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FROM COMMUNITY TO INDIVIDUAL. RE-THINKING PHOTOVOICE METHODOLOGY FOR EDUCATION RESEARCH

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Abstract

There are scholar opinions warning that both quantitative and qualitative methodologies share strengths and weaknesses when applied to academic learning research (Richardson, 2000; 2013). The present article aims to shed light on the use of visual methodologies to investigate learning in academic contexts. An argument is made that education and learning research can benefit from the integration of visual data. This positional article grounds on two pillars. The first is to support and emphasize the value of photovoice methodology in the field of education and learning research, specifically. The second is to provide a framework to conduct a photovoice project. Drawing upon a research study conducted by the author, the article unfolds the main phases in applying photovoice to research learning patterns in higher education. Thus, the paper discusses the essential features of photovoice in the context of learning research, presents the main stages in applying the methodology: recruiting the participants, organizing the initial group meetings, data collection and analysis. Benefits of applying photovoice in educational contexts are pointed out.

Keywords: Photovoice; narrative-photovoice; learning patterns; education research.

1. Introduction

'Seeing is a great deal more than believing these days', states Nicholas Mirzoeff in the beginning of his work An Introduction to Visual Culture (2009). The fascination for visual information strengths the intention of the article to shed light on the use of visual methodologies, specifically the photovoice method, to research academic learning. Photovoice methodologies (PVM) emerged from the fields of health and community research to become a vital tool due to accuracy in gathering data (Graziano, 2004). Since its inception in the early 90s, PVM has gained in popularity (Sutton-Brown, 2014, p. 169). In spite

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of this fact, the association of PVM with the 'soft' area of learning studies is rare and poorly explored by the scientific literature and research studies in the field. In photovoice, members of a target community apply specific photographic techniques to document and capture representative experiences of their individual and collective life.

The purpose of this article is to broad the use of PVM into the field of education and learning research. The key argument for this initiative of moving from challenged groups to challenging processes is twofold. First, although there is a significant amount of research on learning, the diversity and complexity of the process at individual level keeps it on research agendas, especially in the context of new generations facing serious learning difficulties in the context of learning experiences provided by contemporary schools and schooling. Second, the recent tendencies in learning conceptualization (e.g. authentic learning), as in the works of Herrington and Oliver (2000), Slavkin (2004), Rule (2006), Herrington and Herrington (2006), Lombardi (2007) and others, make an argument for a deeper understanding of learning as a lived experience and the author believes that PVM can really contribute. In my work on learning patterns, I drawn from these works in attempt to move to a deeper understanding of complex and subjective learning experiences.

In the subsequent sections, the article unfolds a discussion on the unique attributes and benefits of photovoice as a research method and continues by approaching a particular research on learning patterns.

2. Uniqueness of PVM Reframed in a Learning Research Context

2.1. Photovoice Methodology: Essential Features and Theoretical Background

Photovoice is an action-research method initiated by Wang and Burris (1994; 1997) in their work with in-risk women. In PVM, the participants are provided with disposable cameras to identify, document, and represent strengths, weaknesses, and concerns of their community (Sutton-Brown, 2014, p. 169) from an inner perspective. Since its inception, PVM has increased its popularity and has been applied to disciplines like psychology (Brunsden & Goatcher, 2007), education (Hernandez, Shabazian, & McGrath, 2014; Mulder & Dull, 2014; Stroud, 2014), nursing (Burke & Evans, 2011; Leipert & Anderson, 2012), parenting, refugees, and other marginalized groups (Barlow & Hurlock, 2013; Simmonds, Roux, & Ter Avest, 2015).

An important observation to be made is that PVM gains credit to become a pedagogical tool (Hernandez, Shabazian, & McGrath, 2014; Mulder & Dull, 2014; Popa & Stan, 2013; Stroud, 2014). Leipert and Anderson (2012) directed nursing students to take photographs that expressed the perceived challenges and facilitators of rural nursing practice. Zenkov and Harmon (2009) incorporated photovoice within a curriculum designed to enhance the writing process for urban youth. Cook and Buck (2010) found that photovoice provided reflective means of expression for the middle school students who participated in a water research project.

A corpus of essential features define photovoice methodologies. First, the subjects participating in research capture in situ their experiences (Hernandez, Shabazian, & McGrath, 2014; (Simmonds, Roux, & Ter Avest, 2015). Thus, the researcher gains access to an inner perspective of a social or individual

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phenomenon. Second, in PVM, the focus is on everyday life experiences. By doing so, the subjects reveal both objective (e.g. facts, events) and subjective (e.g. emotions, feelings) aspects of their lives.

Finally, photovoice methodologies involve more than taking pictures and talking about them (Simmonds, Roux, & Ter Avest, 2015). PVM stimulates reflection. In relation to learning, reflection and metacognitive learning can be stimulated through appropriate erotetic techniques. In addition, PVM is a relational methodology. Newbury and Hoskins argue that 'the value of developing relationships with participants in qualitative research has been widely discussed and effectively demonstrated' (2010, p. 643).

2.2. Benefits to Promote PVM in Learning Research

In spite of PVM accuracy in gathering data (Graziano, 2004), it has not been widely applied in education and learning research. This section aims to depict key methodological advantages to support the extensive use of PVM in education. First, PVM focus is on subjects and their lived experiences. Second, applying PVM facilitates the 'in-the-moment' investigation of social and individual phenomena. Third, PVM offers support for intensive longitudinal studies. Finally, the subjects become co-researchers and actively contribute to data analysis.

2.2.1. Access to Settings and Subjective Experiences

In PVM research, subjects are asked to take pictures during classes, individual study time, or collaborative work. This approach provides access to individual experiences that are hardly graspable or even unreachable for the researcher. To counter argue, one cay say that observational research may give access to similar experiences. As for learning and learning patterns research, I disavow this alternative. The interference of researcher may cause essential changes in processing strategies or in regulation strategies (Richardson, 2013). For instance, a set of pictures taken by the participants described learning activities taking place during late night. In such a situation, the researcher cannot be present due to ethical considerations.

When researching learning, one may be interested in processes of which subjects may not be aware of. Richardson (2013) suggested the idea of rejection of students' opinions on learning. He argued their accounts focus on particular social interactions that they usually called 'learning'. These may vary across universities. Therefore, applying PVM on under-acknowledged research participants had a number of benefits in learning investigation. Hernandez and colleagues (2014) used photovoice to examine parallel learning processes of college students and preschool children. According to the authors, PVM allows young children to visually represent their thoughts and abilities while their abstract thought processes are still in their formative years (Hernandez et al., 2014, p. 1948). For those young children, the photovoice methodology was adapted due to limited abilities of subjects to take photographs. Initially, the teacher started a debate. Based on that, the subjects were provided with paper and pencils to draw and reflect on discussion. Follow-up questions based on pre-determined prompt were asked.

2.2.2. Investigation of Immediacy

By assessing subjects' learning experiences 'in-the-moment', PVM clearly contributes to reduce bias that may appear in retrospective self-report research. Thus, PVM strengthens researcher's proximity

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to subjects' lives. The photographs document behavioral experiences of participants. Blending PVM with ESM and narrative techniques sustains the reflection of cognitive and emotional events in subjects.

2.2.3. Support to Intensive Qualitative Studies

Scientific literature on PVM usually defines this approach as a participatory research method providing visual data and descriptive information. PVM supports descriptive studies to explore the daily experience of learning, for instance.

As described in a previous section, PVM studies were employed to research parallel learning in college students and preschool children (Hernandez, Shabazian, & McGrath, 2014). Recent research studies tend to apply photovoice as both a research and pedagogical tool (Cook & Buck, 2010; Harkness & Stallworth, 2013; Hidalgo, 2015; Stroud, 2014). Mulder and Dull (2014) present a descriptive research to facilitate and assess self-reflection in master students and faculty staff through photovoice. As the authors underline, photovoice may have an additional advantage to help socialize students during classes and collaborative work. Harkness and Stallworth (2013) applied PVM to explore and understand high school females' conceptions of mathematics and learning mathematics. The cited study investigated high school girls who reported learning difficulties in mathematics. The study contributed to the understanding of how each participant knew mathematics and revealed epistemic profiles: received knowers and fragile subjective knowers (Harkness & Stallworth, 2013, p. 343).

2.2.4. Engaging Subjects in Data Analysis

Photovoice offers an opportunity for participants to engage actively in the research process of their own learning experiences. Both the researchers and participants can benefit from this participatory approach. Empowering the participants can result in personal abilities to critically observe and reflect on learning behaviors and their effectiveness. Blackman and Fairy (2007) argue PVM participants may learn skills in critical thinking and analysis. Therefore, PVM contributes to a better understanding of how context and information influence learning activities and outcomes. For instance, some of the participants expressed their considerations and concerns about the time they spend on preparing learning (e.g. students color and underline important sequences in course materials).

3. Case in Point: Photovoice to Research Learning Patterns

In the context of this study, the author applied photovoice to document the subjective experience of academic learning in relation to learning strategies. Undergraduate students captured and presented their learning experiences by using photograph elicitation and narrative techniques. Photographs depicted individual and collective learning experiences in different settings: classrooms, libraries, and individual study. The selection of learning experiences was twofold: based on researchers prompts, and based on students' choice. To support learning inquiry, the authors coupled PVM with experience sampling methodologies (ESM). At the end of data collection process, the pictures were analyzed and made the object of collective analysis during group interviews. The participatory phase of data analysis was followed by content analysis conducted by the author.

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3.1. Conceptualization of PVM in a Study on Learning Patterns

Three conceptual and methodological approaches were blended to support the investigation of learning patterns in higher education: photo-narratives, experience sampling methodologies (ESM), and interpretative phenomenological analysis (IPA).

Photo-narratives are also known as poster-narratives (Simmonds, Roux, & Ter Avest, 2015, p. 37). Specifically, the subjects involved in taking pictures select a set of representative pictures and display them on a board. The poster is accompanied by an oral presentation.

As Zirkel, Garcia, and Murphy (2015, p. 1) argue, ESM 'examine individuals' experiences in the context'. The particular feature of ESM is the 'ecological' assessment of experiences, behaviors, thoughts, and feelings at the moment they happen on repeated time occasions (days or weeks). Zirkel and her collaborators (2015) identify key-methodological aspects to promote ESM in educational research. In relation to photovoice, investigation of immediacy and access to subjective experiences appear to be more relevant. Fisher and To (2012) suggest that ESM approaches contribute to reducing bias. When applying ESM, an important decision to make is related to choosing the appropriate way to sample experiences. Three primary means are usually discussed (Bolger & Laurenceau, 2013): (1) random sampling; (2) fixed sampling, and (3) event-based sampling. In random sampling, the researchers usually uses mobile phone alerts to indicate randomly the moment when the subjects will complete a brief survey or take a photo (in the case of PVM). Fixed sampling refers to studies in which the moments or intervals to collect thoughts or feelings have been apriorically set. Finally, in event-based sampling, researchers may set data collection to occur in response to particular events (Zirkel, Garcia, & Murphy, 2015, p. 6).

In this particular study, photovoice was applied as narrative-photovoice (Simmonds, Roux, & Ter Avest, 2015) in an intensive longitudinal design. Narrative-photovoice draws on constituencies of photovoice and photo-narratives, but is underpinned explicitly by narrative inquiry theory. Therefore, the participants reveal what is displayed in their photographs in the form of narrative (Simmonds, Roux, & Ter Avest, 2015, p. 37).

A ten-weeks research framework was designed. Continuously, the participants built an on-line collection of pictures and associated narratives to describe each of them. The narratives were based on a structured scaffolding entailing four questions: (1) Where this picture was taken; (2) What are you doing in this picture? (3) What do you think about the situation; (4) How do you feel. Writing the narratives defines a stage of a deeper reflection on learning strategies. The narratives are ways to create and imbue meaning about the way learning occurs and one adapts his or her learning behaviors to different contexts and persons. Thinking and writing on what occurs when learning takes place activate, renew, and complete metacognitive knowledge about persons, strategies, and tasks. The researcher recommendations went on writing narratives contiguously to keep the point-in-time specific of the methodology. To upload pictures and write narratives, the students used Survey Gizmo® online data collection platform.

In order to strength the participatory of the PVM methodology, IPA was considered a suitable approach. The aim of interpretative phenomenological analysis is to explore in detail how participants are making sense of their personal and social world (Lonka & Makinen, 2004). In our research, we were interested in learning experiences of students in higher education. IPA blends the participation of research subjects with that of the researchers engaging both in analytical approaches. Smith, Flowers and Larkin

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(2009, p. 78) state that the existing literature on analysis in IPA is not convergent on a single 'method' for working with data. The focus of IPA is on participants attempt to make sense of their experience (Smith et al., 2009). To apply IPA, various complementary strategies can be put in place.

3.2. Steps in Photovoice Method

For the research study conducted, photovoice involved four distinct stages, as Sutton-Brown (2014, p. 171) suggests: (1) recruiting participants; (2) initial group meetings; (3) taking pictures; (4) meetings with subjects to discuss and analyze the pictures.

3.2.1. Recruiting Participants

During this phase, undergraduate students from three regular universities were attracted and selected to contribute in the process of data collection and analysis. The photovoice participants hold the responsibility of creating the photographs that will eventually become the object of further discussions and analysis.

Because of the participatory nature of the PVM, the recruitment process is capital in order to support authentic dialogue between researchers and participants. The participants in our research reflect a purposive sampling selection based on conventional means (flyers, posters, and on-line ads). The selection followed to accomplish the goal of recruiting a heterogeneous group in order to provide a broader perspective on learning patterns. The heterogeneity was appreciated from the perspective of students' field of study, including science, technology, engineering, and mathematics (STEM disciplines), socio-humanities, and economics. Forty-nine students ageing in range from nineteen to twenty-three years (M_age=21,7) were chosen from a pool of eighty-seven subjects to participate in our photovoice project. Twelve of them (eight females and four males) abandoned the project. The participation was voluntary and the subjects were able to discontinue at any time throughout the project. At the end of the project, the participants received financial incentives.

3.2.2. Initial Group Meetings

Wang and Burris (1994; 1997) support the need of initial group meetings to discuss theoretical, practical, and ethical aspects of PVM and ESM. A primary role of these meetings is to learn more about photovoice and to give a prompt to guide the selection of experiences to be documented. During the preliminary group meetings, the subjects were familiarized with the process of data collection and procedural ethics in photovoice. A prompt to guide the selection of events to be captured was adopted: 'Take photographs of objects, people (including yourself), situations anywhere in your faculty and home environment able to describe the way you learn and what learning means to you'. After the initial meetings, the participants signed a written informed consent.

3.2.3. PVM in Action: Data Collection

The success of a photovoice project depends on a number of factors such as the nature of the investigated phenomenon, the period, and the availability of participants to take photos (Sutton-Brown, 2014, p. 175).

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The participants were provided with a time frame to take photos, upload them by using the Survey Gizmo platform, and write narratives. The subjects used their own mobile phones to take pictures. Random and event-based sampling were considered suitable approaches. The author guided random sampling procedures. For example, the subjects received a text message in the morning saying to capture learning experiences or situations from that specific day at the faculty or in individual study settings. The participants were responsible for even-based sampling. Thus, they were encouraged to take pictures whenever they feel they experience a relevant situation to describe academic learning.

This stage resulted in a great number of pictures (692 and the corresponding narratives) to be discussed and analyzed during the next stage of the project.

3.2.4. Data Analysis

In traditional research methodologies, data collection and analysis are distinct parts of the research. In participatory research and in PVM, the borders between them are less obvious.

Both the researcher and the participants contributed to the analysis process. The subjects were invited to participate to focus groups to discuss and analyze the pictures. A number of nine focus groups were conducted. In the beginning of the discussion, a set of ten pictures were selected by the participants according to individual and collective relevance criterion. To ignite the discussion the SHOWeD technique was applied (Wang, 1999). SHOWeD is an acronym of the questions to be asked: What do you See here? What is really Happening? How does this relate to Our lives? Why does this problem or strength exist? What can we Do about it? The technique sparks critical thinking. The focus groups were typed and transcribed. IPA was performed. A first step refers to reading and re-reading the data (interview transcripts and narratives) based on a line-by-line analysis of the participants' meanings and understandings of their lived experiences. The second consisted in applying the noting strategy.

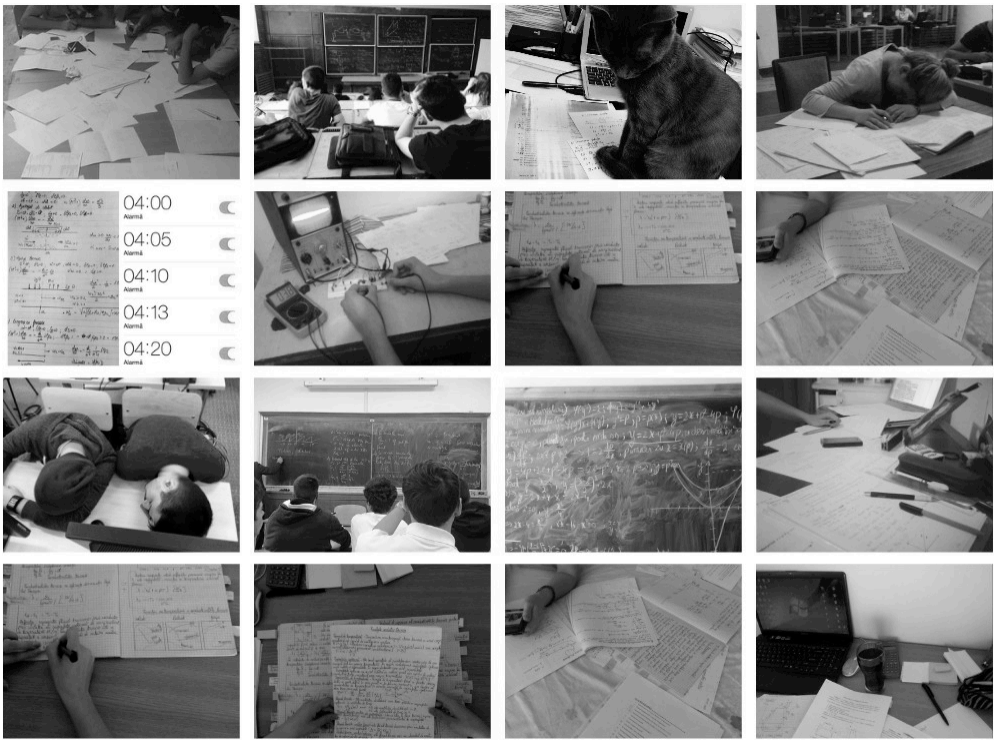

Fig. 1. A selection of pictures taken by the subjects

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After re-reading the transcriptions, the researcher marked relevant quotes of participants. To facilitate the identification of the emergent learning patterns, I associated comments to the identified quotes. In the third step, I grouped the quotes and comments according to their conceptual and experiential convergence. Six themes were revealed (processing strategies, conceptions of learning, and orientations to learning, regulation strategies, positive emotions, and negative emotions). Those entail twenty-one categories (the corresponding learning components and achievement emotions, according to the learning pattern model – see Vermunt (1996), Vermunt & Vermetten (2004) and Gibels, Richardson, Donche, and Vermunt (2014). for a more detailed discussion on this subject matter). In the last step, the emergent themes were gathered in clusters according to the model of learning patterns (Gibels et al., 2014, p. 15). Exploratory comments were associated with quotes and themes.

4. Conclusions

The present paper aimed to empower the use of photovoice in education research. With the exception of studies focusing on nursing, health, and education of vulnerable populations, PVM has not been widely harnessed in education and learning research.

Theoretical and methodological aspects were discussed. The article argued that PVM could be enriched by using experience sampling methodologies and interpretative phenomenological analysis. A corpus of benefits is a pivotal argument to support the integration of PVM in education and learning research. Summarizing, PVM emphasize the subjective contribution of participants and gives them the opportunity to become co-researchers. Intensive longitudinal studies can be designed based on PVM. Drawing upon a study conducted by the author, a framework to apply PVM was proposed and discussed.

In summary, photovoice is a participatory research method effective in assisting subjects to document real experiences in learning, increasing critical and reflective skills. Through PVM, the goal of empowering participants is achieved. The use of PVM in educational research contexts was not extensive, but proved utility and reliability.

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