

STUDENT'S VIEWS ON THE USE OF THEIR OWN VIDEO IN THE CLASSROOM TEACHING

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ABSTRACT

This study investigated student's views regarding the use of their own videos in classroom learning. This was a qualitative case study with one (1) female student teacher participating. In this study the student was video-recorded performing Acid-Base titration experiment. The video was downloaded online for the follow up tutorials. Data was collected using questionnaires and follow up in-depth interviews. The results indicated that using a student's own video has cognitive, psychological and visualization of knowledge benefits. It appears cognitive and psychological benefits derive from the student's sense of ownership. The sense of ownership in video tutorial appears to enhance student's engagement in learning and as such has a potential for effective learning.

KEYWORDS: Video tutorial, student teacher, procedural knowledge

1. INTRODUCTION

Researchers and educators have long advocated for on line learning and other related mediums like videos in higher education. Studies have indicated that the proper use of videos in classroom is important for interactivity in helping students to learn by being able to revisit and review the material, (creating a permanent recording environment for realized events and allow unlimited viewing opportunities to ensure detailed analysis(Bransford, Brown & Cocking 2000., Tan & Townsend, 2009., Thomson, Bridgstock, Willems., 2014). That is students can potentially download and watch video them whenever and wherever they like, affording them flexibility in learning experiences. Video as a tool is notably effective when its usage in educational context is based on constructivist approach to teaching (Woolfitt, 2015, Hakkarainen, Saarelainen & Ruokamo., 2007), which provides students with in-depth learning, meaning making and knowledge application by engaging students auditory and visual channels.

However using videos in 'flipped classroom' where by a video recorded lecture probably webcam – filmed in lecture's office is placed online for students to use, has being argued to be a transmissive mode of teaching (Thomson, Bridgstock & Willems, 2014), which does not engage students that much, because it's a direct instruction methods derived from behaviourist principles. The transmission of content disengages students and ignores the strength of video which is to "show not to tell" (Thomson, Bridgstock, Willems, 2014). Thomson, et al (2014) indicated that a video tutorial is arguably better use of the medium than lectures because it exploits the visual strengths of a video. The only advantage the lecture capture and "flipped classroom" have is that the student is able to download, watch and re-watch lecture on demand

The use of videos in teaching learning environment are effective in three aspects, proving cognitive benefits, (learning better, and more, better recall), psychological benefits (motivation, gaining satisfaction from learning and visualization of knowledge (Pekdag., 2010). These are in line with koumi (2006) three types of video's educational value which are; cognitive value, nurturing value and experiential value. Videos simply cater for visual and auditory channels (Thomson, Bridgstock, Willems, 2014). That is videos as educational tools can create multiple entry points into students intelligences such as aesthetic, logical and linguistic approach (Gadner, 2006), through making learning independent from time, space, providing group learning opportunities, facilitating learning dimensions of movement, color, sound and transferring outside class environments to class and facilitating concrete and permanent learning.

Other benefits include ensuring the effectiveness of hearing and vision by providing interaction between the video and students, providing interaction with content, allowing transfer knowledge into mind and facilitating recall (Greenberg and Zanetis, 2012), arousing student interest, facilitating student concentration, motivating students, providing learning practices for highly relaxed students with low levels of interest, developing imagination, supporting creativity and increasing comprehension (Berk., 2009). That is videos can support a rich, authentic, learning experience, encouraging student autonomy and ownership, meaningful student roles and interactions especially when students are given opportunity to celebrate and discuss their products with relevant audience (Kearney & Schuck, 2006), audio, visual and motion. However it is important that the videos used should be matching the concepts within the content and learning outcomes.

In teacher education different types of videos were used in classroom namely; reflecting on videos from published resources, reflecting on own videos and reflecting on videos of colleagues (Zhang, Lunderberg, Koehler & Eberhardt, 2011). Zhang et al., (2011) indicated that few studies had given student teachers the opportunity to individually watch and collaboratively discuss their own video. While Zhang et al, (2011) found that one teacher may learn from each type of video, elsewhere it was found that editing and creating teachers own videos was more effective than viewing clips selected by others (Seidel, Sturmer, Blomberg, Kobarg, Schwindt, 2011). This could possibly be due to teacher's sense of ownership, that is one analyzing and reflecting on their own mistakes is likely to learn better than doing the same on another person's mistakes. The above researches dealt with student teachers' reflections on teaching using videos. However the core of the studies was on the following, which pedagogic strategies can be employed to make the most of the video content and what constitutes an effective video for learning and teaching, or rather what insights could be picked from use of video in classroom? Other researches which used videos in classroom include educational psychology (Kosterelioglu, 2016), science classrooms (Chen, 2016) which both used videos selected from elsewhere. It appears there is little literature on the use of videos in science classroom more especially student own videos.

In this study the focus is not on student teachers reflecting on teaching videos, but rather focuses on student teachers reflecting on their own videos performing a titration practical in a science laboratory. In this case the video provides the following to reflect on; titration content, tutorial material, practical skills on titration. Furthermore in Botswana there are no or little studies if any, giving student insights or views into the use of videos in classroom, and a research of this nature may give important baseline information. Based on the above the purpose of this study was to investigate a student insights/ views into the use of video in classroom teaching.

Purpose of the study

This study investigated the student's views regarding the use of their own videos in the classroom by answering the following research question.

Research Question

What are student's views regarding the use of their own videos in classroom Teaching?

2. METHODS

2.1. Research Design

The study is a qualitative study. Qualitative research involves describing the actions of a research participant in great details and attempting to understand these actions in light of the participants own beliefs, history and context (Cresswell, 2003), that is whereby the researcher attempts to identify cause and impact such as how individuals interpret and how they make sense of their experiences (Merriam, 2013). In this study the researcher investigates the student views regarding effectiveness of own and readymade video clips in classroom. In this context, a case study was selected for this paper. The basic characteristic of a qualitative study is the in-depth investigation of a case or more cases. Furthermore the instruments used for data collection in this study were open questionnaire and in-depth unstructured interviews, which are characteristic of qualitative approach (Cresswell, 2003).

2.2. Participants

The research group was composed of 4 second year in-service primary science student's teachers studying for Bachelor's Degree at the University of Botswana, faculty of Education, Department of Primary Education. In-service teachers in this context are diploma holders in primary teaching, with some teaching experience at primary schools. These students usually join university at second year to complete in three academic years. This group was specializing in science or their teaching subject was science. The data was collected one (1) female student who participated in the study voluntarily.

2.3. Period of Implementation

The study was conducted in foundations chemistry class taught to second year undergraduate primary science student teachers in the science unit of primary teacher training department during the semester of the 2015-2016 academic year. The researcher videotaped (using a cell phone) the student performing a basic Acid-Base titration practical in the laboratory. During the recording the student

was asked to explain the steps she was doing or justify her actions. This video was then downloaded into MOODLE for class discussion and engagement.

2.4. Data collection Method and Tool

The data was collected using seven (7) open-ended questionnaires and follow up in-depth interviews. The student's own video was downloaded into MOODLE and the student was engaged through the discussion forum platform. Where the student was instructed to do the following:

“Look at the video of the practical you performed. Write an analysis of what you see or discuss the video in terms of the following items”

1. What do you see as strong points/ interesting in your video?
2. What do you see as weak points or not interesting in the video
3. Where do you think something was not done properly either by me or you in the video
4. Do the concepts on titration come out clearly in your video?
5. Do you think this video is helpful to your learning (discuss how)
6. In summary outline the advantages and disadvantages of using own video in teaching
 - Is it helpful in your learning? If so how?
 - Instances where this video may not be helpful to your learning, if so how
7. How best do you think videos can be utilized in learning and teaching?

2.5. Data and Data Analysis

All responses from questionnaires and follow up interviews responses were compiled as shown in table 1. The data was then processed qualitatively by reading it over and over to come up with codes and themes. The responses which fell under the same theme were colour coded with the same colour as shown in the table 1. The colours and themes were categorized as follows: **The blue colour** represents *room for improvement and ways of improving*, **the green colour** represents a *sense of ownership*, **the purple colour** represents *enhancing memory or recall*, **the red colour** represents *mistakes identification*, **the navy blue colour** represents *interest* and the **yellow colour** represents *understanding the content*. Then to come up with the results the number of times phrases or codes representing a particular theme occurred was counted and registered its frequency against that theme, with an exemplary phrase.

Table 1: Table of raw data and analysis (RE= Researcher, ST= student Teacher)

Question	Student written response	Follow up interviews and responses
1	The strong point that I liked in the video is when the chemicals reached the endpoint and the indicator turns light pink to show the endpoint. The interesting part is that I was doing the video and I could see myself from my eyes what I was doing. Also at the end of the titration I had 3 types of pink colours and only one was the proper one. This means there is room for improvement for my next practical.	RE: How does seeing yourself in the video play part in your learning ST: seeing myself is a good thing, because I could see what I was doing right and wrong, I could see my mistakes, where I can improve and moreover it is me doing the video and it can help me remember what I did and why I was doing it, it's just like re-watching myself doing something and can remember which steps I did, what can I do to improve.
2	At times it seems I was confused and did not know what I was doing, especially when I had to open the burette to titrate	RE: on watching the video, what do you think you should have done to avoid the confusion? ST: Watch more videos on different ways to hold a burette RE: which more videos should you watch and why? ST: videos that are already available ,but not boring ones where they only talk and does not show anything, videos that are fun to watch. RE: elaborate ST: By watching this videos it gives you knowledge what you are going to do and what are some of the outcomes. Thus for you not to panic if something goes wrong, it helps you get ready to do the experiment
3	The way I was holding the burette to titrate the NaOH. I should not forget also to check the chemical level by placing my eye in line with bottom of meniscus	RE: what else was not properly done, list the mistakes and their possible solution ST: I did not hold the burette well, I should watch more videos on how to handle equipments I did not level my eyes with the bottom of the meniscus, next time I make sure I do not forget. I did not have my table ready on time to for the recordings, I should prepare everything prior of starting experiment I did not label my conical flask, next time I must not forget to label the flask
4	Yes the concept came out clear- we could see the endpoint of the NaOH reacting with HCl shown by the indicator phenolphthalein turning slightly pink.	RE: outline the scenarios from the video and the concepts they indicate ST: In the video the last test indicated the true endpoint, because the first and the second one showed a darker pink., which was not what we wanted
5	Yes it is helpful to myself because I am seeing myself doing the titration	RE: discuss how you think this video is helpful to your learning of the topic. ST: Seeing myself doing it, I can see my strength and weakness and learn from it. RE: list your strength and weakness from video SE: I understand what I was doing, I knew what step come after which step. My major weakness I did not handle apparatus correctly.
6	I see myself doing it, I can easily remember, I can see my mistakes and improve on it, it is helpful because I can remember what I did right and wrong, when it is close to exam it is easy to help me relax and practice, the video is good for learning because it is a good reminder because we learn by seeing.	RE: you seem to have listed only advantages what about disadvantages? ST: The disadvantages is that there are boring videos that are not fun to watch, there are videos that are really not showing the right thing. some videos do not go in-depth for what you are looking for.
7	Videos are good for learning because it is a good reminder because we learn by seeing.	RE: What kind of videos should be used to help you learn best ST: Different kinds of videos, because people can learn by seeing what is happening, and videos are interesting to many people, so not a boring video, one that is fun to watch. RE: Elaborate ST : videos can be utilized in classroom learning and teaching as one aspect because students have different learning styles, and by using videos in the classroom will help them a lot , because the video itself will explain things to them that you are not even expecting and they will memorise it well

2.6. Results

Table 2: Table of results showing themes and their frequencies

Theme	frequency	Exemplary phrase
Sense of ownership	8 times	The interesting part is that I was doing the video and I could see myself from my eyes what I was doing. I understand what I was doing
Enhancing memory or recall	8 times	it can help me remember what I did and why I was doing it
Mistakes identification (mistakes on practical skills or procedures)	11 times	I could see what I was doing right and wrong, I could see my mistakes. My major weakness I did not handle apparatus correctly.
Room for improvement and ways of improving	10 times	I should not forget also to check the chemical level by placing my eye in line with bottom of meniscus
Interest	3	Videos are interesting to many people, so not a boring video, one that is fun to watch.
Understanding content	4	I understand what I was doing, I knew what step comes after which step. The strong point that I liked in the video is when the chemicals reached the endpoint and the indicator turn light pink to show the endpoint.

2.7. Discussion

Generally the student indicated that using own videos arouses interest, enhances memory, helps understanding content, motivates through a sense of ownership, and points out to weaknesses which can be improved upon. The frequencies of these issues or themes are relatively high for one student except for interest and understanding the content. However it is important to note that all the identified themes cover the three effective aspects of using video in teaching-learning environments namely providing cognitive benefits, psychological benefits and visualization of knowledge (Pekdag, 2010, Berk, 2009))

Mitra, Jones, Barret and Williamson (2010) alluded that videos facilitate interaction between students and the topic and ensures that the content is more meaningful and strengthens learning by allowing associations between the material and other situations. The associations with other situations in this case is indicated by student being able to identify the mistakes they made during the practical and suggesting how those mistakes can be corrected by for instance watching other readymade videos on the same practical, so as to learn how to handle the apparatus.

The results are in agreement with some previous researches on use of videos, for instance psychological benefits in the form of motivation and gaining satisfaction from learning (Pekdag, 2010). The psychological benefits in this study are indicated by a sense of ownership as illustrated by the following extract from the student's response.

"The interesting part is that I was doing the video and I could see myself from my eyes what I was doing..... seeing myself is a good thing, because I could see what I was doing right and wrong, I could see my mistakes, where I can improve and moreover it is me doing the video and it can help me remember what I did and why I was doing it, it's just like re-watching myself doing something and can remember which steps I did, what can I do to improve...."

It appears from the extract psychologically the student is satisfied with learning opportunity the video provided (engaging the student in identifying her mistakes) and is motivated to improve on the mistakes she did during the practical. The student is motivated because there is a feeling of empowerment, ownership and higher purpose. Greenberg & Zanetis (2012) points out that when students are given the opportunity to produce digital material for classroom use they turn to feel empowerment, ownership and higher purpose. The sense of higher purpose also connects to cognitive benefits. In the same above extract the student indicated cognitive benefits whereby there is learning better, more and recall. Furthermore the cognitive benefits are illustrated in the extract below, which indicates the student's will to learn from their mistakes and therefore learn more.

"Seeing myself doing it, I can see my strength and weakness and learn from it."

However the aspect of visualization of knowledge is illustrated by the theme of understanding content and enhancing memory which is shown by the following extracts.

"The strong point that I liked in the video is when the chemicals reached the endpoint and the indicator turns light pink to show the endpoint.....Also at the end of the titration I had 3 types of pink colours and only one was the proper one.....Yes the concept came out clear- we could see the endpoint of the NaOH reacting with HCl shown by the indicator phenolphthalein turning slightly pink."

"..Videos are good for learning because it is a good reminder because we learn by seeing"

It is also worth noting that the student also acknowledged the benefits of using readymade videos in addition to student's video. An indication that different videos readymade or own videos serve different roles which attends to the student's different learning styles (Zhang et al., 2011, Greenberg & Zanetis., 2012). When the student watched her video she noted that during practical she seemed confused, not knowing what to do. However when she was asked what she could do to avoid the confusion, she suggested watching readymade videos on how to carry out the experiment before

performing the experiment. The following responses indicates the benefits associated with ready video's

“..Videos that are already available, but not boring ones where they only talk and does not show anything, videos that are fun to watch.....By watching this videos it gives you knowledge what you are going to do and what are some of the outcomes. Thus for you not to panic if something goes wrong, it helps you get ready to do the experiment. There are boring videos that are not fun to watch, there are videos that are really not showing the right thing. Some videos do not go in-depth for what you are looking for.....and videos are interesting to many people, so not a boring video, one that is fun to watch.

The extract above indicates that the student emphasized that readymadevideos should not be boring but rather be fun to watch. This is a nurturing value of videos where videos are used to increase motivation to learn through humour and inspiration (Koumi, 2006).The point is educators who use readymade videos they should select the videos bearing the audience's interest in mind.

The results indicate two dominant themes provided by the use of videos on practical experiments namely mistake identification, room for improvement and ways of improving. These themes are indicators of a rare opportunity for students to use their own videos to engage with the content and procedural knowledge. In these themes student was able to identify the weaknesses in their practical skills of handling burette, pipette, taking readings and suggested ways of improving on those such as looking at other videos on how to handle those equipment. The use of student own videos in this case served as video tutorial for students to reflect on, because video tutorial is arguably a better use of the medium than lectures because it exploits the strengths of a video (Thomson, et al. 2014).

It appears student own video used as tutorial video has a great potential for effective learning, because it provides student with a rare opportunities to participate fully by identifying their mistakes, strengths and weaknesses and suggest ways of improvement on them as they continually reflect and learn. Furthermore the participation is mainly driven by sense of ownership.

3. CONCLUSIONS

This study investigated student's views regarding the use of their own videos in classroom learning. The results indicated that using a student's own video has cognitive, psychological and visualization of knowledge benefits. It appears cognitive and psychological benefits derive from the student's sense of ownership. The sense of ownership in video tutorial appears to enhance student's engagement in their learning. The sense of ownership in video tutorial appears to enhance student's engagement in learning and as such has a potential for effective learning.

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