize selected phenomena. PST praised such occasions in the professional training (Robová & Novotná, 2018). The issue of video-interventions is dealt with in the studies of Simpson and Vondrová (2019), Pavlasová et al. (2018), among others. The concept has been worked out in a broader research team that started in 2016. It was included in the teacher's training in the form of optional courses. PST worked in small collaborating groups in the course of one semester. The work was divided into five common sessions. PST prepared for each session by individually watching video recordings of their own teaching, or they watched videos of others. PST first individually analyzed the watched videos in the written form. The individual reflections were then discussed in a group according to a unified scaffolding that supported the noticing and knowledge-based reasoning. The group discussions brought forward collaborative reflection that confronted preconceptions and a

concrete peer feedback. Generally, the principle of video-interventions are the cycled reflections situated in practice.³

The results obtained describe the level of professional vision of pre-service, elementary-school teachers in art education, compared to the expert vision. The data show a low number of the noticed phenomena. It can be seen that PST paid little attention to the communication dimension of the art education. A large amount of unjustified comments was also observed. PST exhibited a low capability of application of the theoretical knowledge to give reasons for their observations.

The results cannot be generalized as it must be kept in mind that the investigation included a limited sample of students at one university during one academic year only. On the other hand, the sample included all students in one grade. It is therefore possible to think of a preparedness of the whole group of students to teach the art within the art education profession. The conclusions can be affected by the selection of specific phenomena as well as by their number, however, I tried to avoid this problem methodologically. Other forms of the resulting statements of the students (e.g. discussion) could lead to different statements. The noticing of the phenomena was clearly affected by the selection and technical parameters of the video recording. The interpretation of the results thus must be understood in connection with the description of the recorded lesson. In connection with the conclusions drawn, a methodology of video-interventions that has been developed during the last three years is presented.

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³ The publication of a monograph on video-interventions is planned for 2020.

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