International Journal of Contemporary Educational Research (IJCER)

www.ijcer.net

Professional Identity Development During Video Cases Discussions: Does It Make a Difference Whether Teacher Candidates Focus Their Own Videos or Experts' Videos?

Deniz Atal[1], Raziye Sancar[2]
[1] Ankara University, 0000-0001-8030-9996
[2] Kirsehir Ahi Evran University, 0000-0002-2875-9233

Article History
Received: 10.02.2022
Received in revised form: 25.10.2022
Accepted: 27.10.2022
Article Type: Research Article

To cite this article:

Atal, D. & Sancar, R. (2022). Professional identity development during video cases discussions: Does it make a difference whether teacher candidates focus their own videos or experts' videos? *International Journal of Contemporary Educational Research, 9*(4), 738-750. https://doi.org/10.33200/ijcer.1071049

International Journal of Contemporary Educational Research
Volume 9, Number 4, December 2022, Page 738-750 ISSN: 2148-3868

Professional Identity Development During Video Cases Discussions: Does It Make a Difference Whether Teacher Candidates Focus Their Own Videos or Experts' Videos?

Deniz Atal[1*], Raziye Sancar[2]
[1]Ankara University,
[2]Kirsehir Ahi Evran University

Abstract

This research aimed to investigate dimensions of professional identity that have been reflected in the different video-case discussions of teacher candidates and explore the differences between own and expert video case discussions. In this qualitative case study, data were obtained from eight teacher candidates through online video case discussions implemented in three cycles among two separate groups. In the discussion platform, while one group focus on their own videos, the other group focus on expert teachers' video. As a result, professional identity indicators, gathered under three themes, named task-based, profession-based, and self-interpretation-based indicators, were reflected in the discussions. Moreover, it is noteworthy differences between the own video-case discussion group and expert video-case discussion group in 'profession-based and 'self-interpretation-based' dimensions of professional identity. Results suggest that especially discussing own video-cases can be a productive tool that helps the teacher candidates to make stronger theory-practice connections and feel like 'a professional teacher'.

Keywords: Professional development; Professional identity; Teacher candidates; Video cases discussion

Introduction

> Learning to teach is not a mere matter of applying decontextualized skills or of mirroring predetermined images; it is time when one's past, present, and future are set in dynamic tension. Learning to teach—like teaching itself—is always the process of becoming: a time of formation and transformation, of scrutiny into what one is doing, and who one can become.

As stated by Britzman, learning to teach—that is, to be a teacher—can be considered a complex, challenging, multidimensional, and subjective process of identity construction, which, in turn, can be seen as a key to a teacher's professional life. Definition of teacher education as "the first and perhaps the most important stage in the development of professional identity (PI)" (Putnam & Borko, 1997), shows the importance of identity development in the professional life anew. Identity development has a notable impact on teachers' teaching, professional development, and attitude toward educational changes (Beijaard, Meijer, & Verloop, 2004), furthermore, according to Bullough (1997) it is essential to the practice of teacher education.

The development of PI is an individual maturation process created before the profession, shaped by meaningful practices in teacher education, and evolving during the practice of the profession (Chong, Low, & Goh, 2011). With the increasing awareness and competencies of the profession, teacher candidates (TCs) may shape their professional goals and desires and begin to define themselves and feel as representatives of their role. Although the PI development process is quite personal, it is driven and constructed through communication and interaction in the psychosocial context of teacher education (Beauchamp & Thomas, 2009; Ezer, Gilat, & Sagee, 2010; Ivanova & Skara-MincŁne, 2016; Izadinia, 2013; Olsen, 2008; Rodgers & Scott, 2008). For instance, structured educational contexts (teacher education programs and practice environments), learning communities, and collaborative environments in which teachers and TCs participate can be used to support their PI development (e.g., Izadinia, 2013; Olsen, 2008). Participation in these environments or processes shapes TCs' thoughts, values, beliefs, and expectations depending on the effect of their self-perception and others' perceptions of them. In other

* Corresponding Author: *Deniz Atal, deniz.atal@gmail.com*

words, professional identities of teachers/TCs are constructed through reflective inquiries in teacher education (Bjuland, Cestari, & Borgersen, 2012).

On the other hand, research has long emphasized the gap between theory and practice in teacher education, and studies using various technologies have been designed. According to Korthagen (2010), how theoretical knowledge is applied in situational and contextual events can be observed and experienced with these technology-supported processes; thus, it is easier for TCs to acquire real classroom experience and repertoire with the help of technology. Herein, the videos present multiple lenses for the TCs to understand and construct good teaching practices by examining several teaching patterns (Goldman, 2007), and they facilitate the professional development of candidates by supporting them in learning from experience (Borko, Jacobs, Eiteljorg, & Pittman, 2008; Kleinknecht & Schneider, 2013; Osmanoglu, Koc, & Isiksal, 2013; So, Pow, & Hung, 2009; Yuan & Mark, 2018). In this regard, video case discussion, in particular, helps create self-reflection and can support PI development by enabling TCs to gain new skills that are part of PI. However, it is important to consider whole variables that shaped professional development process during the video discussions. Because solely sharing and discussing teaching videos does not automatically guarantee effective learning and teaching or identity development. In this regard, the type of video and the design of discussion process are quite significant. In the literature, studies using various types of videos in different contexts have been conducted to support the teaching and professional development of teachers or TCs (Kleinknecht & Schneider, 2013; Rosaen, Lundeberg, Cooper, Fritzen, & Terpstra, 2008; Zhang, Lundeberg, Koehler, & Eberhardt, 2011). However, there is no empirical evidence about how different types of video case discussions influence TCs' PI development. In other words, it has not been investigated how the PI of TCs is affected and in what dimensions it has developed during different discussions regarding their own or experts' videos. It is known that since it is aimed to train TCs as the teachers with effective and desirable PI, it is important to determine the instructional design processes that entirely support their identity development in teacher education process. Therefore, we investigate the following research question:

"How does different video discussion process influence PI development of TC?"

In order to answer this question, we examined the dimensions of PI reflected in the different video case discussions, and the differences between these dimensions. The differences between video cases are designed by changing the subject of the videos (own videos or expert videos). First, this paper reviews the PI of teachers and its development in teacher education, presenting video cases and their discussion. Second, it discusses a study conducted to explore how TCs' PI development reflected different video case discussions. We are aware of the difficulties in defining the concept of teacher identity affected by multidimensional processes; therefore, we do not intend to present a clear definition of PI or to impose a specific PI on video case studies. On the contrary, by examining PI from a broad perspective, we aim to reveal dimensions of professional identities developed through the reflection of TCs during different video case discussions. Moreover, we want to shed light on with the comparative design process to the future PI development research.

Definition and indicators of PI

PI is a critical concept in understanding teachers' lives and professional development, evaluating their quality, and interpreting their commitment and career decisions (Day, Elliot, & Kington, 2005; Hong, 2010; Korthagen, 2004). In its most basic form, PI can be defined as "the perception that teachers have of themselves as teachers" (Cattley, 2007). This self-knowledge in the profession is shown in practical professional teaching activities, feelings of belonging, and learning experiences (Timoštšuk & Ugaste, 2010). These meanings, perceptions, knowledge, and images created by teachers or TCs about themselves in their profession are at the heart of their PI (Chong & Low, 2009; Lim, 2011). Therefore, this concept, which reveals who teachers are as professionals, is considered to reflect their competencies, responsibilities, and relationships. According to Avraamidou (2014), teachers' PI can be seen as a lens for teacher preparation, enabling them to understand learning and development processes. Moreover, the content that they teach; their choices of teaching practice; their working behaviours; and their relationships, emotions, values, commitment, and decisions about leaving the profession are connected to their PI (Beijaard et al., 2004; Flores & Day, 2006; Hong, 2010; Izadinia, 2013). Although the literature presents multiple interpretations, in this study, PI is considered the personal narrative of a (constantly changing and reshaping with interaction) core perception about their roles, their profession, and themselves as teachers.

Despite being in the core of professionalism, the literature shows no consensus on the indicators or shapers of teachers' PI. While some studies consider self-efficacy and intrinsic job motivation as indicators of teachers' PI (Tajeddin & Khodarahmi, 2013), some deal with self-image, self-esteem, job motivation, task perception, and future perspective (Kelchtermans, 2005) or professional orientation, task orientation, self-efficacy, and commitment to teaching (Lamote & Engels, 2010).

As there was no consensus in the literature, Atal and Deryakulu (2019) created a wide framework for the indicators of teacher identity based on fundamental research on PI (e.g., Hong, 2010; Kelchtermans, 2005; Lamote & Engels, 2010). According to this framework, value, job satisfaction, job motivation, self-image, self-esteem, thoughts and beliefs, task perception, knowledge and skills, self-efficacy, future perspective, and commitment to the profession were discussed as indicators of PI. Since Atal and Deryakulu (2019) have handled almost all the variables affecting PI —offered individually in certain studies—as a whole, this research takes their PI framework as a basis. When the limitation of a common and broad framework related to PI indicators in the literature is considered, we believe that a wider framework could be presented with this framework.

Development of PI applying reflective activities in teacher education

Realizing the value of PI development in teacher education, researchers have conducted research based on various instructional design processes and practices to support its development (e.g., Bullough, 1997, Flores, 2020; Izadinia, 2013; Lamote & Engels, 2010; Lutovac & Assunção Flores, 2021). Over the past decades, reflective activities, such as participating in an online discussion group, a community of practice, and video reflection cycles, have been implemented as key elements in exploring the process of TCs' identity-construction (Delahunty, 2012; Maclean & White, 2007; Yuan & Mak, 2018). Because with these reflective activities, individual or interactive processes can be created in which TCs inquire their pre-existing beliefs and practices for further actions and improvement (Timoštšuk & Ugaste, 2010; Yuan & Mak, 2018).

Reflection, seen as a process of self-discovery, is considered an important way for teachers/TCs to get a profound sense of self (Beauchamp & Thomas, 2009). Furthermore, reflection is considered central in both teacher education and teachers' PI development (Beauchamp & Thomas, 2009; 2010; Sutherland, Howard, & Markauskaite, 2010). Although there are many ways, video cases are used to develop self-reflection skills of TCs, novice and expert teachers. For instance, Maclean and White (2007) and Sutherland et al. (2010) have used the "video reflection cycle" as an appropriate reflective tool to make changes in TCs' cognitive and professional stance. When teachers come together to engage with video case materials in a collaborative environment, they can reflect on, analyse, and discuss their in-teaching and on-teaching experiences by creating meaningful professional knowledge. In other words, it is possible to support teachers'/TCs' reflections and professional development through video case discussion. The next section provides explanations for the educational value of video cases and usage of different types of video discussions (discussion of own or expert videos).

Video cases and discussion of own or expert videos

In the literature, video cases are used for a variety of purposes; for instance, they can present the diversity, richness, and complexity of classroom activity and show examples of good teaching practices. On the other hand, teachers can explore the real class environment, think about these classes, review their own practice, gain abilities to analyse and develop perspective, learn from their own or others' experiences, and reflect upon their own teaching experiences with video cases (Borko, et al., 2008; Osmanoglu, Koc, & Isiksal, 2013; Sherin & van Es, 2009; Seidel, Stürmer, Blomberg, Kobarg, & Schwindt, 2011). Video cases remove the tendency to see teaching as a technique and routine (Darling-Hammond & Bransford, 2005) and help candidates develop professional vision and expertise, experience different learning situations, and gain self-assessment skills (McDonald & Rook, 2014; Seidel et al., 2011; Sherin & van Es, 2009).

Besides, it is important for TCs to watch and discuss the different types of video cases with peers to experience a change in their feelings and knowledge about teaching, gain a more realistic picture of the learning environment, and ensure their development with the views of others (Hatch, Shuttleworth, Jaffee, & Marri, 2016; Koç, Peker, & Osmanoğlu, 2009). Thus, by watching and discussing videos, teachers can engage in the critical analysis of their strengths and weaknesses in practice and develop new insights to inform their teaching routine/habits/experience (Yuan et al., 2020; Zhang, Lundeberg, Koehler, & Eberhardt, 2011). Moreover, by discussing their own or others' videos, they can support their self-efficacy, job satisfaction, motivations, professional beliefs and attitudes, decision-making and problem-solving skills, and professional identities (e.g., Hatch et al., 2016; Maclean & White, 2007; Sancar & Deryakulu, 2020; Ulusoy & Çakıroğlu, 2020; Zhang et al., 2011).

However, little is known about the specific effects of different types of video cases, and it remains unclear how to handle video cases most effectively. For instance, while some researchers argue that watching expert videos supports professional development more (Hatch et al., 2016; Hover, 2020; Seidel et al., 2011), watching one's own videos could be considered valuable since it provides deep knowledge about oneself (Bonaccorso, 2020;

Borko et al., 2008; Rosaen et al., 2008; Seidel et al., 2011; Zhang et al., 20119). Although candidates' own videos, peer videos, or expert videos are used to support professional development in teacher education, understanding the affordance and challenges related to each is vital for defining and integrating a more beneficial type of video — especially in PI development. However, as few studies compare two groups (own videos or expert videos), what types of video discussions have more impact on teachers' professional development remains unclear (e.g., Seidel et al., 2011). According to Borko et al. (2008), who have a similar view, despite the widespread use of videos for providing learning experiences to teachers, little systematic research has been conducted on the feasibility and effectiveness of various types of videos.

By effectively discussing video cases, TCs can construct meanings on their professional knowledge and teaching and develop their own professional identities. However, the effect of video types on TCs' PI development has not yet been a subject of research. This study unveils the reflection processes within different types of video discussions that are effective to support TCs' professional identities and the PI structure that emerges through them.

Methodology

The case study was used as the research methodology to investigate how PI is developed in a particular discussion group (own or expert videos). It was seen as a valid form of inquiry, exploring a broad scope of complex phenomena, such as human behaviour and social interactions, to reveal the meaning process of individual experiences (Merriam, 2009). In this research, the community of TCs participating in the video case discussion investigated the phenomenon of PI development. This case provides a deep inquiry into PI development in different types of video discussion with cross-checking.

Participants

This case procedure was conducted in the Teaching Practice II Course throughout the last semester of the participants' bachelor's program at a faculty of educational sciences within a department of computer and instructional technology education in Turkey. While, in the previous term, all TCs had observed the school context, real class, and teaching of expert teachers, during this term, they gained in-class experience with real classroom practices. The research was conducted with eight TCs (six male and two female) willing to participate. Table 1 details the information of the participants.

Table 1. The participants in the research groups

Groups	Pseudonyms	Sex	Age
Discussing Own Video Cases	Elif	Female	22
	Burak	Male	23
	Mehmet	Male	21
	Ali	Male	22
Discussing Expert Video Cases	Zeynep	Female	23
	Selim	Male	22
	Yunus	Male	21
	Umut	Male	22

As seen in Table 1, the TCs' average age was 22 years old, and none of them had previous in-class teaching experience. In order to ensure the privacy of the participants, pseudonyms are used.

The case procedure

Before starting the process, the participants were divided into two groups: four of them in the "Discussing Own Video Cases" group and the other four in the "Discussing Expert Video Cases" group. Then, a workshop was conducted to help familiarize the TCs with the digital video cases and discussion platform. Shooting and editing techniques, video uploading, and the discussion platform were presented with the aim to have short and edited videos prepared by TCs to stimulate discussion around issues that caught their attention. This workshop was scheduled to include time for recording and editing three video cases for each student. In this regard, TCs were made aware of their responsibilities at the beginning of the process.

Since each group was only asked to see and participate in their groups' video discussions, separate discussion platforms were created for both working groups. It was announced that the researchers would not participate in

the discussion process so that the candidates could contribute to the discussions comfortably and safely, and the data collection process started by randomly allocating teachers to the groups.

Three basic things are expected of them throughout the data collection process.

- Recording the whole 40-minute teaching video in accordance with the schedule planned at the beginning of the process (own teaching videos or experts' videos according to the group they are involved in)
- Editing 40-min videos into 10–15 min of video cases consisting of important parts that caught their attention. While editing these videos with editing program, they can add explanations onto the video case that attract their attention, or they want to tell more. Also, we called it as adding reflective thinking on action.
- Sharing the videos in the discussion platforms and discuss significant/different points with their own group.

This process was repeated three times for each teacher candidate. Therefore, each cycle for each group included four video cases, and 12 video cases in total were produced and discussed in each group. Figure 1 summarizes the case procedure.

Figure 1. The research procedures of each group

Data source and analysis

The data of this research were collaborative discussion comments reflected in the discussions in own and expert video case groups. We analysed discussion comments on a total of 24 video cases (12 for each group). The meaning-making process involved combining, reducing, and interpreting statements of participants through the researchers' understanding (Merriam, 2009). In this regard, we transcribed video discussion comments verbatim. Afterward, we conducted deductive and inductive reasoning processes for data analysis. Deductive analysis includes coding data using an existing framework (Patton, 2002); as the first step in this phase, to address research question, we divided each video case discussion message into conversation units based on shifts in the substantive focus of the conversation (e.g., classroom management for teaching). We then coded each conversation unit using the coding framework of Atal and Deryakulu (2019) on teacher PI. According to this coding framework, value, job satisfaction, job motivation, self-image, self-esteem, thoughts and beliefs, task perception, knowledge and skills, self-efficacy, future perspective, and commitment to the profession were discussed as indicators of PI. During the coding process, more than one idea was often expressed in some messages, and these resulted in multiple coding. For instance, when the TCs' comment included, "So, we have to solve the problems of other teachers as well as teach the lesson well." it was related to the task perception dimension of PI, or, when the comment included, "Thank you, guys; from your comments, I understood once again what a valuable job we do." this was related to the value dimension.

On the other hand, although Atal and Deryakulu's (2019) framework was taken as a basis for the coding process, the codes that were thought to be related to PI, but not to the categories in this framework, were determined; new categories were deducted from these related codes. Finally, they were addressed under certain themes. For instance, one teacher candidate gave a comment that included, "We have to teach the lesson in 40 minutes, so we have to plan the time well. After watching the video, it worried me to think that I would not be able to teach the lesson." This comment was coded in relation to both "emotion" and "time management skill"; therefore, the "management skills" and "emotions" categories were added to the coding framework since no related ones are included in that of Atal and Deryakulu (2019). After one researcher completed the coding process, 45% of the entire dataset was independently analysed by two co-authors and reached an agreement rate over 90%.

Validity and Reliability

For reliability of coding, 45% of the entire dataset was randomly selected and independently coded by the other co-author. Inter-rater reliability was analyzed using Cohen's Kappa Coefficient. Cohen's Kappa Coefficient was determined as 90%. For the transferability and consistency of the study, the data collection process was explained in detail and the results were supported with direct quotations. Pseudonyms were used for each participant instead of using a real identity.

Results

Based on the research questions, first, the findings about the indicators of PI reflected in video case discussions were presented. Afterward, the findings about the consequence of discussing own or expert video cases on TCs' PI were comparatively presented.

Indicators of PI reflected in video discussions

As a result of the analysis, identity indicators reflected in the discussions were gathered under three themes. These can be named as task-based, profession-based, and self-interpretation-based indicator of PI. Figure 2 shows the indicators of TCs' professional identities reflected in discussed video cases.

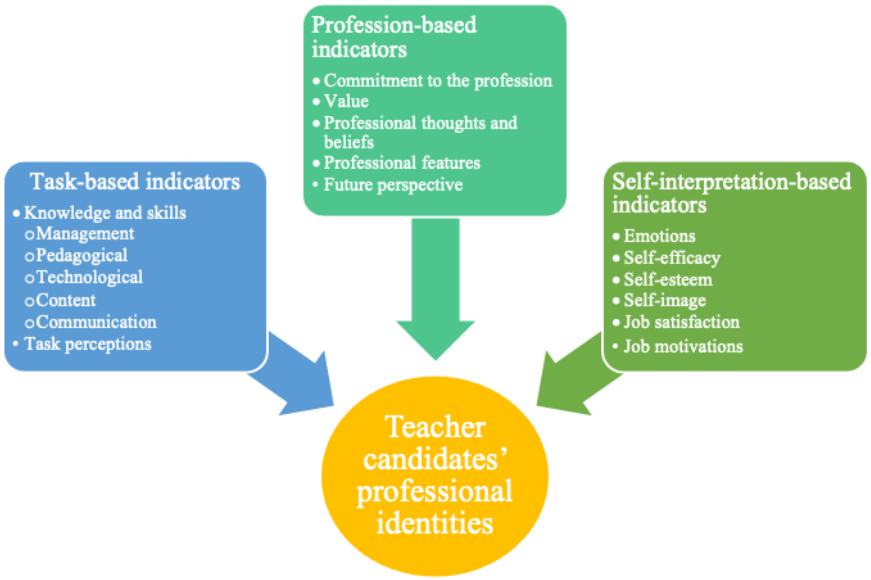

Figure 2. Indicators of teacher candidates' professional identities

As seen in Figure 1, one of the PI indicators that the TCs reflected in the video case discussions was named as task-based indicators. Under these indicators, the tasks and responsibilities of teachers in schools and their knowledge and skills were included. In particular, classroom management and communication skills, content, technological and pedagogical knowledge, and skills were grouped under the category of knowledge and skills. Moreover, the duties and responsibilities given by school administrators and the expectations of other teachers about information and communication technologies (ICT) formed the job perceptions of the candidates.

Second, viewing teaching as a profession and attributing meaning to it was identified as another critical dimension that shapes their professional identities. TCs' thoughts and beliefs about the profession, perception of value and commitment to the profession, professional features, and future perspectives were discussed under the profession-based indicator.

Third, the variables related to the TCs themselves, their self-perceptions, and inner evaluations were gathered under the self-interpretation-based indicator. Depending on this indicator, teachers' self-efficacy beliefs, self-esteem, emotions, motivation, satisfaction, and the self-image that they acquired in the process reflected the more intrinsic dimensions of PI. Based on these PI indicators determined as a result of the analysis, the differences between two discussion groups are presented below.

Differences in task-based indicators of PI between own and expert video case groups

In the first discussion cycle, in both video discussion groups, TCs focused more on the expert teachers' attitudes, stance in the classroom, communication skills, classroom management experiences, and content knowledge. According to their reflections, attracting attention, ensuring silence, and adequately presenting the content was vital for the teaching profession. Furthermore, having a sloppy daily appearance was interpreted as not valuing the profession enough and as unwillingness to teach.

> *Imagine that the teacher comes to class in jeans or pants and a jacket, like an officer. I think the teacher wearing pants and a jacket is aware of the profession, task, and importance of their job; however, the teacher wearing jeans does not take teaching seriously and does not care about it. (Zeynep, 1st discussion cycle)*

On the other hand, not caring about students enough, ignoring them, and/or not responding adequately to their questions attracted TCs' attention throughout the discussion in both groups. Furthermore, with the deficiency of good classroom management patterns, they discussed and configured the management problems and skills that ICT teachers must have.

> *While the teacher should be good at classroom management, I don't think she is very good at all. (Selim, 1st discussion cycle)*
> *... At least he could answer the student's question. The students say they have finished and ask the teacher what to do. Sorry, but the teacher does not respond willingly, does not react. The student is willing to apply [themselves], but the teacher ignores them. This is very negative; it may cause the student to lose interest, and we should pay particular attention to it. (Yunus, 1st discussion cycle)*

Over time, the focus of the discussion shifted. At first, discussions had become deeper and more solution-oriented beyond the determination of the problems in both groups. Moreover, discussions focusing on the teacher and the teaching process started to shift to students' achievement, obstacles, and solutions to learning problems. However, in these in-depth discussions, while the exemplary behaviors of experts were discussed in the expert video case group, TCs' own improvements were evaluated in the other group. In particular, TCs discussing their own videos tried different methods and techniques with technologies over time and reflected on their influence.

> *Instead of talking while using a projector, if she had had the material in her hand, she would have attracted the attention of the students and enabled them to perceive rather than memorize. (Elif, 2nd discussion cycle)*
> *The teacher saying "Those who finished the application should turn off their screens so that I can know who finished it" both prevents students from dealing with other things on the computer and shows which student has difficulty in the application. (I'll try this in my lecture too.) (Umut, 3rd discussion cycle)*

While, in both discussion groups, the expectations of the school administration were reflected in the perception of the task, the field of technology has begun to establish a framework for structuring teachers' professional identities in the own video discussion group. Moreover, the techno-pedagogical competencies of the teachers started to emerge in the own video discussion group and structured the qualities that they should have as ICT teachers—for instance, using technology effectively and integrating this technology into the process at the right time.

> *I saw that, when we organize the lab before the lesson starts, and when we select and plan the technology according to the content, the teaching is more effective. (Burak, 2nd discussion cycle)*
> *Having the materials done in Scratch by forming small groups and then [performing] peer evaluation ... The teacher was very nice. I think you are going to be a good teacher, Elif. (Mehmet, 3rd discussion cycle)*

Differences in profession-based indicators of PI between own and expert video case groups

In the first discussion cycle, the TCs in both groups frequently discussed teachers' general features. For instance, criticizing expert teachers' behavior in the videos, TCs defined qualities of ICT teachers, such as practical skills to present content, willingness to teach, organization, motivation to teach, and good communication abilities.

> *The teacher uses his voice effectively and explains it step by step down to the smallest detail. Even when I was watching the video, I could open the Tinkercad application and do it even if I didn't know it. This is important. (Selim, 1st discussion cycle)*
> *The students are standing, and one is playing an instrument in the middle of the class. The teacher is reluctant, uninterested. This is indeed the first time I've seen such a class. Unbelievable. I saw how I should not be in that lesson. (Umut, 1st discussion cycle)*

Over time, in both groups, discussion comments turned from more general teacher features to field-based features. While discussing their ideas about profession based on technology, the TCs pointed out that ICT teachers should use new technology, organize hardware, find solutions to technological problems, and enrich teaching with technology. These characteristics, which were vital to them, reflect their perceptions of professional roles.

> *As you can see in the video, deficiencies in the laboratory environment can cause problems in starting the lesson and attracting the attention of the students. Therefore, we should pay attention to this before starting the lesson, review all the problems in the lab, and correct the deficiencies. (Yunus, 2nd discussion cycle)*
> *I was very hesitant to try new technologies and applications at first, but I should not avoid this. (Ali, 2nd discussion cycle)*

The most significant differences between the two groups were reflected in the dimensions of commitment, value, and future perspective. Remarkably, the comments in the own video case groups made by their peers significantly contributed to their professional development, increasing the willingness to maintain the profession and their outlook for the future. For instance, with regard to receiving positive comments from peers, TCs positively appreciated their progress and expressed their hope of improving in the future. This discussion process helped them psychologically and positively affected their value perception and professional commitment. Candidates now feel that they are stronger teachers.

> *Your confidence in mastering the content, the lesson, and the classroom is reflected in your smile. It is obvious that you love your job and will do it. All of you are good; we are together in this first test to begin the profession. (Mehmet, 3rd discussion cycle)*
> *Burak, first of all, your video is excellent, and your effort is very clear—thank you. You set the rules at first; that's good, of course. You cared and came to the lesson prepared, which was obvious from your clothes and [teaching] material. I am sure you will never break your line. I really appreciate and envy you. (Elif, 3rd discussion cycle)*

Differences in self-interpretation-based indicators of PI between own and expert video case groups

In the discussions, we detected the greatest difference in the self-interpretation-based indicators of PI. Although not reflected in the expert video case discussion, the dimensions of emotions, self-efficacy, job motivation, and self-perception especially attracted attention in the last video discussions of the own video case group. While discussing their own videos, TCs receiving positive comments and praise from their peers for their videos increased their job motivation, job satisfaction, and self-efficacy perceptions and started to reflect positive emotions. Finally, these TCs enjoyed being in class, experiencing the planned processes, and being happy to watch and discuss their improvement. Some TCs even positively appreciated their progress and expressed their hopes of improving in the future.

> *Elif, I see a lot of progress in you. You were already successful—you were worthy of this profession; now, you are even better. You have come a long way. We've all come a long way though. (Mehmet, 3rd discussion cycle)*

Furthermore, the most significant change that emerged among candidates discussing their own videos was that they felt like teachers over time thanks to their classroom stance, improved management, and communication skills. Moreover, this change and development were reflected in their discussions. TCs appreciated and praised both themselves and their peers for their reflected development; they also stated that they were ready for real teaching life by eventually feeling like teachers as their tensions and worries diminished and they began to feel more confident.

> *Your valuable comments have enlightened me so that I can do my part in tomorrow's upbringing. You interpreted it [my teaching] from so many different angles without dismantling it or hurting*

me, and you helped me improve and feel stronger. I sincerely thank you all. I'm so happy now. (Burak, 2nd cycle)
Now, we believe even more that we will all be good teachers. I say that we are really good at teaching now. We have developed together thanks to you guys. Thank you all. (Elif, 3rd cycle)

Discussions and conclusions

Professional development could be seen as a process that begins with teacher education and continues throughout a teacher's professional life. Sancar, Atal and Deryakulu's (2021) research underlined that professional development is affected by a teacher's characteristics, teaching contents, and strategies/methods and the others with whom teachers interact as well as the quality of these interactions. We believe that TCs and new teachers must develop the repertoire of the real teaching process to meet the varied demands that they face and to continue practicing their profession with satisfaction. Thus, to begin professional life with a powerful attitude, it is significant to enrich teacher education with activities that will support professional development and achieve the desired PI formation.

In this research, it is aimed to examine PI structures in the process of video case discussions that are structured differently. According to the findings on one hand, this study offered a wide framework that illustrates the indicators of TCs' PI composed of three dimensions. In this broad framework, it can be seen that the variables structuring the PI of TCs were be grouped under task-based, profession-based, and self-interpretation-based indicator. Since no research has been found that grouped PI indicators holistically, it is thought that this finding is valuable and may be the basis for future PI research.

On the other hand, by comparatively examining different video case discussions, we revealed the PI development reflected in these discussions. It was unique that, through the complex process of entry into the profession, the video discussion process could build a bridge between theory and practice by providing a strong vision and opportunities to feel and think like teachers. In this regard, the power of video cases to make TCs feel better prepared for entering the teaching profession was once again revealed (Bonaccorso, 2020; Borko et al., 2008; Koc et al., 2009).

The second critical finding that draws attention in this study is related to the differences of the indicators in the groups. As a result of this study, differences in the identity indicators reflected in the discussions were determined according to the discussion of their own videos or expert videos as shown in Figure 3.

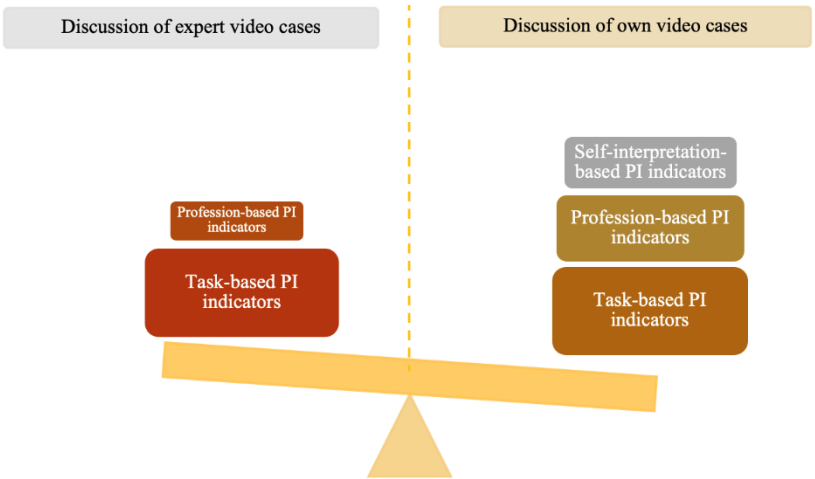

Figure 3. PI indicators reflected in different types of video discussion groups

At first, in both video groups, task-oriented matters such as classroom management issues, communication skills, pedagogical competency, and teacher characteristics were the most common focus of the discussion. This finding was supported by the results of the video case discussions revealing that teachers or TCs mostly discuss dimensions such as classroom management skills and teaching competence (Page & Jones, 2018; Xiao & Tobin, 2018).

However, as can be seen in Figure 3, profession-based and self-interpretation-based dimensions emerged far more in own video case discussions. Surely, there might be many conditions to emerge this difference. One might be

that TCs watching and discussing their in-class experiences had more opportunities for their reflection-on-action by deeply analysing in-class action. Moreover, when discussing their own video cases, they not only analysed a more inclusive reflection of their own in-class teaching but also may have internalized the comments and criticisms; thus, they were able to realize themselves more deeply as teachers. However, since the TCs discussing expert videos could not personally experience the teaching practice, they may not have seen their own development and may not sufficiently support their PI development.

In the literature on teacher education and professional development, it is becoming more common to involve teachers in observing their own instructional videos to encourage reflective practice (e.g., Bonaccorso, 2020; Rosaen et al., 2008; Seidel et al., 2011; Zhang et al., 2011). By watching and discussing with each other, teachers or TCs can empathize with the relevant situation, participate emotionally in the process, and find opportunities to broadly evaluate themselves from different perspectives (Borko et al., 2008). Zhang, Koehler, and Lundeberg (2015) emphasized that "the video of the teachers was a powerful tool used to support teachers' reflection on practice both individually and collaboratively". Moreover, compared with other video types, watching, and discussing own videos has been seen as "like having a mirror placed in my face," prompting critical reflection, immersion, authenticity, motivation, and knowing and recognizing themselves (Gaudin & Chaliès, 2015; Rosaen et al., 2008; Seidel et al., 2011; Zhang et al., 2011).

In parallel, it was underlined that TCs who observed and were confronted with the video cases could participate in the teaching process more emotionally and could better connect their observations with their own practices (Page & Jones, 2018; Sherin, Linsenmeier, & van Es, 2009; Xiao & Tobin, 2018). For instance, Borko, Virmani, Khachatryan and Mangram (2014) revealed that, while discussing their own videos, teachers talked in a more focused, in-depth, and analytic manner about specific issues; thus, teachers' discussions became more "productive". To interpret it from another perspective, the positive evaluations of their next in-class teaching by their peers, who had experienced the same process, may have affected them emotionally and given them self-confidence in performing this profession. With this confidence, they may have reflected more profession-based and self-interpretation-based dimensions of PI in the discussions. In other words, the reason for the development of the particular dimension of PI, which was reflected only in the own video case discussions, may be the positive support and praise of their peers for their own teaching. In the literature, research has shown that evaluating and discussing video cases with peers raises TCs' awareness of their teaching experiences (e.g., Hover, 2020; Sancar & Deryakulu, 2020; Ulusoy & Çakıroğlu, 2020).

We cannot ignore the contribution of watching and discussing expert videos to PI development. For example, Seidel et al. (2011) pointed out that teachers watching videos of others can select key events and analyse them objectively. Similarly, presenting experts' experiences ensures that TCs have several examples at their disposal to support their professional development (e.g., Hatch et al., 2016; Hover, 2020).

Learning how to teach by imitating experts' methods and developing identity construction with solutions by discussing expert videos could be beneficial to the candidates (Perry, Davies, & Brady, 2020). Correspondingly, Borko et al. (2008) discovered that candidates could learn new pedagogical strategies by observing their colleagues in action and could cope with similar situations more easily. However, the debate about the impact of discussing one's own video or those of others on the professional development of teachers is ongoing. For instance, the research conducted by Kleinknecht and Schneider (2013) revealed that the TCs discussed others' videos by analysing them more critically, and, as for discussing their own videos, they remained only in the dimensions of explaining, perceiving, and evaluating the situation. Although our research shows that discussing their own videos has a more positive effect on the development of PI, unfortunately, research on which types of video discussions might have more impact on teachers' professional development is quite limited, indicating that more research is needed on the subject.

Limitations and recommendations

Although these research findings heightened the value of video case discussions on professional development, more information is needed to contribute to teacher education literature. First, with the extended framework about PI, more research could be conducted, and the identity structures of teachers and TCs could be revealed in several fields, contexts, and cultures. Second, it is significant that video cases provide more space to the TCs for being the authors of their own identity as teachers. Thus, future research could focus on the integration of video technology for various periods and on the practices that strengthen TCs' perceptions of their own development. Third, due to the instructional design process that could affect the advantages of the implementation, future research may focus on variables such as discussion structure, support periods, length, video types, moderator effect, and program goal. While planning new research, it should be considered that activities and processes should

support the desired identity development and should not lead to overwhelming, discouraging, or negative emotion. Finally, this study has limitations in that it was conducted on limited TCs and limited discussion cycles. Thus, future research could focus on other areas with more students and a longer process design.

Author (s) Contribution Rate

All authors contributed equally to the concept and design of the study.

Conflicts of Interest

All authors declare no competing interests.

Ethical Approval

Ethical permission (19/12/2016-352) was obtained from Ankara University, Graduate School of Educational Sciences for this research.

References

Atal, D., & Deryakulu, D. (2019). The effects of educational changes on the professional identities of information and communication technologies teachers. *Pegem Journal of Education and Instruction, 9(*3), 877-912. https://doi.org/10.14527/pegegog.2019.028

Avraamidou, L. (2014). Studying science teacher identity: Current insights and future research directions. *Studies in Science Education*, *50*(2), 145-179. https://doi.org/10.1080/03057267.2014.937171

Beauchamp, C., & Thomas, L. (2009). Understanding teacher identity: An overview of issues in the literature and implications for teacher education. *Cambridge Journal of Education*, *39*(2), 175-189. https://doi.org/10.1080/03057640902902252

Beauchamp, C., & Thomas, L. (2010). Reflecting on an ideal: Student teachers envision a future identity. *Reflective Practice*, *11*(5), 631-643. https://doi.org/10.1080/14623943.2010.516975

Beijaard, D., Meijer, P. C., & Verloop, N. (2004). Reconsidering research on teachers' professional identity. *Teaching and Teacher Education*, *20*(2), 107-128. https://doi.org/10.1016/j.tate.2003.07.001

Bjuland, R., Cestari, M. L., & Borgersen, H. E. (2012). Professional mathematics teacher identity: Analysis of reflective narratives from discourses and activities. *Journal of Mathematics Teacher Education, 15*(5), 405-424. https://doi.org/10.1007/s10857-012-9216-1

Bonaccorso, V. D. (2020). Video case materials and the development of collective professional knowledge. *Theses, Dissertations and Culminating Projects*, 524. https://digitalcommons.montclair.edu/etd/524

Borko, H., Jacobs, J., Eiteljorg, E., & Pittman, M. E. (2008). Video as a tool for fostering productive discussions in mathematics professional development. *Teaching and Teacher Education*, *24*(2), 417-436. https://doi.org/10.1016/j.tate.2006.11.012

Borko, H., Virmani, R., Khachatryan, E., & Mangram, C. (2014). The role of video-based discussions in professional development and the preparation of professional development leaders. In B. D. Calandra & P. Rich (Eds.), *Digital video for teacher education: Research and practice* (pp. 89-108). Routledge.

Britzman, D. (2003). *Practice makes practice: A critical study of learning to teach*. State University of New York Press

Bullough, R. (1997). Becoming a teacher: Self and the social location of teacher education. In B. Biddle, T. Good, & I. Goodson (Eds.), *International handbook of teachers and teaching* (pp. 79–134). Kluwer Academic Publishers.

Cattley, G. (2007). Emergence of professional identity for the pre-service teacher. *International Education Journal, 8*(2), 337-347.

Chong, S., & Low, E. L. (2009). Why I want to teach and how I feel about teaching—formation of teacher identity from pre-service to the beginning teacher phase. *Educational Research for Policy and Practice*, *8*(1), 59-72. https://doi.org/10.1007/s10671-008-9056-z

Chong, S., Low, E. L., & Goh, K. C. (2011). Emerging professional teacher identity of pre-service teachers. *Australian Journal of Teacher Education*, *36*(8), 50-64.

Darling-Hammond, L., & Bransford, J. (Eds.). (2005). *Preparing teachers for a changing world: What teachers should learn and be able to do*. Jossey-Bass.

Day, C., Elliot, B., & Kington, A. (2005). Reform, standards and teacher identity: Challenges of sustaining commitment. *Teaching and Teacher Education*, *21*(5), 563-577. https://doi.org/10.1016/j.tate.2005.03.001

Delahunty, J. (2012). 'Who am I?' Exploring identity in online discussion forums. *International Journal of Educational Research*, 53, 407-420. https://doi.org/10.1016/j.ijer.2012.05.005

Ezer, H., Gilat, I., & Sagee, R. (2010). Perception of teacher education and professional identity among novice teachers. *European Journal of Teacher Education*, *33*(4), 391-404. https://doi.org/10.1080/02619768.2010.504949

Flores, M. A. (2020). Feeling like a student but thinking like a teacher: A study of the development of professional identity in initial teacher education. *Journal of Education for Teaching*, *46*(2), 145-158. https://doi.org/10.1080/02607476.2020.1724659

Flores, M. A., & Day, C. (2006). Contexts which shape and reshape new teachers' identities: A multi-perspective study. *Teaching and Teacher Education, 22*(2), 219-232. https://doi.org/10.1016/j.tate.2005.09.002

Sherin, M. G., & Van Es, E. A. (2009). Effects of video club participation on teachers' professional vision. *Journal of Teacher Education, 60*(1), 20-37. https://doi.org/10.1177/0022487108328155

Gaudin, C., & Chaliès, S. (2015). Video viewing in teacher education and professional development: A literature review. *Educational Research Review, 16*, 41-67. https://doi.org/10.1016/j.edurev.2015.06.001

Goldman, R. (2007). Video representations and the perspectivity framework:epistemology, ethnography, evaluation, and ethics. In R. Goldman, R. Pea,B. Barron, & S. J. Derry (Eds.),*Video research in the learning sciences* (pp. 3-38). Lawrence Erlbaum

Hatch, T., Shuttleworth, J., Jaffee, A. T., & Marri, A. (2016). Videos, pairs, and peers: What connects theory and practice in teacher education?. *Teaching and Teacher Education*, *59*, 274-284. https://doi.org/10.1016/j.tate.2016.04.011

Hong, J. Y. (2010). Pre-service and beginning teachers' professional identity and its relation to dropping out of the profession. *Teaching and Teacher Education*, *26*(8), 1530-1543. https://doi.org/10.1016/j.tate.2010.06.003

Hover, A. (2020). Candidates use video case analysis to examine teacher questioning strategies. *The New Educator*, 1-16. https://doi.org/10.1080/1547688X.2020.1783413

Ivanova, I., & Skara-MincLne, R. (2016). Development of professional identity during teacher's practice. *Procedia-Social and Behavioral Sciences, 232*, 529-536. https://doi.org/10.1016/j.sbspro.2016.10.073

Izadinia, M. (2013). A review of research on student teachers' professional identity. *British Educational Research Journal, 39*(4), 694-713. https://doi.org/10.1080/01411926.2012.679614

Kelchtermans, G. (2005). Teachers' emotions in educational reforms: Self-understanding, vulnerable commitment and micropolitical literacy. *Teaching and Teacher Education*, *21*(8), 995-1006. https://doi.org/10.1016/j.tate.2005.06.009

Kleinknecht, M., & Schneider, J. (2013). What do teachers think and feel when analyzing videos of themselves and other teachers teaching?. *Teaching and Teacher Education*, *33*, 13-23. https://doi.org/10.1016/j.tate.2013.02.002

Koc, Y., Peker, D., & Osmanoglu, A. (2009). Supporting teacher professional development through online video case study discussions: An assemblage of preservice and inservice teachers and the case teacher. *Teaching and Teacher Education*, *25*(8), 1158-1168. https://doi.org/10.1016/j.tate.2009.02.020

Korthagen, F. A. (2004). In search of the essence of a good teacher: Towards a more holistic approach in teacher education. *Teaching and Teacher Education, 20*(1), 77-97. https://doi.org/10.1016/j.tate.2003.10.002

Korthagen, F. A. (2010). How teacher education can make a difference. *Journal of Education for Teaching, 36*(4), 407-423. https://doi.org/10.1080/02607476.2010.513854

Lamote, C., & Engels, N. (2010). The development of student teachers' professional identity. *European Journal of Teacher Education, 33*(1), 3-18. https://doi.org/10.1080/02619760903457735

Lim, H. W. (2011). Concept maps of Korean EFL student teachers' autobiographical reflections on their professional identity formation. *Teaching and Teacher Education*, *27*(6), 969-981. https://doi.org/10.1016/j.tate.2011.05.001

Lutovac, S., & Assunção Flores, M. (2021). 'Those who fail should not be teachers': Pre-service teachers' understandings of failure teacher identity development. *Journal of Education for Teaching*, 1-16. https://doi.org/10.1080/02607476.2021.1891833

Maclean, R., & White, S. (2007). Video reflection and the formation of teacher identity in a team of pre-service and experienced teachers. *Reflective Practice*, *8*(1), 47-60.

McDonald, S., & Rook, M. M. (2014). Digital video analysis to support the development of professional pedagogical vision. In B. Calandra, & P. Rich (Eds.), *Digital video for teacher education: Research and practice* (pp. 21e35). Routledge.

Merriam, S. B., (2009). *Qualitative research: A guide to design and implementation*. John Wiley & Sons.

Olsen, B. (2008). How reasons for entry into the profession illuminate teacher identity development. *Teacher Education Quarterly*, *35*(3), 23-40.

Osmanoglu, A., Koc, Y., & Isiksal, M. (2013). Investigation of using online video case discussions in teacher education: sources of evidence of mathematics learning. *Educational Sciences: Theory and Practice*, *13*(2), 1295-1303.

Page, A., & Jones, M. (2018). Rethinking teacher education for classroom behaviour management: investigation of an alternative model using an online professional experience in an Australian university. *Australian Journal of Teacher Education, 43*(11), 84-104.

Patton, M. Q. (2002). Two decades of developments in qualitative inquiry: A personal, experiential perspective. *Qualitative Social Work, 1*(3), 261-283. https://doi.org/10.1177/1473325002001003636

Perry, T., Davies, P., & Brady, J. (2020). Using video clubs to develop teachers' thinking and practice in oral feedback and dialogic teaching. *Cambridge Journal of Education, 50*(5), 615-637. https://doi.org/10.1080/0305764X.2020.1752619

Putnam, R. T., & Borko, H. (1997). Teacher learning: Implications of new views of cognition. In *International handbook of teachers and teaching* (pp. 1223-1296). Springer.

Rodgers, C., & Scott, K. (2008). The development of the personal self and professional identity in learning to teach. In M. Cochran-Smith, S. Feiman-Nemser, D.J. McIntyre & K.E. Demers (Eds.), *Handbook of research on teacher education: Enduring questions and changing contexts* (pp. 732–755). Routledge.

Rosaen, C. L., Lundeberg, M., Cooper, M., Fritzen, A., & Terpstra, M. (2008). Noticing noticing: How does investigation of video records change how teachers reflect on their experiences? *Journal of Teacher Education, 59*(4), 347-360. https://doi.org/10.1177/0022487108322128

Sancar, R., & Deryakulu, D. (2020). Video-duruma dayalı öğretimde bir yöntem: Öğretmen adaylarının kendi deneyimlerinin kurgulanması ve tartışılması. *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi*, 1-33. https://doi.org/10.30964/auebfd.683744

Sancar, R., Atal, D., & Deryakulu, D. (2021). A new framework for teachers' professional development. *Teaching and Teacher Education,* 101, 103305. https://doi.org/10.1016/j.tate.2021.103305

Seidel, T., Stürmer, K., Blomberg, G., Kobarg, M., & Schwindt, K. (2011). Teacher learning from analysis of videotaped classroom situations: Does it make a difference whether teachers observe their own teaching or that of others?. *Teaching and Teacher Education, 27*(2), 259-267. https://doi.org/10.1016/j.tate.2010.08.009

Sherin, M. G., & Van Es, E. A. (2005). Using video to support teachers' ability to notice classroom interactions. *Journal of Technology and Teacher Education, 13*(3), 475-491. Retrieved from https://www.learntechlib.org/primary/p/4824/ Accessed February 20, 2021

Sherin, M. G., Linsenmeier, K. A., & van Es, E. A. (2009). Selecting video clips to promote mathematics teachers' discussion of student thinking. *Journal of Teacher Education, 60*(3), 213-230. https://doi.org/10.1177/0022487109336967

So, W. W. M., Pow, J. W. C., & Hung, V. H. K. (2009). The interactive use of a video database in teacher education: Creating a knowledge base for teaching through a learning community. *Computers & Education, 53*(3), 775-786. https://doi.org/10.1016/j.compedu.2009.04.018

Sutherland, L., Howard, S., & Markauskaite, L. (2010). Professional identity creation: Examining the development of beginning preservice teachers' understanding of their work as teachers. *Teaching and Teacher Education, 26*(3), 455-465. https://doi.org/10.1016/j.tate.2009.06.006

Tajeddin, Z., & Khodarahmi, E. (2013). *EFL teachers' professional identity: Underlying components and factors contributing to its construction*. Mashhad: Paper presented in the 11th TELLSI International Conference, Tabaran Institute of Higher Education.

Timoštšuk, I., & Ugaste, A. (2010). Student teachers' professional identity. *Teaching and Teacher Education, 26*(8), 1563-1570. https://doi.org/10.1016/j.tate.2010.06.008

Ulusoy, F., & Çakıroğlu, E. (2020). Exploring prospective teachers' noticing of students' understanding through micro-case videos. *Journal of Mathematics Teacher Education*, 1-30. https://doi.org/10.1007/s10857-020-09457-1

Xiao, B., & Tobin, J. (2018). The use of video as a tool for reflection with preservice teachers. *Journal of Early Childhood Teacher Education, 39*(4), 328-345. https://doi.org/10.1080/10901027.2018.1516705

Yuan, R., & Mak, P. (2018). Reflective learning and identity construction in practice, discourse and activity: Experiences of pre-service language teachers in Hong Kong. *Teaching and Teacher Education, 74*, 205-214. https://doi.org/10.1016/j.tate.2018.05.009

Zhang, M., Lundeberg, M., Koehler, M. J., & Eberhardt, J. (2011). Understanding affordances and challenges of three types of video for teacher professional development. *Teaching and Teacher Education, 27*(2), 454-462. https://doi.org/10.1016/j.tate.2010.09.015

Zhang, M., Koehler, M., & Lundeberg, M. (2015). Affordances and challenges of different types of video for teachers' professional development. In B. Calandra & P. Rich (Eds.), *Digital video for teacher education: Research and Practice* (pp. 147-163). Routledge.