The Contributions of Video-Analysis in Early Childhood Education and Care Research

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This paper presents a review of the literature on the use of video-analysis in Early Childhood Education and Care (ECEC) contexts. The purpose of conducting such review emerged from the needs of exploring possibilities and limitations of video-analysis as a research mediational tool in ECEC services, especially in a European context. Constituting an integral task of a larger study funded by the Erasmus + grant program, and titled Transition Children and Kindergarten, this review considers English language studies and studies written in the language of the project partner countries (i.e. Italy, Poland, and Belgium/Flanders). The narrative synthesis of the studies considered develops around three emerging areas in which video-analysis in ECEC has been used already, namely: (1) teachers/parents/community’s reflection, consciousness and empowerment; (2) diversity and inclusion; (3) interaction children-educator. The paper ends with a final conclusion on the relevance of video-analysis for ECEC practitioners' professional development and collaborative growth.

Key Words: Video-analysis; Early Childhood Education and Care; Inclusive Practices; Professional development; Literature review.

Questo articolo presenta una rassegna della letteratura sull’uso della video analisi per la ricerca educativa nei servizi per l’infanzia. In particolare, la revisione della letteratura qui illustrata esplora le possibilità e i limiti come strumento di mediazione per la ricerca e la formazione di educatori e insegnanti che entro tali servizi operano. Condotta nell’ambito di uno studio europeo intitolato Transition Children and Kindergarten (TRACKs), la rassegna considera sia gli studi pubblicati in lingua inglese sia quelli pubblicati nella lingua dei paesi partner del progetto (Italia, Polonia, Belgio/Regione Fiamminga). La sintesi narrativa degli studi considerati si sviluppa attorno a tre aree emergenti in cui è già stata utilizzata la video analisi nei servizi per l’infanzia, vale a dire: (1) riflessione, consapevolezza ed empowerment di educatori e insegnanti, genitori, comunità; (2) diversità e inclusione; (3) interazioni tra adulti e bambini. Il documento si conclude con una riflessione rispetto all’utilizzo della video-analisi come strumento per favorire lo sviluppo professionale e la crescita collaborativa dei professionisti nei servizi ECEC.

Parole Chiave: Video Analisi; Servizi Educativi per l’Infanzia; Pratiche Inclusive; Sviluppo Professionale; Revisione della Letteratura.
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1. Introduction

The scope of this literature review, conducted as part of the Transition Children and Kindergarten (TRACKs) project, is to interrogate the possibilities of video-analysis for representing Early Childhood Education and Care (ECEC) professionals’ practices, and for becoming a mediational and epistemological tool of their on-going knowledge construction about inclusion and equity (Bove, 2009). To provide a comprehensive overview of existing research, this review has initially considered studies using video-analysis for professional development at different school grades. Subsequent steps of the review process have focused on findings of empirical studies on video-analysis in early childhood within international, European and Italian contexts, to better respond to the purpose of the TRACKs project. English language studies and studies written in the language spoken within the partner countries carrying out the present review (Italian, Dutch and Polish) are included. This is to avoid that findings derived from studies published in languages other than English are overlooked and left at the margins of mainstream international databases. The literature review considers studies published within edited books, monographies, and indexed journals. Findings from these publication sources are explored, offering valuable insights on the rich and diverse approaches to video-analysis as a tool to support research and professional development in ECEC services.

An international volume on using video in qualitative research in primary and secondary education has recently been published (Xu et al., 2019). The need to explore more in-depth the possibilities of video-analysis as a collaborative cross-cultural methodology in ECEC services has also emerged (Moran, et al, 2018). Thus, this literature focus on ECEC studies using video recording and video-analysis, considering a publication date ranging from the mid-2000s and until 2019. Interestingly, some of these studies are conceptualized as the evolvement of Tobin and Davidson’s (1990) pioneering work on video-cued polyvocal ethnography.

This literature review is organized as follows: the first section describes the aims and purposes of the TRACKs project. Then, the
methodology and selecting procedures used to generate this literature review are illustrated. This is followed by narrative synthesis of the studies considered, which is organized around three emerging thematic areas in which video analysis has already been used: (1) teachers/parents/community’s reflection, consciousness and empowerment; (2) diversity and inclusion; (3) interaction children-educator. The concluding section will reflect on how the literature explored in this review is relevant to the TRACKs research project.

2. The TRACKs Project

The project Transition Children and Kindergarten (TRACKs) is funded by the Erasmus+ European program and it is carried out in partnership with different institutions of three partner countries: Poland, Italy and Belgium. The University institutions are the Jagiellonian University in Krakow, in Poland, the University of Bologna, in Italy, and the University of Ghent in Belgium. Other local educational organizations collaborating are Artevelde University College in Belgium, the Komensky Instytut in Poland, and the Cooperativa Assistenza Disabili Infermi Anziani Infanzia (CADIAI) in Italy. An essential purpose of the project is providing high quality learning opportunities and nurturing environments for all children, especially those coming from multiply-marginalized backgrounds, and who are experiencing social inequalities, poverty and racism. Drawing on the method of video-coaching and video-analysis the project invests in high-quality interaction of ECEC professionals with children (Fukkink & Tavecchio, 2010; Fukkink, Trienekens & Kramer, 2010). The following section illustrates the process of selection of the literature on video analysis at national, European and international levels.

3. Methodology and procedures

The purpose of the literature review presented here is to map, summarize and analyze the findings of existing studies on video-analysis for qualitative educational research and professional development especially within ECEC. At every stage of the process, the researchers conducting the review adopted agreed procedures in order to search, screen and select relevant contributions to be included, and followed agreed criteria. The Italian research team in the project has mapped international, European and Italian literature on video-analysis in educational
research, teacher education and professional development in ECEC, as well as in primary and secondary education at an early stage of the process (see table 1). Then, the Italian research team has proceeded to data extraction and narrative synthesis following the “annotated bibliography” procedure, described in the following sections.

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3.1 Selecting Criteria

The specific criteria determining which studies should be included in the analysis were elaborated by the Italian research team and referred to:

a Procedure shared by Prof. Subini Annamma, during the graduate Spring course on Intersectionality, at the Special Education Department, University of Kansas, USA.
3.2 Searching

The literature search was carried out by using a combination of purposive and snowballing strategies, with the Italian team conducting searches for English and non-English studies. A sensitive search strategy has been used, relevant key terms were identified (e.g. Early Childhood Education and Care – video-analysis – inclusion – diversity – classroom interaction – professional development – practitioner education – praxis), and organized searches using comprehensive search string on international electronic bibliographic databases such as ERIC. Non-indexed publications or grey literature were also sourced through hand-searching in academic journal, university catalogues and institutional websites. Studies published in national languages were retrieved by the Italian research team through national databases and manual searches in specialised journals. The Italian research team also organized and filled the annotated bibliography template to be used in order to summarize and translate the data extracted into English language.

3.3 Screening

Systematic selection of retrieved studies was carried out on the basis of previously defined inclusion criteria. Screening procedures involved two stages: abstract screening and subsequent full-text screening.
3.4 Mapping

The mapping of existing literature was realised starting from the analysis of the descriptive characteristics of each selected publication (research objectives, participant methodology, and how the video-analysis has been used).

3.5 Data Extraction & Narrative Synthesis

The textual extracts that were relevant for the analysis of studies’ findings were annotated on the annotated bibliography grid (illustrated below) that allowed to organise and systematise information from each study. The results of the empirical studies selected were analysed in-depth by grouping significant text extracts in thematic categories which were discussed in narrative form.

Annotated Bibliography Model*

| 1. Reference information in APA (6th Edition) formatting |
| 2. Short summary – including framing, methods, & findings |
| 3. Implications & Evaluation – what can be learned & how is it useful |
| 4. Applications – How can you apply what you learned to your research interests? |

*By Prof. Annamma, Course on Intersectional Injustice, Spring 2018, University of Kansas, US.

4. Mapping results

4.1 Characteristics of considered and included studies

The mapping exercise revealed that video-analysis has been largely used in teacher education and training, particularly to enhance in-service teachers’ reflection on the efficacy of their own practices in primary and secondary education (Blomberg, et al, 2014; Borko, et al, 2008; Meyer, 2012; Rossi, et al, 2015; Santagata, 2013; Seidel et al, 2011; Van Es et al, 2014; Xu et al, 2019). Of the twenty-four studies considered, three consider video-analysis as an instrument for assessment of

The analysis of the literature using videos in ECEC settings highlights that six of the studies considered adopts video analysis as a tool to promote teachers’, and other subjects involved in the educational relationship (e.g. children, parents, community), reflection, empowerment and consciousness (Bove, 2009; Cescato, et al., 2015; Tobin & Davidson, 1989; Tobin & Davidson, 1990; Tobin et al, 2008). Video-analysis has also been used in ECEC settings in studies dealing with issues of migration, diversity and inclusion. Six of the studies considered have adopted video-analysis methodology to explore migrant parents’ expectations and teachers’ perspectives about the children’s school experiences, and to improve inclusive teaching practices (Bove, 2007; Bove & Mantovani, 2015; Mantovani, 2007; Tobin, 2004; Tobin, 2013; Pileri, 2018). Other studies (two) have used video-analysis to focus on the interaction between children and practitioners, and particularly the relationship between educators’ instructional support and observed behavior (Mantovani et al, 2000; Pianta et al, 2013).

A crucial aspect emerging from these studies adopting the video-analysis method in ECEC settings is a shift in the paradigm of teacher training and teacher education. Instead of using videos to analyze teachers’ practices individually, in line with the micro-teaching tradition, these studies promote the use of videos to collectively develop critical thinking with regards to teachers’ daily practices performed in professional settings (Bove, 2007). The next section addresses the findings emerging from the studies considered for this review. The findings highlight the benefits of using videos capturing the interactions between children and practitioners in ECEC settings, followed by a collective discussion and reflection including all the practitioners, and also parents and members of the community.

5. Narrative synthesis of findings emerging from in-depth review

5.1 Video-Analysis to Promote Practitioners/Families/Community’s Reflection, Empowerment and Consciousness

The meta-analysis of research findings in ECEC settings reveals that videos can facilitate collective reflections and discussions that ultimately let emerge participants’ voices, and those of other school community members (Bove, 2009). Through video-analysis, images are contextualized, rendered as concrete and subjected to inquiry, and consequently
this method seems more valid than interview questions to solicit and center participants’ voices, increase their consciousness and empower them (ibid.). This method of inquiry derived from Tobin and Davidson (1990) pioneering work on video-cued ethnography to study ECEC settings and educators’ practices through a critical polyvocal discourse between scholars and practitioners. The authors are concerned with the use videotaped narratives of typical days in preschools as starting points for discussion. Such research strategy is designed to empower teachers to speak directly and ‘talk back’ to the researchers’ interpretation of phenomena (Tobin & Davidson, 1990). In so doing, the authors create a forum where hegemonic interpretative authority of scholars can be contested and enriched with the practitioners’ perspective. Tobin and Davidson (1990) affirm that video-cued polyvocal ethnography resists researchers’ control, letting the voices of the participants come through.

This method has been adopted in cross-cultural studies exploring ECEC services in different countries: *Preschool in Three Cultures. China, Japan and United States*, published by Tobin, Wu and Davidson in 1989, the revised version published in a peer reviewed journal by Tobin, Suech and Karasawa (2004) and later as a book (2009), and the recent study investigating intercultural education in ECEC services in five countries (France, UK, Italy, Germany and the United States) (Mantovani, 2007; Bove, 2007; Tobin, Mantovani, Bove, 2008). In these studies, the method of video-cued polyvocal ethnography develops in three phases. In the first phase, researchers explore potential ECEC services, in each country, where they can film a ‘typical’ day. In the second phase, researchers organize sessions with ECEC practitioners to look at the videos they have recorded, and they take notes of any observation and comments expressed by the practitioners during the reproduction of the videos. Before moving to the third phase, researchers select the images indicated by the practitioners to create a shorter film, which contains significant moments during a ‘typical’ day in ECEC services. In the third and last phase, researchers organize the collective discussions, or focus groups, with practitioners, parents and members of the school community.

Cescato, Bove and Braga’s (2015) article, titled *Video, Formazione e Consapevolezza. Intrecci metodologici* (i.e. Video, Training and Awareness. Methodological Plots) also highlights the possibilities of video-analysis and video research in supporting educators’ professional development in ECEC services. The study advances the thesis that video-analysis for sustaining professionals can be more effective by using different research/training tools, for example visual and textual tools.
Findings from Cescato et al. (2015) study highlight that video recording in ECEC services is a powerful tool to analyze the service’s routines, interactions, and educators and children’s positionality. Attention to how such aspects intersect within the service is crucial to foster practitioners’ professionalism, in terms of observation and description, and critical thinking about practices (e.g. intentions, theoretical perspective, emotional and personal aspects) (ibid.). In their study, Cescato et al. (2015) have used individual and collective discussions as a reaction to the projection of videos. In a second stage of the research the verbal reconstruction by each educator was revised and re-discussed by each educator, so that he/she could be given the opportunity to reflect on action, emotions and thoughts. Further, researchers asked each “focal teacher” to self-evaluate their behaviors in the sequence portrayed through the video (Cescato et al., 2015, p. 69). Such process of deep critical analysis of the self, leads to the recognition of attitudes and posture of which most educators are often unaware.

In addition to ones mentioned above, there are other studies conducted in Poland that use video-analysis and video-recording as a method to foster inspiration, reflection and learning opportunities (Bonar, Maj, 2015; Maj, 2013; Maj, Kwella, 2014, Maj, 2011). All of these studies take inspiration from the Reggio Emilia, and they focus on supporting teachers’ professionalization.

5.2 Video-Analysis to Address Issues of Diversity and Inclusion

As attested by the findings of a number of studies, video-analysis and video recordings can be used as research methods to tackle issues of diversity and inclusion within ECEC settings (Tobin, 2004; Tobin 2013; Mantovani, 2007; Bove, 2007; Tobin, Mantovani, Bove, 2008; Pirard, 2015; Pileri, 2018). The cross-cultural research coordinated by Joseph Tobin titled “Children Crossing Borders”, whose findings are published in international journal and books (Tobin, et al 2013; Tobin 2004; Tobin, Mantovani, Bove, 2008), and within Italian journals (Bove, 2007; Mantovani, 2007), shows how ECEC services in five cities, namely Milan, Paris, Berlin, Birmingham and Phoenix, respond to the presence of children of recent im/migrants. The scope of the research is to understand what im/migrant, non-im/migrant parents and practitioners think about ECEC services within the five countries considered. Video recording and analysis is specifically used to solicit to listen to parents’ and practitioners’ voices and experience of inclusion within the ECEC settings.
The method of video recording and video-analysis used in these studies is similar to the original one introduced by Tobin and Davidson (1990) and described earlier. However, for these studies it is slightly revised to center the voices of im/migrant parents, who are still learning the language of the host country (Tobin, 2004). This revision is clear in the way videos are recorded: the sequences reproduce a ‘typical’ day in ECEC setting, but the main characters are migrant children. Videos are watched and discussed by mixed group of parents, im/migrant and non im/migrant, and practitioners (Tobin, 2004; Tobin et al 2013; Mantovani, 2007; Bove, 2007; Tobin, Mantovani, Bove, 2008).

During the research *Children Crossing Borders*, educators and practitioners within each of the country involved watched videos about the other countries considered. This opportunity of observing, and mutually understand different models of education contributes to expand practitioners’ pedagogical philosophies. Mantovani (2007) and Bove (2007) argue that it is pedagogically relevant to understand what happens when practitioners get exposed via video to another model of education and of teaching. Particularly, they can interpret differently children’s transitions and settlement within the services, the daily free and structured activities, conflict resolutions and so on (ibid.). It is certainly not easy to discuss controversial topic such as diversity, inclusion and racism in schools and ECEC services, but video-analysis can be a powerful facilitating tool to start a discussion on the filmed interactions, and the parents and teachers’ impressions on them.

In another crossed-cultural study realized in five European countries, namely Belgium, Croatia, France, Greece and Italy, and published as a methodological guide to promote diversity within ECEC setting, Florence Pirard (2015) illustrates the use of video recording and video-analysis as a method to shift and transform educational practices towards inclusion, and to improve the general quality of the services. According to Pirard (2015), analyzing educational practices through video recording is an iterative process that should be carried out collectively, in order to explore practitioners’ hypothesis and indications and their effect on children behavior. The collective analysis of videos is of utmost importance to evaluate the effectiveness of the action project. When used in a precise action project, video-analysis and video recording give the possibility to look at different sequences of daily life in ECEC settings from different perspectives, and with attention and rigor. By changing the way children are included in the service, educators have the opportunity to discover that children can express unexpected skills (ibid).

Finally, in the systemic-phenomenological study carried out by Pi-
leri (2018), video-microanalysis was used as a device to investigate the interactions between adults and children in early childhood institutions (creche) within the theoretical framework of communicative musicality. Focusing particular attention on the observation of intersubjective exchanges between disabled children coming from a migrant background and adults, the study explored obstacles and success factors connected to the implementation of inclusive educational practice in interactional contexts characterised by complexity.

5.3 Video-Analysis to Illustrate the Interaction between Educators and Young Children

A study conducted in the Italian context in the 1990s and in the early 2000s highlights that the method of video-analysis can be used to study the relationship between practitioners and young children in ECEC settings (Mantovani, Saitta, Bove, 2000). In these studies, video-recorded sequences are not edited, and they are used merely as representations of a phenomenon to activate moments of observations and the description of the interpersonal relationships between the subjects involved. In this case, video-analysis is intended as a tool to reproduce the investigated phenomenon as it naturally happens in ECEC contexts. There is no premise before the recording. In this case video-recording is intended as a tool to observe in an analytical way a phenomenon, while producing materials to be used in the analysis (Mantovani, Saitta, Bove, 2000).

In the study considered (Mantovani, Saitta, Bove, 2000) video-analysis and video recordings are used to describe the interactions between children and educators, specifically children behavior, during children’s ‘settle in’ period in ECEC settings (ambientamento). In addition to video recordings, researchers have studied children’s settle in though individual interviews with parents and teachers. Video-recorded sequences solicit observation, analysis and an in-depth reflection on the construction of interpersonal relationships. Specifically, the video-analysis method as used in this research articulates as follows: a series of video-recordings are realized during the first week of children’s settle in in the ECEC service, this helps practitioners’ professional development in relation to child’s development; during the third week of settle in other videos are recorded about the interaction between children, parents and practitioners, with the purpose of starting a new observation of interpersonal interactions (Mantovani, Saitta, Bove, 2000). Simultaneously, in-depth interviews are conducted with parents
and practitioners to gather narrative data to be added to visual material. Parents and practitioners are interviewed individually during the first and the third week of the settle in period (ibid). In such way, video-analysis and individual interviews constitute the privileged methods to gather biographical data on participants’ relational history, adults’ ideas and interpretations of the relationship with children and, most crucially the changes in the relationships.

The study conducted in Poland by Piełu, Fludra (2010) uses video-analysis to monitor the interaction children-educator in relation to supporting children’s socio-emotional development, specifically for those children who have verbal communication disorders. Similarly, the research done by Nallur (2017) in the Polish context, presents video-analysis as a tool to reflect on the classroom interaction, but with a specific focus on children’s language development in the case of mono and bilingual children. Pianta et al (2013) study, carried out in the US context, differs slightly from the research analyzed so far in this section. Drawing from the behaviorist perspective in Early Childhood, the authors use video-recording and video-analysis as an intervention in their study.

Participants in Pianta et al (2013) research watched two short videos and identified up to five strategies the teachers are using in their interactions with children (e.g. strategies to engage the children and hold their attention during an activity). These strategy responses are coded for accuracy with regard to features of interaction identified by a master code for that clip. Each strategy identified by the teacher was coded as correct/incorrect, in relation to the pre-coded standard of accuracy for the video-clip considered. For each strategy they identified, participants were also asked to describe a specific behavioral example of that strategy from the clip. Responses to the example questions were then scored for whether it actually matched the corresponding strategy (Pianta et al, 2013).

6. Conclusion

The literature review presented in this paper has attempted to interrogate the possibility of video-analysis for representing ECEC professional practices, and for becoming a mediational and epistemological tool of their on-going knowledge construction about inclusion and equity (Bove, 2009; Xu et al., 2019). Particularly, the analysis of the research studies synthesized in this review highlights how the use of video-analysis in the last two decades has changed the ways educational research and research-based professional development is done, espe-
cially in ECEC settings. The four research focuses that have emerged from the studies considered here emphasize how video-analysis can be a powerful tool to let the voices of participants, especially those coming from multiply-marginalized communities, emerge through sequences and collective discussions with the research subjects and members of the ECEC community.

Conducted as an integral part of a European Erasmus + study titled *Transition Children and Kindergarten*, the literature review presented here started by describing the aim and purposes of this project. Then the methodology and selecting procedures used to generate this literature review are illustrated. The following section focused on mapping and classifying international, European and national studies using video-analysis. This is followed by a narrative synthesis of the studies considered, which is organized around three emerging thematic areas in which video analysis has already been used. (1) teachers/parents/community’s reflection, consciousness and empowerment; (2) diversity and inclusion; (3) interaction children-educator.

Because this literature has been conducted as part of the TRACKs project, we conclude by highlighting briefly how the studies considered in the present review can be applied to this research, and in particular to the case study carried out in Italy. The studies reviewed here, promoting practitioners, families and community’s reflection, empowerment and consciousness are useful to the purpose of the TRACKs project as they offer a possibility to teachers to “talk back” to researchers’ interpretation. They center the voice of the participants, thus creating different narratives and interpretations for the interaction educator-child. Lastly, they provide interesting insights on the strategies through which teachers can become co-researchers. The studies promoting diversity and inclusion are advantageous to the project as they highlight (im)migrant and non-(im)migrant perspectives on ECEC services. They help explaining different ideas of education, child development, and migratory experience. Lastly, they build a critical perspective of pedagogical practices. The reviewed studies focusing on the interaction children-educator weave in well with the TRACKs project as they reflect on the construction of interpersonal relationship, and on the micro-interactions and discourses between adults and children.

All the studies reviewed here considered video-analysis as a potential tool for the future of qualitative research in education, and in ECEC in particular. Surely, it has great potential to shift the paradigm of teacher education, and it promises to become a useful tool for documenting educators’ practices as well as sustaining collective reflection in relation to issues of diversity, interaction and inclusion.
References


Maj A. (2013). Dokumentowanie procesu edukacyjnego jako fundament pracy nauczyciela wczesnej edukacji-z do wiadce nauczycieli przedszkoli w Reggio Emilia we Włoszech. Oficyna Wydawnicza” Impuls”.

Maj A., & Kwella M. (2014). Obserwacja i dokumentowanie procesu edukacyjnego z u yciem nowoczesnych technologii. Oficyna Wydawnicza” Impuls”.

Mantovani S. (2007). Bambini e genitori immigrati nelle scuole dell’infanzia


Tobin J., Davidson D. (1990). The ethics of polyvocal ethnography: empow-


