

# YOUTUBE VIDEO OBSERVATION IN INITIAL TEACHER EDUCATION

## OBSERVAÇÃO DE VÍDEOS NO YOUTUBE NA FORMAÇÃO INICIAL DE PROFESSORES

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### Abstract

Classroom observation in initial teacher education (ITE), including the use of video, has long been used to nurture key pedagogic skills. However, little or no research has been carried out on the use of online videos to carry out this type of observation. This paper describes how YouTube videos of primary English as a foreign language classrooms were used as a resource for observation and reflection amongst a group of pre-service teachers. Data was collected using questionnaires, interviews, and written reflections, and results show that observing YouTube videos can develop PSTs' noticing, and help promote good classroom practices. Videos served as a medium to promote PSTs' ability to reflect on the impact of instructional decisions on learning and to suggest alternative instructional strategies. In addition, the written professional dialogue between PSTs and the university supervisor was effective both in corroborating and re-directing PSTs' reflections, and in formative assessment. However, it is proposed that it is more useful as a supplement to live observation, rather than a substitute.

**Keywords:** classroom observation, initial teacher education, YouTube videos, primary education, professional vision.

### Resumo

A observação de aulas no âmbito da formação inicial de professores, designadamente com recurso a vídeos, tem sido há muito utilizada para promover o desenvolvimento de competências pedagógicas. Não obstante, pouca ou nenhuma investigação tem sido realizada sobre a utilização de vídeos disponíveis online para realizar esse tipo de observação. Este artigo descreve como alguns vídeos de aulas disponíveis no YouTube foram utilizados como recursos de observação e reflexão na formação inicial de professores de Inglês no 1.º ciclo do ensino básico. Os dados, recolhidos através de questionários, entrevistas, e reflexões escritas, mostram que a observação deste tipo de vídeos pode contribuir para desenvolver a observação dos professores estagiários, promovendo a melhoria de práticas em sala de aula. Os vídeos serviram como meio para promover a reflexão dos professores estagiários envolvidos sobre o impacto de algumas decisões didáticas na aprendizagem e para sugerir estratégias de ensino alternativas. Além disso, o diálogo profissional escrito entre os professores estagiários e o supervisor universitário foi eficaz, tanto para corroborar ou reorientar as reflexões dos estagiários, como na avaliação formativa dos professores estagiários. Contudo, sustenta-se que este tipo de recurso pode ser mais útil se for usado como um complemento à observação direta, e não como um substituto.

**Palavras-chave:** observação em sala de aula, formação inicial de professores, vídeos do YouTube, educação no 1.º ciclo do ensino básico, perspetiva profissional.

### INTRODUCTION

A reflective approach to teacher education and the concept of the reflective practitioner lie at the heart of most professional development programmes for teachers today. Dewey (1958 [1933]) believed that

the starting point for reflection on teaching was the collection of factual data through observation followed by reflection, leading to the generation of ideas, and this proposal was later developed by Schön (1983). Classroom observation, defined by Bailey (2001) as “the purposeful examination of teaching and/or learning events through the systematic processes of data collection and analysis” (p. 114) offers teachers the opportunity to develop their ability to reflect on practice. Various typologies of classroom observation have been proposed, from the use of observation to study pupils, for in-service education and training, or to appraise teachers (Wragg, 1999). The focus of this paper is observation for professional development in initial teacher education (ITE), where observation of others is valued as a means to demonstrate particular skills and methods in action, with the aim of nurturing key pedagogic skills (O’Leary, 2020). The study involved the observation and subsequent reflection on four online YouTube videos of primary English classrooms by a group of PSTs on a Master’s degree in teaching English in primary education. The article starts by reviewing the literature in the area, and is followed by a section on the methodology used. Results are then presented and discussed and the article finishes with a brief conclusion.

## 1 LITERATURE REVIEW

### 1.1 Live Observations

Pre-service teachers’ (PSTs) observation of their cooperating teachers (CTs), that is, the school-based mentors in whose classes they have been placed during their practicum, is an essential resource which allows PSTs to collect data and learn about life in a real classroom before taking on the role of teacher themselves. However, as Wajnryb (1992) notes, “Classrooms... are complex arenas where many processes co-occur and overlap” (p. 5), which can make data collection during live observations difficult for PSTs. One way of facilitating live observations is to give PSTs an observation task focusing on a limited range of aspects to be observed (Wajnryb, 1992). It is believed that by reflectively examining classroom actions, a skill which can be learned over time, PSTs can mature as professionals. However, to develop these skills, PSTs need to be helped to interpret events through post-observation professional dialogue with their CT, which can lead to the co-construction of knowledge (O’Leary, 2020).

The efficacy of classroom observation has been posited to depend on how able the observer is to identify significant interactions in a classroom situation, known as noticing. This, coupled with knowledge-based reasoning, that is, how observers can connect classroom events with principles of learning and teaching, make up what Sherin and Han (2004) term teachers’ professional vision. It is believed that professional vision can be learned, and it has been shown to develop over time. Once more, to develop PSTs’ professional vision requires the support of experienced colleagues, school-based mentors or university supervisors in helping PSTs interpret, analyse and understand what they see. Van Es and Sherin (2002) suggest that teachers should be supported in “learning to first notice what is significant in a classroom interaction, then interpret that event, and then use those interpretations to inform pedagogical decisions.” (p. 575).

### 1.2 Video Observation

The use of video as a resource to develop teachers’ pedagogical practice is not new and has been in use since the 1970s. Hollingsworth and Clark (2017) suggest that video observation by teachers of their own or the teaching of others mediates professional development in one of three ways: by providing a record of the activities from their own classroom, by providing “a window into other classrooms revealing alternate methods and possibilities” (p.12), and by facilitating multiple viewings of the video to enable more detailed observation. Working with pre-service mathematics teachers, and building on research on teacher noticing and professional vision, Santagata and Guarino (2011) used video observation for professional development, and proposed that fundamental skills for reflecting and learning from teaching were the ability to attend to important elements of instruction, to reflect on how instructional strategies supported student learning, and to propose alternative instructional strategies, a crucial skill in enabling PSTs to apply learning from observation to their own teaching (Santagata & Guarino, 2011).

Some advantages of the affordances provided by this resource have been described by Marsh and Mitchell (2014), who suggest that apart from the video's ability to serve as "a method for demonstrating teaching", it can also encapsulate "classroom interactions/events and the processes of teaching and learning" and can "preserve the complexity" (pp. 404-405) of classroom activities. Other advantages of asynchronous observation are that videos can be replayed a number of times, potentially promoting deeper analysis and improved skills of reflection (Brophy, 2004), and that it presents a uniquely effective means of demonstrating teaching, exemplifying both good and bad practice which beginning teachers find of value (Marsh & Mitchell, 2014). It also allows PSTs to observe classroom practices in situations they would otherwise have few or no opportunities to observe and extends the quantity of practice trainees can observe. It can be used to present dilemmas teachers encounter in the classroom (Oonk, Gofree, & Verloop, 2004) and it allows mentors to select excerpts that illustrate particular aspects of teaching. On the other hand, features such as the classroom dynamics can be lost, and PSTs have reported that "instances of observed teaching and learning weren't as believable as live observations" (Santagata & Guarino, 2011, p.139).

As a means of developing PSTs' powers of reflection and analysis, studies show that collaborative feedback sessions after video viewing enable teachers to engage in metacognitive reflection and better understand their decision-making processes (Marsh & Mitchell, 2014). It has also been claimed that video observation can enhance teachers' professional vision. Research by Kane et al. (2015, p.3) showed that just under half of student teachers in their treatment group reported they were able to notice previously unnoticed behaviour "quite often" or "extremely often" while watching videos, and Stürmer, Könings, and Seidel (2012) showed how using short video prompts over a period of study considerably improved overall professional vision. In addition, Hollingsworth and Clark (2017) reported that teachers would continue to notice different features on repeated viewings of videos, suggesting that video may be a useful tool in provoking deeper reflection on classroom practices.

The literature on the use of video in ITE principally refers to its use in helping trainee teachers reflect on teaching by videoing their own classes and later reflecting on them, either individually or with other PSTs. However, at the initial stages of professional development, either before or in the initial stages of the Practicum, (when trainee teachers are placed in a classroom to carry out observation and supervised teaching, the objective of which is to provide PSTs with experiential learning), PSTs benefit from observing more experienced others, and this can take the form of live or video observation. Another advantage of viewing the lessons of others is that teachers have been found to be less critical after viewing videos of their own teaching than after viewing videos of others, (Seidel et al. 2011), which the authors speculated could be due to "self-defense mechanisms that impede critical articulation and reflection" (p. 266). On a more practical level, issues of data protection can create difficulties in capturing images of lessons in primary education in some parts of the world, which supports the use of video observation of others in ITE.

## 2 METHODOLOGY

### 2.1 Context and participants

This study was carried out in the context of a Master's degree in teaching English in the 1st cycle of basic education at a Portuguese university in 2021 by the PSTs' university supervisor. Seven participants were involved, one of whom had previous teaching experience. The study took place in semester two, during the first five weeks of the Practicum, when PSTs carry out observation of their CTs. To help PSTs collect and analyse data gathered during live observations, they choose a descriptor from the European Portfolio for Student Teachers of Languages (EPOSTL) each week to focus and guide observation (Newby, 2007). These descriptors represent a set of core competences which language teachers "should strive to attain" (p. 5) and which are expressed as can do statements, for example, *I can evaluate and select a range of oral activities to develop accuracy* or *I can set objectives which encourage learners to reflect on their learning*. Each week PSTs select one of these descriptors and gather data on how their CT achieves this objective, using an observation grid which they adapt from Wajnryb (1992) or Somogyi-Toth (2012). Observation is followed by professional dialogue, where PSTs discuss what they observed with their CT to gain a better understanding of what happened, and why.

PSTs are encouraged to critically reflect on the teaching they observe and then use this as a basis for a weekly written reflection on the lesson, which they send to their university supervisor as part of their assessment for their Practicum. The objectives of the reflection are:

1 To demonstrate moments of learning by encouraging reflection around how observation can:

- generate alternative approaches and solutions in the classroom
- provide a more comprehensive understanding of the teaching context and its complexities
- provide a more comprehensive understanding of learners

2 To become familiar with the EPOSTL document and its descriptors

3 To support regular communication channels between trainee and supervisor.

However, during the year of the study, schools closed during the five-week observation period of the Practicum (PES 1) due to the COVID-19 pandemic. After this period, schools reopened, and PSTs resumed live observation plus co-teaching and solo-teaching for a further eight weeks until the end of PES 1.

The decision to move away from live observation and explore the possibility of using online videos arose principally for this reason. Nonetheless, the fact that for the university supervisor, these weekly observations could be described as unseen observations (O'Leary, 2020), was also problematic. Unseen observations occur when instead of being in the classroom, the university supervisor listens to or reads a teacher's account of a lesson as a basis for professional dialogue. While this model has benefits in terms of time and ease of scheduling, the disadvantage is that if PSTs misinterpret or fail to notice the impact of instructional decisions in the classroom, the university supervisor may not always be in a position to redirect the PST, as they lack a shared understanding of what took place during teaching. The decision was therefore taken to implement a research project to study the use of online YouTube videos in ITE. The problematic situations mentioned above were identified, there was a deliberate intervention to bring about change and improvements, and the data systematically collected during the intervention was analysed, all of which constitute the characteristics of an action research project (Burns, 2010).

The research questions guiding this study were:

Research question 1. To what extent did online observation promote PST noticing?

Research question 2. To what extent were PSTs able to reflect on the impact of instructional decisions on student learning using online observation, and propose alternative instructional strategies?

Research question 3. How effective was written professional dialogue in supporting PSTs' professional vision?

## 2.2 Selection of Videos

The seven PSTs on the course had already observed and collaboratively discussed aspects of online videos showing good practice in EFL classes in primary education in Italy, Hungary and China during semester one of the course. YouTube videos of classrooms in Europe were very scarce and videos from classes in Asia were selected for this study. The criteria used to select videos were:

a) They clearly demonstrated positive or negative examples of classroom practice and were chosen with a particular purpose in mind. Specifically they demonstrated:

- Learner participation versus lack of learner participation.
- Student centred versus teacher centred classes.
- Lessons that lacked opportunities for meaningful communication amongst learners.

- Lessons where learners had few or no opportunities to use language autonomously or creatively.
- b) They illustrated EFL contexts.
- c) They showed images of both the teacher and students and had good audio quality.
- c) Learners were between eight to ten years of age.
- e) They lasted at least 15 minutes.

Table 1 gives details of the videos PSTs were asked to view.

**Table 1**

*Information on the 4 videos used*

Video	URL	EPOSTL statement for reflection (Newby, 2007)	Additional Information
1. Head Teacher EforS. (n.d.). Seongbok Elementary School Open Class	<a href="https://www.youtube.com/watch?v=xhMptm0OapE">https://www.youtube.com/watch?v=xhMptm0OapE</a>	I can encourage learner participation whenever possible (p. 41).	South Korea; 38 minutes
2. American English (n.d) Unit 4: Primary: Young Learners	<a href="https://www.youtube.com/watch?v=-QqYo0-qw6U">https://www.youtube.com/watch?v=-QqYo0-qw6U</a>	I can present (and practice) language content in ways which are appropriate for individuals and specific groups of learners (p. 40, adapted).	Asia; 38 minutes
3. Mike's Home (n.d). Board Game - ESL Teaching tips for your class or home!	<a href="https://www.youtube.com/watch?v=iS4VGhRxD5Q">https://www.youtube.com/watch?v=iS4VGhRxD5Q</a>	I can design learning materials and activities that are appropriate for my learners (p. 31).	China; 18 minutes
4. Head teacher EforS (n.d)..Cheongpa Elementary School Open Class	<a href="https://www.youtube.com/watch?v=NFHattWzWPs&amp;list=PLZhRUwyPD7u1i2zyv7g4KnHbJYq_7tME7&amp;index=13">https://www.youtube.com/watch?v=NFHattWzWPs&amp;list=PLZhRUwyPD7u1i2zyv7g4KnHbJYq_7tME7&amp;index=13</a>	I can plan activities that link grammar and vocabulary with communication (p. 35).	South Korea; 26 minutes

Videos were initially viewed by the university supervisor for positive and negative aspects, and appropriate EPOSTL statements were chosen in relation to specific features identified in the video. This was done to encourage and guide teacher noticing. In week five, PSTs were asked to propose an alternative to the approach taken by the teacher in week four's video and prepare an information gap activity to practise the language introduced.

### 2.3 Reflective Records, the Survey and Interviews

A total of 35 reflective records were completed over a period of five weeks. Each week learners were asked to send the university supervisor their completed observation grids and a written

reflection in relation to the chosen EPOSTL statement, using the data gathered. These reflections were read by the university supervisor and comments were added to the document before being returned to PSTs. These comments constituted professional dialogue, and PSTs were encouraged to respond to questions and comments via email. Reflective records were also used as formative assessment tools to determine whether PSTs had an understanding of good pedagogic practice. These reflective records were used to gather qualitative data on how effective online observation was in helping trainees learn about teaching and learning by reiterative reading and organisation of data into categories.

As well as reflective records, a survey (Appendix A) was conducted to gather qualitative and quantitative data using a questionnaire composed of seven open questions related to the benefits and constraints of online observations, and how online observation influenced PSTs' subsequent teaching practice. Semi-structured interviews were carried out with each PST to gain a better understanding of their answers in the survey. Interviews were transcribed and quotes are used to illustrate results. Both the questionnaire and interviews were conducted at the end of PES 1. The following section sets out and discusses the results obtained using these research tools.

### 3 RESULTS AND DISCUSSION

#### 3.1 To what extent did online observation promote PST noticing?

The questionnaire revealed that four of the seven PSTs reported online observation facilitated noticing for two reasons. Firstly, the prior selection of an EPOSTL statement by the university supervisor related to the specific characteristics of the video promoted noticing, as they struggled to focus on just one aspect of teaching in live observations when they had to choose their own statement. This was due to the unpredictable nature of live observation where "lessons would go in a different direction than expected" (PST 1). Secondly, the fact that the video could be replayed meant trainees felt less pressured to note everything on their first viewing, which again facilitated noticing in online observation. In addition, more than half felt it useful to observe other teachers via online observation, and notice different teaching styles and strategies, with one respondent mentioning that observing her cooperating teacher "was just one point of view" (PST 2). PSTs' ability to notice and reflect is ultimately framed by what they have seen and done in their professional lives. However, online video observation can provide a window on other practices and provide them with other experiences of teaching.

Disadvantages of online observation which could reduce PST noticing mentioned in questionnaires included the fact that there was no personal connection to the teacher and students, and that it was difficult to understand how the lesson fitted into a sequence of lessons. The lack of professional dialogue with the teacher was also mentioned. One respondent noted that although online observation was easier, live observation was more rewarding as she could "observe what they [the students] were doing, learning students' particularities and what they normally did in class... in-class observation is more profitable and it's easier to observe because of the context and the 'realness' of the situation" (PST 5). Another trainee mentioned that because she couldn't experience the atmosphere of the classroom - as she said "I couldn't touch it, I couldn't feel it" (PST 4) - it was more difficult to reflect on the YouTube videos. Again the 'unrealistic' nature of online video classes was highlighted by an interviewee who said that whereas live observation made her realise that teaching didn't always go as planned, and she would have to be prepared for this, the online videos showed trouble-free classes where lessons went well. Another interviewee noted that although live observations helped her gain an understanding of the complexity of the class and how she would have to adapt, and how they helped her notice how to deal with the unexpected, (for example problems of behaviour), these were aspects which were missing from online video observations.

### 3.2 To what extent were PSTs able to reflect on the impact of instructional decisions on student learning using online observation, and propose alternative instructional strategies?

In week one, the EPOSTL statement “I can encourage learner participation whenever possible” (Newby, 2007, p. 41) was used with a video which clearly exemplified a teacher encouraging learner participation (see Table 1). All trainees were successful in noticing aspects of encouragement such as the use of humour, praise, establishing a warm, friendly atmosphere, eliciting rather than giving information, pair work, providing an appropriate level of challenge, and promoting student collaboration.

In week two, the video chosen illustrated a lesson where language was appropriately introduced using a chant accompanied by actions and the use of realia. However, subsequent practice involved inappropriate, prolonged choral and individual drilling of decontextualized sentences and substitution drills. There were no opportunities for learners to engage or exploit the language, a lack of variety of interaction patterns and a lack of focus on meaning. PSTs were asked to reflect on this lesson using the adapted EPOSTL statement “I can present (and practice) language content in ways which are appropriate for individuals and specific groups of learners” (Newby, 2007, p.40). All PSTs recognised that language was introduced appropriately.

The beginning of the lesson was appropriate and allowed the children to move and learn the meaning of the new words by using a chant and gestures accompanied with real life objects. Furthermore the children seemed to enjoy this method of introduction of new language. (PST 1).

All but one were also able to notice that the subsequent practice of language was inappropriate, some of whom linked this to the literature related to language practice.

Kirkgoz (2019) lets us know that YLs need to be provided with extensive and continuous exposure to language contextualised in meaningful and enjoyable ways. They also need to be encouraged to communicate through purposeful, real here-and-now experiences... In the video seen, communication is not maximised and students are never asked to use language in authentic and interactive ways. (PST 3).

However one PST struggled to notice the mismatch between practice and theory, noting that:

I think the practised activities and the new grammar are going to be something they will use often and daily in the future... there was a controlled simulation of real life language use that I considered to be appropriate. (PST 2).

Week three’s video showed a board game being introduced to practise asking and answering questions with a small group of 10 learners. Although the game allowed learners to interact in a meaningful way, most of the interaction was with the teacher and opportunities to use the language were limited. PSTs were asked to reflect on what they saw using the EPOSTL statement “I can design learning materials and activities that are appropriate for my learners” (Newby, 2007, p. 31). Six PSTs successfully reflected on the advantages and constraints of the board game, some were able to link this to the literature on the topic, and five were able to suggest alternative, improved versions of the game, and use these in their own subsequent teaching, which allowed the materials created to encourage a more learner-centred classroom. However once more, one trainee struggled to notice the failings of the activity and needed further guidance through a series of questions and comments on her reflective record.

In week four, trainees were asked to observe and reflect on the EPOSTL statement “I can plan activities that link grammar and vocabulary with communication” (Newby 2007, p.35). The video lesson viewed was teacher centred and there was a lack of an opportunity for learners to use the language meaningfully, creatively or for a communicative purpose. As one PST mentioned:

There was no real communication. Learners were not encouraged to use spoken language communicatively and were only engaged in one type of interaction - teacher-student. To this

extent, the FL classroom became very teacher-centred and the implications of it were quite clear. The teacher was the one doing most of the talking. (PST 6).

Contrary to previous reflections, all PSTs could now successfully report these constraints in the observed lesson, suggesting that over time, PSTs' abilities to notice important elements of instruction and analyse the pedagogic value of instructional activities improved. Although not specifically requested, all PSTs suggested using an information gap pair work activity to promote peer interaction, to give learners a real need to use the language and create a safe environment in which students would feel free to experiment with the language. Finally in week five, all were able to successfully create information gap activities, suggesting that they were now more proficient at proposing alternative teaching strategies.

When asked whether they felt that video observation helped them improve their own subsequent teaching in the survey, the majority of respondents replied positively stating that they included some of the strategies and activities they observed in the videos in their own teaching. Survey results also showed that videos of problematic situations helped raise PSTs' awareness of the need to avoid some pedagogically inappropriate practices such as teacher-centred lessons, excessive drilling and repetition, or lessons that failed to allow for meaningful use of the language. As one trainee mentioned in the interview "We had talked about what was good teaching practice during lessons in the first semester so it was good to actually see that in the videos and what doesn't go so well... so it really helped to see that in the videos" (PST 1).

O'Leary (2020), discusses the concept of high and low inference observation. The former he describes as observation "that requires a significant degree of subjective judgement on the part of the observer beyond the behaviours observed" (p. 90), although he admits that high inference skills, such as teachers making spur-of-the-moment decisions to change their lesson plan, or modifying "group dynamics of a class in order to maximise the learning experience" can be difficult to observe (p. 91). He also suggests that to support the observer's understanding of such behaviours requires professional dialogue between observer and observee after the observed lesson. Low inference observation is described as capturing "phenomena that are considered more transparent... with minimal interpretation or subjectivity on the part of the observer", and that here the observer is simply "a collector of descriptive acts" (p. 90). Low inference observation skills are considered of particular benefit for student teachers at the beginning of their careers, who need to pay attention to aspects of teaching such giving instructions and getting learners' attention.

Results here would suggest that the rehearsed nature of some of the videos and the inability of PSTs to discuss classes with the online teachers could hinder high inference observation. Nonetheless, it would appear that PSTs were able to move beyond low inference observation by using knowledge-based reasoning to link the data collected with principles of learning and teaching. That is, over time, online video observation improved PSTs' professional vision.

### **3.3 How effective was written professional dialogue in supporting PSTs' professional vision?**

During interviews, the lack of an opportunity to engage in professional dialogue with the teacher after viewing a lesson was considered disadvantageous for reflection, with PSTs commenting that when they observed online videos they could not ask questions to gain a better understanding of what happened and were simply expressing their own opinion, but when they talked to their CT, they felt they had the opinion of a professional, which they knew was "right". One PST, who shared a CT with two colleagues and who was used to discussing lessons as a group commented that "when you are hearing other perspectives it deepens the reflection and I think this is very positive and helps a lot" (PST 2). Another noted:



I wrote some things that ... my cooperating teacher said, so reading those notes and talking about them I think helped us focus on things that had gone well and things that hadn't gone so well. (PST 1).

However, when asked to what extent the written feedback they received on their reflection from their university supervisor helped inform their understanding of their observation of online lessons, all survey respondents agreed that this was useful as it helped "raise awareness of details that might have slipped (sic), and to make me look at things from a different perspective" (PST 1). Another trainee mentioned that it helped corroborate her ideas and points of view and "helped clarify some misunderstandings regarding certain videos" (PST 7). Another mentioned:

I believe that when two people have observed the same lesson, their points of view are more likely to complement each other, and in that sense the feedback provided regarding online observation reflections made it easier to not only relate theory to practice, but also look out for things we might have missed. (PST 3).

This is in agreement with O'Leary (2020), who mentions that as video can be shared with multiple users, their common, shared collective stimulus for reflection facilitates informed discussion and feedback. This is significant, as under normal (non-COVID) conditions, written reflections on observations of the CT in PES 1 are, for the university supervisor, unseen observations, as mentioned previously. This is a constraint when giving feedback, as even after professional dialogue with their cooperating teacher, PSTs' reflection may be incomplete or inaccurate. However, the shared frame of reference provided by video observation enables the university supervisor to give more informed feedback, and can encourage moving from personal learning to include collective learning, providing a basis for collaborative discussion around a video.

## CONCLUSION

The research questions guiding this study were:

Research question 1. To what extent did online observation promote PST noticing?

Research question 2. To what extent were PSTs able to reflect on the impact of instructional decisions on student learning using online observation, and propose alternative instructional strategies?

Research question 3. How effective was written professional dialogue in supporting PSTs' professional vision?

With respect to the first question, the choice of an EPOSTL statement which specifically focused on pedagogical practices displayed in the video helped PSTs attend to specific features, thereby guiding their noticing, with PSTs admitting that choosing an EPOSTL statement themselves when they carried out live observation was more difficult and less effective. Moreover, PSTs' noticing skills improved over time, corroborating results reported by Santagata and Guarino (2011).

With respect to research question 2, using online videos allowed PSTs to observe and reflect on more, and more diverse teaching contexts, and also helped draw their attention to and avoid negative practices they would be unlikely to view in live observation, such as activities that failed to allow for meaningful use of the language or overtly teacher centred lessons. Repeated viewing also allowed for opportunities to notice different perspectives.

However online videos were described as unrealistic and impersonal, and PSTs felt distant from learners in a way that did not happen with live observation. PSTs mentioned struggling to understand classroom dynamics, or how teachers dealt with the unexpected, such as classroom management problems, and it may be that live observations are more appropriate to help learners develop these high-inference reflective skills.

PSTs often suggested alternative pedagogical approaches, even when this had not been specifically requested, and some were able to apply these alternatives in their own teaching. Learners were able to successfully identify problems such as a teacher-centred approach, relate this to a lack of opportunities for learners to use the language meaningfully, and suggest alternative pair-work activities such as information gap activities which had been discussed in their university didactics course. Video observation therefore supported PSTs' ability to notice low inference skills such as giving instructions, the organisation of routines, or use of praise, all of which are key skills for PSTs, but also provided an opportunity for PSTs to interpret the events they observed, connect these with theories of learning and teaching and use this knowledge to inform their subsequent teaching, that is, it fostered their professional vision. However, the unreal, staged nature of some videos and the lack of professional dialogue with the online teacher prevented the development of high inference skills.

Finally, written professional dialogue was considered beneficial by both PSTs and the university supervisor. The shared frame of reference afforded by the online video allowed the supervisor to gain a better understanding of PSTs' ability to effectively analyse data gathered and reach appropriate conclusion, and PSTs benefited by becoming more aware of behaviours they had overlooked or misinterpreted, or by receiving confirmation on their interpretation of events.

In conclusion, the results of this study suggest that online video observation cannot be used as a substitute, but can be useful to prepare for live observation, as a supplement to live observations, or an alternative when live observation is impossible. It is especially useful for PSTs in the early stages of ITE, who benefit most from visualising what good and bad pedagogic practices look like in a language classroom. O'Leary (2020) suggests that inference skills are positioned on a spectrum, and results show that video observations enabled PSTs to move beyond low inference skills which, over time, could potentiate the development of high inference skills. The choice of a video excerpt to specifically highlight either positive or negative aspects of teaching was fundamental in giving both PSTs and the university supervisor a shared understanding of the lesson, and as such facilitated formative assessment of PSTs, as it highlighted what theories and practices of teaching had been internalised and which needed further consolidation.

In this study, PSTs were asked to view and individually reflect on videos. An alternative for the future would be to use YouTube videos to promote collaborative reflection amongst PSTs in preparation for their practicum, as this has been found to further PSTs' ability to link theory and practice through collective discussion and analysis (Marsh & Mitchell, 2014). In this study, both videos and EPOSTL statements were chosen by the university supervisor with a very particular pedagogical goal in mind, and PSTs' viewing and analysis were highly scaffolded. Another alternative for the future would be to allow PSTs to view selected videos and suggest their own appropriate EPOSTL statement or ask them to suggest both a video and focus of observation, thereby promoting greater autonomy. Lastly, as it has been reported that over time, beginning teachers are able to move their focus during video observation from low to high-inference skills, it could be advantageous to prolong the period during which PSTs view online videos (Sherin & Han, 2004).

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## Appendix A. Developmental Observation in Initial Teacher Education Questionnaire

### Part 1

1 Did observation help you connect the theories of teaching and learning we discussed in our Didactics class with classroom practises?

2 What specific features of the classroom did observation help you reflect on e.g. classroom interaction, the language of the teacher etc.? Give some examples.

3 Did observation make you change any beliefs you previously held on teaching? If so, can you give some examples?

4 How did observation help you gain a better understanding of teaching? Can you give some examples?

5 Did the use of an EPOSTL statement help you notice critical incidents in the class and subsequently reflect on them? If so, can you give some examples?

6 After observation of your cooperating teacher, you were able to discuss the lesson with her. How did these conversations help you understand what you observed? Can you give examples?

### Part 2

1 Did the fact that you weren't in the classroom make your observation easier or more difficult than in-class observation? Why? Justify your answer.

2 Was the fact that the teachers in the videos were unknown to you make a difference to how you reflected on the lessons? Justify your answer.

3 Say what you believe the advantages (if any) of online observations are.

4 Say what you believe the disadvantages (if any) of online observations are.

5 Did online observations help you improve your teaching? Can you give any concrete examples of something you saw which you then put into practice in your teaching?

6 Did online observation help you avoid anything in your teaching? Can you give any concrete examples?

7 With online observation you were unable to discuss the lesson afterwards with the teacher. However, you reflected on the lesson in writing and received written feedback from your university supervisor. To what extent was this helpful in informing your understanding of what happened in the lesson excerpts you viewed? Can you exemplify?