



ESCalate Research Grant Project Interim Report

Date submitted 18 February 2010

Project Title Using video for the identification and assessment of learning in initial teacher education

Project Leader Dr John McCullagh

Institution Stranmillis University College

Partners
1. James Stewart, W5 Discovery Centre Belfast
2. Fergal Corscadden, CETL Coordinator Stranmillis University College Belfast

Project Start date 1 September 2009

Project End date 30 June 2010

Using video for the identification and assessment of learning in initial teacher education

Interim Report February 2010





STRANMILLIS UNIVERSITY COLLEGE
A College of Queen's University Belfast



Subject
Centre for
Education
ESCalate

1. Project rationale and aims	4
2. Project calendar	5
3. Project details	7
4. Evaluation and dissemination strategy	10
5. Preliminary outcomes and findings	12
Appendices	13
Sample student's post lesson evaluation	
Sample student's evaluation of video reflection	
Proposal for presentation at TEAN Annual Conference May 2010	

Summary

This project sought to explore the extent to which video analysis may support the development of student teachers' classroom practice. The project was based on the Year 4 module 'Primary Science Beyond the Classroom', which included a placement in a local primary school. The 18 students, working in pairs, planned, taught and evaluated a cross-curricular science scheme in support of a class visit to the W5 science centre in Belfast. During the teaching phase the student teachers used video cameras to record each other's practice and used this footage to reflect and identify aspects of their practice for development. The students combined recordings from the start and end of their placement and included their own video diaries to produce a final video outlining their professional development. The evaluation of the project was based on data collected via questionnaires, semi-structured interviews and focus group interviews with the students involved.

All of the students reported that video analysis enriched the process of evaluation and personal reflection and was of great support to their professional development. The students welcomed the opportunity to engage in peer observation and collaboration during the process of video editing and production and recommended that this approach should be included much earlier in the undergraduate programme.

1. Project rationale and aims

The project seeks to explore the effectiveness of using video as a tool to enhance student development within an initial teacher education programme. Despite recent developments in video technology and the decrease in costs of these resources this practice is still not that common. This pilot project will therefore provide an account of how video technology was used with a cohort of student teachers and evaluate how effective it proved to be in developing students' practice. Hopefully this will be of interest to other initial teacher education stakeholders.

Project Aims

- To develop student teachers' classroom teaching skills
- To enhance the level of student teachers' critical reflection
- To evaluate the impact of video analysis on student teachers professional development
- To encourage and facilitate peer evaluation of student teachers
- To recommend this approach within initial teacher education courses

Research questions

The project is founded on the following questions.

- To what extent does the use of video enhance student teachers' classroom practice via the identification of specific areas for development?
- How does the collaborative nature of this approach enrich the overall learning experience of student teachers?

2. Project calendar

September 2009

- Planning meetings with education staff from W5 Discovery Centre Belfast
- Planning meetings with Principals and teachers from both partner primary schools (Holy Rosary P.S and Gilnahirk P.S. Belfast)

1st October 2009

Introductory seminar to students. Outline course schedule and assessment assignment. Presentation of educational theory underpinning the project

8th October 2009

Student visit to W5 Discovery Centre Belfast. The students were given a tour of centre by the Education Staff and experienced a sample of workshops. The students then had time to explore the exhibits

15th October 2009

Students initial visit to partner school. The students observe their class and agree science topics with host teachers.

22nd October 2009

Student teachers teach first of four lessons in preparation for the class trip to W5

29th October 2009

Student seminar on video recording, video format conversion and editing. Module assignment task discussed.

5th November 2009

Students teach lesson 2. During this lesson the students record samples of each others teaching.

10th November 2009

Holy Rosary P.S and student teachers visit W5

12th November 2009

Gilnahirk P.S and student teachers visit W5

19th November 2009

Students teach lesson 3, the first follow up post-visit lesson.

26th November 2009

Students teach lesson 4 and video record samples of each other's lessons. End of teaching phase.

3rd December 2009

Students select and edit video clips

10th December 2009

Students complete editing, scripting and produce reflective video

10th -17th December

Student evaluation phase. Questionnaires administered to all students. Semi-structured interviews carried out with sample of students.

17th December 2009

Evaluation and Dissemination Seminar at Stranmillis University College Belfast. Student teachers present their work to all host teachers and staff from W5.

January-February 2010

Preliminary analysis of evaluation data.

Submission of proposal for presentation of findings at TEAN annual conference in May 2010.

February 2010

Completion of project interim report

March-April 2010

Completion of project evaluation

May 2010

Presentation of findings at TEAN Annual Conference

June 2009

Completion of full project report

Resources and findings posted on Stranmillis University College website and possibly ESCalate website

3. Project details

Project Team

Project Leader

Dr John McCullagh- (Department of Education (Primary) Stranmillis University College Belfast)

Ms. Judith Harvey - Education Coordinator at W5 Discovery Centre Belfast

Mr Fergal Corscadden- CETL Coordinator (Stranmillis University College Belfast)

Project Schools

Gilnahirk Primary School Belfast (Principal: Mr. Steven Harrison)

Holy Rosary Primary School Belfast (Principal: Mr Sean Merrick)

Student allocation and topics

Student	School	Class	Teacher	Topic
Lyndsey	Holy Rosary PS	P3	Miss McGurk	Materials
Emma	Holy Rosary PS	P3	Miss McGurk	Materials
Gemma	Holy Rosary PS	P3	Mrs O'Callaghan	Forces
Serena	Holy Rosary PS	P3	Mrs O'Callaghan	Forces
Emma	Holy Rosary PS	P4	Miss Hyland	Light
Amy	Holy Rosary PS	P4	Miss Hyland	Light
Stuart	Holy Rosary PS	P4	Mr Cahill	Sound
Emma	Holy Rosary PS	P4	Mr Cahill	Sound
Deborah	Gilnahirk PS	P3	Mrs Johnston	Light
Grace	Gilnahirk PS	P3	Mrs Johnston	Light
Sarah	Gilnahirk PS	P3	Mrs Brown	Light
Jenni	Gilnahirk PS	P3	Mrs Brown	Light
Kirsty	Gilnahirk PS	P4	Mrs Storey	Materials
Emma	Gilnahirk PS	P4	Mrs Storey	Materials
Amy	Gilnahirk PS	P5	Mrs Porter	Human Body
Leanne	Gilnahirk PS	P5	Mrs Porter	Human Body
Katherine	Gilnahirk PS	P5	Ms Meneely	Human Body
Steven	Gilnahirk PS	P5	Ms Meneely	Human Body

Assignment task

(A)

Theoretical essay on the use of Science Centres within the primary science curriculum

(B)

Supporting scheme of work and lesson plans

Evaluation of how classroom lessons supported the visit to W5

(C) Video reflection

You will produce a short video to demonstrate your ability to evaluate, reflect and develop your classroom teaching. This will be achieved by:

Identify area for development

1. Your partner will record a short section of your second lesson (maximum recording of 10 minutes; if possible break this into a series of shorter clips for easier file management).
2. **Before you watch this video** write a short evaluation **of this part of the lesson**, identifying what you thought were areas of strength and areas for development with respect to your teaching (you may use bullet points). **This should not exceed half a page in length.**
3. Now watch the video clip (as many times as you want), and write another evaluation as before identifying what you thought were areas of strength and areas for development with respect to your teaching (you may use bullet points). **This again should not exceed half a page in length.**

From this video select an aspect of your teaching which you would have identified as an area for possible development. Use the school based work evaluation grid to identify the particular competence corresponding to this aspect of your practice.

Development

Reflect on how you might try and develop this aspect of your teaching. You may wish to discuss this with, tutors, a classroom teacher, peers, or consult books or other resources (Teachers' TV, internet)

5. During the final week of teaching (Lesson 4) repeat the recording process. Record a short section of the lesson which includes the focus for your reflection and development.

Reflection

Produce a short video, about the development of your classroom teaching, as follows.

Video. Edit your video clips to produce a very short final video of maximum length of one or two minutes. This video must include:

- Example(s) of what you considered to be a strength in your first video
- Example(s) of what you identified as an areas for development
- Example(s) from your second video relating to this area for development.

Text.

The text must include;

- Brief description of lesson- topic, learning activity, year group
- The identification of the area(s) of strength included in the video (include competence) linked to these instants by a play button
- The identification of the area(s) for development included in the video (include competence) linked to these instants by a play button
- A very brief account of how you sought to develop your practice
- The identification of evidence for your development within the video

Evaluation of this use of video for reflection

Using your Flip record each others evaluation as follows.

In turn, ask each other the following questions.

1. Has this use of video helped you to reflect on your classroom teaching? How?
2. How did your lesson evaluations before and after watching the video recording of the lesson differ? Where you surprised by this?
3. How do you feel this use of video has developed you as a teacher?

You do not need to convert or edit this evaluation. Just record and submit the video file.

4. Evaluation and Dissemination Strategy

Evaluation

The project was evaluated using:

- Questionnaires administered before and after the project (students and teachers)
- Semi-structured interviews with a sample of students
- Focus group interviews
- Student evaluation and reflection tasks during teaching phase
- Students' video diaries recording their progress

Dissemination

The findings and outcomes of the project take the form of:

- Project report
- Examples of lessons, teaching resources and classroom activities which support a visit to the W5 Discovery Centre
- A proposal to present the findings of the project at the TEAN annual conference (May 2010) (See appendices) has been accepted.

Evaluation of video reflection

- 1. Do you feel the use of video has developed your teaching? If so how?**
- 2. You were required to evaluate a part of your lesson before and after watching the video. Did watching the video alter your evaluation? If so, how?**
- 3. What aspects of your practice (for example, planning, introduction, classroom management, questioning, plenary/conclusion etc) do you feel the use of video may have developed the most and how?**
- 4. Did you find the exercise of watching your partners finished video useful in helping to develop your future practice? How?**
- 5. Do you think the opportunity to watch other students' videos could be useful? Why?**
- 6. Do you think video might be used throughout the four years of your degree to develop your teaching? If so please outline how.**
- 7. Any other comments or observations on the use of video.**

Thank you for completing this evaluation

5.Preliminary outcomes and findings

The preliminary analysis of the data shows that the project has been very successful and that all the aims have been achieved. In summary the findings show that:

- The student teachers found this use of video reflection very useful in supporting the development of their classroom practice
- The quality of student evaluations increased after watching the video recording of the lesson
- The use of video enhances the process of evaluation and reflection by
 - Providing a detailed representation of the classroom interactions
 - Facilitates evaluation when the initial 'emotions' after just teaching a lesson have subsided
 - Allows reviewing as many times as required
 - Provides a 'pupils' eye' version of the lesson
 - Enables issues raised by the tutor to be considered and examine
- The task of editing and therefore interacting with the video recording to produce the final video requires a pro-active approach to development and is a 'step to action'. It focuses students on the transformative nature of reflection
- The students benefited from watching each other's videos and provided a rich peer learning culture.

Appendices

Evaluation before watching video recording

Primary Science Beyond the Classroom

Lesson Evaluation [prior to viewing recording.] Lesson Two- 'Shadows'.

Note: Due to the nature of our class and the additional time we have been gratefully allocated, the structure of our lesson may differ from that which was suggested. Rather than one student lead the introduction, the other the conclusion and the main activity be shared, instead, as we had an hour and twenty minutes and as the class is very easily unfocused, we decided to experiment with a few variations of team teaching to encourage concentration and enthusiasm among the class. In the first lesson we tried one student leading the introduction, the other the conclusion and an equal effort in the main activity. However, we found the pupils tired towards the end of the lesson. To improve on this we decided to break the lesson into four segments and switch the lead teacher throughout. In breaking the lesson down we aimed to retain the pupil's focus, keeping them interested and enthusiastic through the whole hour and twenty minutes. While my team teacher lead the first and third part (the introduction and activity), I lead the second (the development of the topic) and the conclusion. We felt this was very successful. Due to this adapted pattern I will be evaluating both the development and the conclusion.

Development [15mins]:

The development was aimed to link the pupil's gained knowledge of light, from the previous lesson, into the topic area of shadows. The pupils were encouraged to apply their thinking skills to predict if we can get light to bend. This was achieved through encouraging the pupils to predict where a torch's light would shine. By applying active pupil participation through predicting and testing where the light would shine, the pupils were successful engaged. Through reflecting on the experiment and through scaffold questioning, as well as previously gained knowledge on reflection, the pupils reached their own conclusion that light could not bend but could be reflected in a different direction. I feel this was highly successful. The pupils enjoyed the challenge and the images used in the problem solving were very clear and a helpful stimulus. By challenging the pupils to point to key words on the images, it increased key word recognition, evidenced previous knowledge of the first lesson, and again allowed for active participation which is crucial in a class with poor concentration skills. I was very pleased at the pupils' ability to further apply their previous knowledge by correctly choosing between "bright, dull, dim and dark" to describe a created shadow. I am very pleased at successfully leading the pupils to connect these two pieces of knowledge to understand that light cannot bend around objects, that they therefore block the light and a dark shape without light, (a shadow) is then created. In general I am pleased with this section of the lesson. It was very interactive, promoted independent and connective thinking skills and provided questioning at a level for both lower and higher ability. It could have been further developed by making a light reflect round the corner, as depicted in the IWB image, or perhaps by making a trail of reflected light across the length of the classroom. To further develop the lesson I could question the pupils on what things they think bend and what don't. This would have further grounded their understanding that light, along with other things, cannot bend. The class were well behaved throughout and were very responsive to the shadow puppet video which motivated them in the following shadow creating activity.

By using a battery powered candle, that the class responded well to in the previous lesson, as a reward for the best table, the pupil's behavior was well managed.

Conclusion [10mins]:

I do not feel the conclusion was to the same standard as the development due to feeling pressed for time and the pupil's concentration wavering. However, the pupil's remained receptive and appropriately challenged. I feel I didn't take note of the pupils behavior, of who was listening and who was not and was perhaps too focused on presenting the material in time. The pupils could have been provided more opportunities to actively participate, even in pressing the play and replay buttons on the animation, or pointing to the shadows, which may have omitted some restlessness. While there was questioning, I felt there could have been more direct questions to lead the pupils to their own conclusions as was done in the development. For example, why the shadows were getting longer and shorter? Was the light source moving or the object? However I avoided these questions as I wasn't aware of the pupil's previous knowledge of the sun clock, if they realised that the sun moves around the earth. While these animations used were very clear, stimulating and helpful, to improve this conclusion, additional photographs of shadows from trees, people and buildings would have benefitted the lower ability pupils who perhaps needed further reinforcement. However, I do feel that the pupils enjoyed imagining they were outside on a sunny day looking for shadows. They were able to give good feedback on things that would make shadows, the sun's role in this as a light source, and apply their newly gained knowledge in a completely different context, which was encouraging. By closing with having the pupils present and read out their work, I was able to informally assess not only the pupils learning but also my own teaching. There are small things like talking too much or walking in front of the screen too much and the pupil's attention which I feel uneasy about and look forward to the recorded video revealing.

Evaluation Questionnaire

Evaluation of video reflection

1. Do you feel the use of video has developed your teaching? If so how?

I feel that, by using video technology to reflect on my teaching, I have gained a greater confidence in my teaching ability. The use of both audio and visual feedback allowed me to reflect on my presence and impact in the classroom holistically. Aspects such as my body language, interaction with the pupils and classroom organisation were most benefited.

The use of the video camera has also allowed me to place myself in the classroom, taking on the role of the learner. Being able to experience my approach from a pupil's perspective highlighted new areas of development, mainly my approach to pupil responses, answers and feedback. I will be taking this experience with me as I continue into professional development through remembering to put myself in the place of the child.

2. You were required to evaluate a part of your lesson before and after watching the video. Did watching the video alter your evaluation? If so, how?

The finer details the lesson, which would otherwise be unnoticed, were brought into light. For example, I said, "yep" a lot and at times. I also looked tense on the video which may have reflected onto the pupils and created an un-relaxed learning atmosphere. In the future I will be conscious of these details and ensure my body language is relaxed and confident.

3. What aspects of your practice (for example, planning, introduction, classroom management, questioning, plenary/conclusion etc) do you feel the use of video may have developed the most and how?

The video has developed my questioning. I felt the questions I asked were restricted, closed, voting style questioning as, "can light shine around a corner?" and, "is this a light source?". Even in asking what a shadow was I placed restrictions through presenting options to choose from. However, the video revealed I did include some problem solving and opinion based questions such as, "what things outside make a shadow?", to which the pupils responded really well to. Having seen this I realised I had underestimated certain pupils cognitive ability, perhaps due to their poor literacy skills.

4. Did you find the exercise of watching your partners finished video useful in helping to develop your future practice? How?

Yes, through watching my partner's video I was able to witness a peer's, at the same stage of professional development, approach to teaching. Team teaching was highly beneficial for me in showing me that my peers share the same initial concerns and uncertainties upon entering a classroom as myself. Viewing

another video was specifically beneficial as I was able to see a different approach to teaching, mainly their class organisation and use of language.

5. Do you think the opportunity to watch other students' videos could be useful? Why?

Rather than being isolated in their placement experience, having witnessed other peers teaching, students would develop a more flexible, open minded and experimental approach.

6. Do you think video might be used throughout the four years of your degree to develop your teaching? If so please outline how.

Yes, I feel that, although daunting, a video evaluation during students first placement would improve their awareness of their presence in the classroom , developing areas such as voice projection and body language and generally taking control of the class and making their presence known . All of which are a focus in first year. By video recording students in placement each year, not only will their professional reflection become highly developed but also, an overall record of their progress, achievements and strengths would also be created.

7. Any other comments or observations on the use of video.

The video caused no disruption to the lesson. It was also useful in coming into an unfamiliar class as through watching the video it was evidential which pupils had poor concentration, were disruptive, liked to answer questions, sought continual assistance from their neighbour or enjoyed being helpful.

Thank you for completing this evaluation

Proposal (accepted) for presentation at TEAN Conference May 2010

Title of paper: 'Student teachers' perspectives on the use of video analysis as a means to enrich and enhance the process of reflection.'

Lead Presenter: Name John McCullagh

Institution Stranmillis University College Belfast

E-mail J.McCullagh@stran.ac.uk

Phone 028 90384257

Address for correspondence Stranmillis University College
Belfast

Stranmillis Road Belfast

Co-presenter: Name Fergal Corscadden

Institution Stranmillis University College Belfast

E-mail F.Corscadden@stran.ac.uk

Aim of presentation (approx 50 words):

This presentation aims to report on the findings of the ESCalate funded project 'Using video for identifying and assessing learning in initial teacher education,' carried out between September 2009 and June 2010. The findings will identify the wide range of advantages to be gained from including the use of video recording and analysis within initial teacher training courses in terms of both student teachers' development as reflective practitioners and their ICT and communication skills.

Content of presentation (150 - 250 words):

This research project involved a group of 18 students in the final year of their Bachelor of Education (Primary) degree course at Stranmillis University College Belfast. During the school placement component of the module course 'Primary Science Beyond the Classroom', student pairs co-planned,

co-taught and co-evaluated a series of four cross-curricular science levels associated with a primary school trip to the W5 Discovery Centre in Belfast.

The students video recorded and analysed their practice to identify areas of strength and opportunities for development using the competence framework of the General Teaching Council for Northern Ireland. Following personal reflection in the form of tutor support, literature research and teacher mentoring, the students recorded and analysed follow-up lessons and identified areas of development and aspects of practice for further consideration. The students' experiences of this process were captured by questionnaires, semi-structured interviews and video diaries.

All the students involved found that this use of video analysis greatly increased their reflective skills and provided a vital insight into their progress as student teachers. The findings describe how the process of viewing, analysing and editing the video enriched the process of critical reflection far beyond the traditional memory-based writing of lesson evaluations, where the multitude of student-pupil interactions may remain unnoticed or misinterpreted. Comparative analysis of student evaluations written before and after watching a video recording show significant differences in content with a noticeable shift from teacher-centered to pupil-centered observations. The collaborative nature of this shared teaching experience and the capturing of classroom experiences by video greatly enhanced the opportunities for peer-observation and peer-mentoring. In addition this task specific focus on digital technology was found to greatly enhance the students' ICT and Communication skills, so crucial to their future careers. The positive feedback from the students involved suggest that greater use of video should be made within initial teacher education programmes.

How does your proposal link to the conference theme of 'The Importance of Education' (Up to 50 words maximum):

This paper links directly to the theme of 'The Importance of Education' by recommending a very simple and effective way to directly engage student teachers with the process of reflecting on the wide range of actions and their consequences within the classroom which constitute the processes of teaching and learning. This use of video not only contributes to the student teacher's own professional development, but by essentially holding up a mirror to their own classroom practice, it provides a first-hand picture of how crucial each and every one of their actions, intentional or otherwise, can prove within the education of a child.

Hoped for impact on practice (Up to 50 words maximum):

It is hoped that this paper will be of interest to all involved in initial education at either primary or post-primary level. With the decrease in cost and complexity of hand-held video-recording devices and editing software, it is hoped that teacher education will make more use of digital recording.

