

# To see someone else's perspective: A case for digital stories in schools<sup>123</sup>

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## ABSTRACT

*Education is key to building South Africa's human capital. In particular, it is necessary to prepare teenagers to enter society as fully functional, skilled adults. This case study, of 172 pupils in a South African Girls' high school, explored the potential of a range of digital storytelling interventions to foster new perspectives on issues and potentially support more informed decision-making. This qualitative research showed participants reaching a new understanding of their emotions and behaviour by experiencing multiple, alternative views of a situation: from peers, parents and other adults. During this process, they engaged in a reflexive practice as they were able to see aspects such as peer pressure and cultural differences more objectively, allowing them to evaluate the situation critically, develop appropriate knowledge and employ this in decision-making. The discussion explores how the creation of digital stories has shaped the outcomes. While this approach could be used to assist pupils in developing critical thinking skills, there were challenges that require further consideration. This case study points the way toward an in-depth look at incorporating digital storytelling in South African classrooms.*

**Keywords:** digital storytelling, participative video documentary, perspective, pupils, decision-making

## INTRODUCTION

When you are a Bear of very Little Brain, and you Think of Things, you find sometimes that a Thing which seemed very Thingish inside you is quite different when it gets out into the open and has other people looking at it (*Winnie the Pooh*, Milne, 2001: 34).

Anyone who has lived with teenagers may have regarded them, at times, as having 'very Little Brain' in the manner in which they make decisions and conduct themselves. As a consequence of how the brain

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3 This article is being published posthumously as Gaye Pieterse (first author) passed away in 2017.

develops during adolescence; those aged between 15 and 19 are recognised as more likely to engage in risky behaviour than at any other time of their lives (Cauffman, Shulman, Steinberg, Claus, Banich, Graham & Woolard, 2010). Teenagers' abilities to express their motivations and opinions and to consider other perspectives during decision-making are limited by cognitive and affective abilities that are not yet fully developed (Cauffman et al., 2010).

Teenagers are fundamentally in a vulnerable position. This pressure is exacerbated by the pervasive social changes and challenges, which have arisen due to global connectivity and the anonymity of the Internet (Hinduja & Patchin, 2007; Pittaro, 2007; Stephenson & Walter, 2011). It is widely acknowledged that a large proportion of high school pupils are inadequately prepared to enter the real-world as fully functional, contributing adults (Abrami, Bernard, Borokhovski, Wade, Surkes, Tamim & Zhang, 2008; Miri, David & Uri, 2007; Marin & Halpern, 2011). Kalantzis, Cope and Harvey (2003: 23) stress that 'learning will increasingly be about creating a kind of person, with kinds of dispositions and orientations to the world, and not just persons who are in command of a body of knowledge'. The danger exists that if these issues of unpreparedness are not addressed teenagers will become marginalised; lacking the skills necessary to transition into adulthood (Marin & Halpern, 2011).

The skills teenagers require include the ability to apply 'reasonable' and 'reflective' thinking in deciding 'what to believe and do' (Kwan & Wong, 2015: 69, 73) i.e. to employ critical thinking. More generally the need for teaching and learning to prepare pupils for an ever-changing reality has been recognised and conceptualised as 'productive diversity ... (which) attempts to capitalise on the talents of diversity' (Cope & Kalantzis, 1997: 471) emphasising the significance of diversity and pluralism; and the need for skills in negotiation and compromise, specifically within civic public forums. However, more research is needed to explore how pedagogies involving participation, pupil-centred learning and fostering critical thinking can be used to better equip teenagers (Cheung & Jhaveri, 2014; Haberland, 2012; Samoilo, 2014).

An overview of a number of studies suggests that constructivist-learning approaches may have a positive impact; leading to a better, more personalised understanding of the need for, and use of, critical thinking skills (Kwan & Wong, 2015). A constructivist approach requires the use of social negotiation skills in the process of presenting, and being required to reconsider opinions. Numerous media are available for self-expression or reflection but visual media currently dominate communication (Cheung & Jhaveri, 2014), and should thus be presented as familiar if used pedagogically. One of the methods available is digital storytelling (also referred to as participatory video). Creating and critically engaging with 'visual text' should not be seen as merely reflecting reality as a digital story is 'constructed from a (*specific*) viewpoint, with a communicative purpose and a calculated effect in mind' (Cheung & Jhaveri, 2014: 6). Teachers can elicit discussions and stimulate critical thought through visual media and thereby create critical producers, and critical consumers of visual content.

In order to explore the extent to which a range of visual pedagogical methods could foster critical thinking and open up new perspectives on decision-making among teenagers, a case study methodology was adopted. An all-girls' school in Durban, KwaZulu-Natal, South Africa was selected as the site for the study. An all-girls' school was selected because female South African teenagers represent a particularly vulnerable group; living in a country with one of the highest HIV and AIDS rates in the world (SANAC, 2009), exposed to high levels of gender-based violence and gender inequalities (Jewkes, Levin & Penn-Kekana, 2003; Morrell & Jewkes, 2010), and living in a context where female teenagers feel powerless to voice objections against their male partners (Varga, 1997).

## LITERATURE REVIEW

The literature review explores the nature, use, and context of digital storytelling in education. Digital storytelling can be defined as a vehicle for creative storytelling; leveraging multimedia tools that allow for inclusion of text, images, video clips, audio and music (Robin, 2008). Technology can provide the affordances required to support visual pedagogies: for example, the availability of multimedia tools, digital storage, and the means of capturing visual and audio data along with the necessary software to manipulate the inputs, at reasonable cost, are fundamental enablers of digital storytelling (Robin, 2008). Digital stories can be captured on mobile phones, with cameras or webcams, and edited in easily available software such as iMovie, Movie Maker, Photo Story and PowerPoint. These stories can be shared over the Internet via YouTube or Vimeo, podcasts and other electronic distribution systems. Voice Thread (<http://www.voicethread.com/>) allows the uploading and sharing of audio and images as well as collaboration between media creators and viewers.

Digital storytelling allows: (1) the pupils to be the producer and the consumer of knowledge, (2) the learning to be pupil-centred, (3) participation on an individual or a group basis, and (4) for reflective and reflexive practice. Web2.0 tools, employed for digital storytelling, allow the average user to publish knowledge on the web without requiring specialised skills (O'Reilly, 2005). This empowers pupils as it provides a public space for their voice and artefacts (Cope & Kalantzis, 1997). Most teenagers are conversant with social media and networking platforms and value this form of interaction; making it meaningful and enjoyable to pupils (Cheung & Jhaveri, 2014; de Lange, Olivier & Wood, 2008). In developing, or watching a digital story the participants are, either actively or passively, encouraged to reflect on their own situation and positionality in terms of the subject matter. The process of viewing and reviewing a digital story provides a forum for teenagers to refine their skills of assessment, communication, and constructive criticism. It presents an opportunity to understand others' cultures and thinking processes, to enhance their understanding by 'add(ing) something of themselves to the meaning' (Cope & Kalantzis, 1997: 476); and by suspending their own beliefs ('bracketing'), gaining a greater depth of understanding.

Practically, teachers can employ digital storytelling in a number of ways. They can show previously created stories (public videos), create their own stories to share and allow pupils to create and share their own stories. While teachers have used digital stories to educate, inspire and encourage debate, it has been found that the greatest benefit came from the pupils creating their own digital stories, either alone or in small groups (Robin, 2008). Social constructionists also claim that pupils learn best when creating their own material and that learning is even more effective when pupils experience the product as meaningful (Papert & Harel, 1991). This conclusion requires additional investigation. The meta-analysis of Abrami et al. (2008) only provides tentative support for this conclusion as some of the studies they reviewed do not support this result. The impact of technology on pupils is, however, never neutral (Prain, 1998) because of its potential to impact the beliefs, perceptions and practices of the intended audience. This places additional responsibility on those considering its use as part of an educational intervention.

South African literature on digital storytelling, dealing with its use as an intervention in education, provides the most directly comparable academic work for this study. Five articles were identified which deal with specific projects (de Lange et al., 2008; Moletsane, Mitchell, de Lange, Stuart, Buthelezi & Taylor, 2009; Mitchell, Dillon, Strong-Wilson, et al., 2010; Khau, de Lange & Athiemoolam, 2013; Mitchell & de Lange, 2013). The individual papers relate to work done in the Eastern Cape, South Africa (de Lange et al., 2008; Khau et al., 2013; Mitchell et al., 2010) and KwaZulu-Natal (Moletsane et al., 2009). Digital storytelling, applied in teaching contexts in South Africa, has a history of being used as an intervention in studies which are participatory, have a clear contextual foundation and a focus on reflection, knowledge-sharing and enabling change in participants, communities or the broader context (Ebersöhn, Ferreira & Beukes, 2012). These papers place attention on the agency of individuals. The degree to which this

agency is actualised varies depending on the degree to which they are allowed to negotiate topics and the content of the digital stories created. In all of these studies, the storytellers were allowed to decide the specific focus of their story, even when broad contexts for discussion were created. This is not purely a characteristic of South African studies but is also seen elsewhere, for example, Wheeler (2009) working in Rio de Janeiro and Brazil, and Waite and Conn (2011) in the Jinga district, Busoga, in Eastern Uganda.

In addition to understanding how digital storytelling has been employed in education in South Africa, it is also important to foreground the results of studies focusing on stimulating reasonable and reflective critical thought in young people. The work by Abrami et al. (2008: 1108) is useful as it provides a meta-analysis of 117 studies that address 'the issue of CT (*critical thinking*) development, improvement and/or active use' that includes 'some kind of instructional intervention' and provides quantitative data on the intervention. The literature indicates that the age at which interventions are attempted is important. While elementary (6-10 years old) and secondary (11-15 years old) pupils' gains are not significantly different from each other, they are significantly higher than those for undergraduates (Abrami et al., 2008). These findings are supported by the work of Cheung and Jhaveri (2014) and Kwan and Wong (2015) working with teenagers aged approximately 14-16 years. It thus appears reflective thought can be stimulated in children from the age of six years till approximately 15 years, but most notably before completion of high school. In addition, if this teaching is both explicit and embedded within subject content, critical thinking objectives are explicitly stated and the pedagogy allows for collaboration and a constructivist approach, the gains in critical thinking skills appear to be notable (Abrami et al., 2008).

The South African government addresses the joint issues of exposure to technology and development of critical thinking skills (Department of Education [DoE], 2004) via the six critical levels of thinking listed in the current South African Curriculum Assessment Policy Statements (CAPS) (2014). These policies are based on the revised Bloom's taxonomy where the three higher-order cognitive levels require the ability to analyse, evaluate and create (Conklin, 2005). While these are important educational requirements, the reality is that there is little integration into lessons in South African classrooms, even when computers are available (Wilson-Strydom, Thomson & Williams, 2005). Added to this, teachers often do not have time to 'Think of Things' (Milne, 2001: 34) and explore new pedagogical tools due to curriculum pressures. Exploratory methodologies are time consuming and add additional pressure to both pupils and staff when the volume of content in the curriculum is high (de Lange et al., 2008). It was found that even in government-funded computer rooms, access is limited and ICT competencies are poor. In addition, when teachers are competent and enthusiastic about integrating ICT into their lessons, they are further frustrated by unreliable Internet access (Draper, 2010).

The need to develop a critical, analytical skill in order for teenagers to become fully functional, contributing citizens is clear from the societal challenges and economic needs in South Africa. This is further emphasised by the fact that these requirements are built into the national education curricula and are recognised as being necessary for teenagers on a global scale. In addition, it appears necessary to target interventions at school, rather than at tertiary education level. The potential to achieve this via constructivist and constructionist pedagogies by employing multimedia technologies is suggested by prior research, although variable outcomes are reported. To what extent benefits are realised when different digital storytelling interventions are employed remains unclear and forms the focus for this study.

## THE STUDY DESIGN

The research was designed as a case study and is conducted within an all-girls' school in Durban, South Africa because of the already established vulnerable status of teenage girls in South Africa (UKZN ethical clearance HSS/132/010M). This research formed part of a larger project on digital storytelling including a quantitative study (not considered here), which required that participant groups experienced a range of

exposures to digital storytelling. While this has created an element of artificiality in the qualitative data, this has allowed for insights into the phenomenon that may not have arisen if these restrictions had not been imposed. Stratified sampling was used, with Grade 9 and 10 pupils selected for the study as they met the age criterion (Abrami et al., 2008) and the fact that they are faced with critical career-related subject choices and social decisions and could thus directly benefit from the timing of the intervention.

Practically, the study is made possible by the availability of digital devices at the school as well as the researcher being a teacher of computer literacy at the school. The researcher taught all the intervention groups, ensuring a consistency in participant experiences. In total, there were 172 female pupils of mixed racial groups and of urban origin, with an average of 22 pupils per class and four classes per grade (89 were from Grade 9 and 83 from Grade 10). Each of the four grade classes were randomly assigned an alphabetic identifier (A, B, C and D), which determined the particular intervention they would experience. The interventions employed are depicted in Table 1 below.

*Table 1:  
Grade 9 and 10 digital storytelling interventions*

Class	Intervention	# Videos created
9A & 10A	Watch and comment on public videos. Create own digital stories and comment on peer videos.	9A = 7 10A = 6
9B & 10B	Watch and comment on public and peer videos.	
9C & 10C	Watch and comment on public videos.	
9D & 10D	None – Control group for the quantitative study within the project	

Grades 9A and 10A were shown public videos in class that were chosen for their inspirational value (people who overcame adversity). Three public (YouTube) videos were shown, namely: Nick Vujicic (Moreira, 2011), Susan Boyle (Leyland, 2009) and seven year old Connie Talbot (Behindthesecret, 2007). Their assignment required them to create their own digital story and comment on peer videos. They worked in self-selected groups of two to four members in order to facilitate meeting after school hours. They were required to write and act in a five to 10 minute screenplay called 'Inside Outside', which suggested dealing with internal psychological factors as well as external environmental factors in their lives. The target market was their peers. Thirteen digital stories were produced (Grade 9A = seven, Grade 10A = six). Recordings were made using Sony podcast videos, mobile cellular phones or webcams. A video screenplay template was downloaded from a website (Nab'Ubomi) and provided to these pupils. The basic storyboard and a first edit version of the videos allowed for formative input from peers and the teacher. Groups A and B were given peer-assessment forms, based on the assessment criteria for digital stories as per South African curriculum standards. This form used three types of emoticons to aid quick feedback. In addition, a closed social networking and collaborative site, Voice Thread, allowed for commentary on the videos.

None of the other classes (B, C and D classes) had the opportunity to create a video. The pupils of Grade 9B and Grade 10B could only watch and comment on peer and public videos. Those in Grade 9C and Grade 10C could only watch and comment on public videos. Grades 9D and 10D had no intervention; acting as the control group for the quantitative study that formed part of the overall project. The differences in group interventions were explained to the pupils and they were given the assurance they would make their own videos later in the year. These subsequent digital storytelling experiences did not form part of the study.

The research activity lasted three school terms and all eight classes involved in the research were subject to qualitative questionnaires, which polled their particular experience at the end of the activity. In order to see whether there were any lasting or further changes that could be attributed to the interventions, an informal discussion among some of the A groups (who created videos) were hosted to determine whether there were any long-term effects from making their own videos.

To present the data graphically a word cloud format is used. The qualitative questionnaires run at the end of the activity were used as the data source and all comments that would normally be coded have been used to generate the word cloud. The size of a word in the cloud thus represents the frequency of the word as it appears in the coded text. The top 50 words are displayed. The free software wordle (<http://www.wordle.net/create>) and tagcrowd (<http://tagcrowd.com/>) were used to generate the information used. It should be noted that sizes of words are only relative to those within the same cloud. The inherent bias within the data is that it privileges the voice of those who choose to comment over those who do not. In addition, synonyms are represented in word clouds as totally different words with no obvious link to each other. Notwithstanding these limitations, the pattern-based view of the data potentially allows for a useful perspective and mode of comparison.

## RESULTS

The results are presented in two parts: the first, considers to what extent the teenagers' experiences are dependent on the intervention they experienced, while the second reflects on the unintended consequences of the interventions.

### Part 1: A range of reflective experiences

... and you Think of Things, you find sometimes that a Thing which seemed very Thingish inside you is quite different when it gets out into the open and has other people looking at it.

This quote represents teenagers' vulnerability ('inside') and difficulty in relating their own emotions and circumstances ('outside') as well as being able to relate to the experiences of others ('outside'); and to incorporate these into their frame of reference and decision-making ('inside'). This study was designed to provide a variety of digital storytelling interventions with the intention to stimulate reflective, critical thought. With the exception of the control, Group D, all groups were moved emotionally and felt challenged to reconsider their own circumstances from the perspective presented by other peoples' life experience (see Figures 1, 2 and 3).

Figure 1:

Comparison of wordle word clouds for pupils watching public digital stories (Group C)

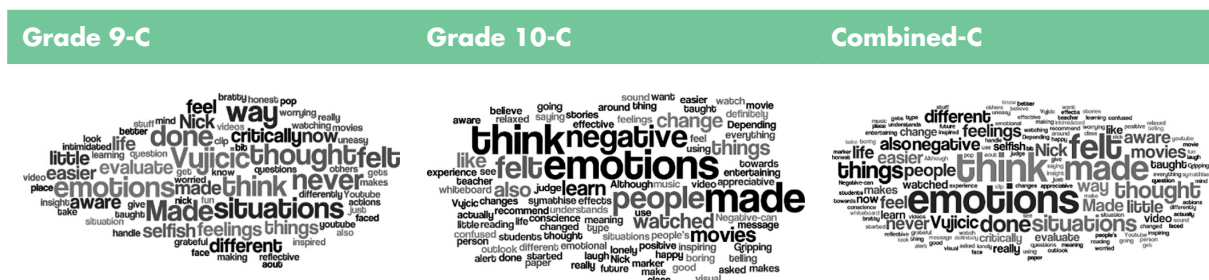




Figure 2:

Comparison of wordle word clouds for pupils watching public and peer digital stories (Group B) with dominating words made and movie(s) removed

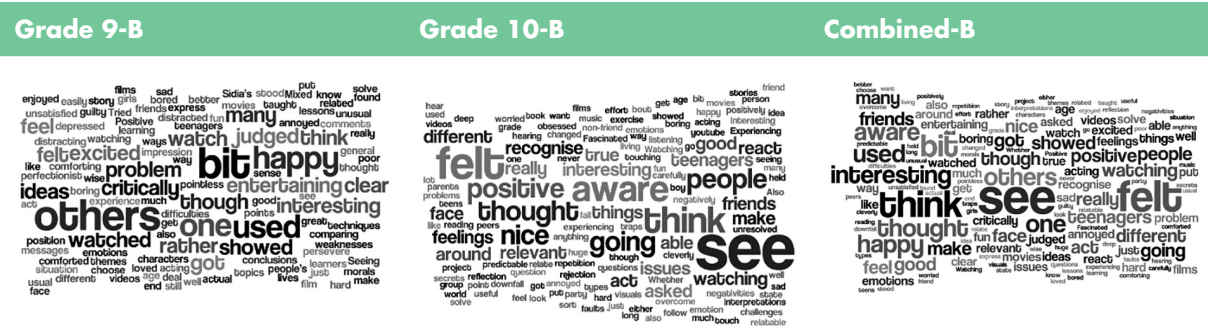
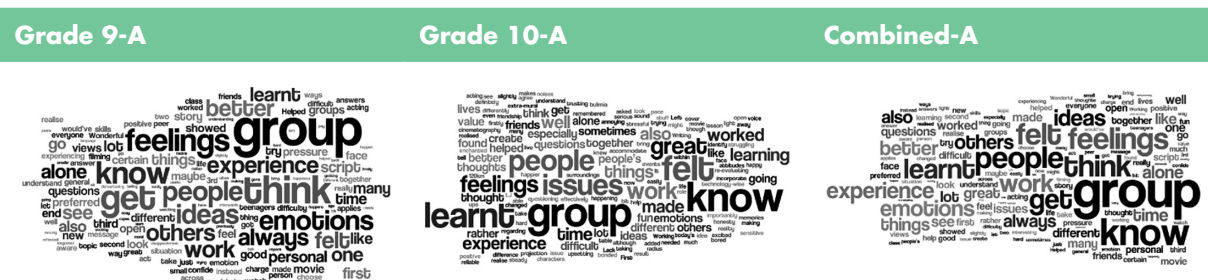


Figure 3:

Comparison of wordle word clouds for pupils making their own digital stories (Group A) with dominating words made, test(s) and videos(s) removed



The dominant words in Group C are 'emotions', 'think', 'feel/felt', teamed with words such as 'critically', 'aware', 'evaluate', and 'learn' (Figure 1). In Group B they speak of 'see', 'felt', 'thought', 'aware', 'interesting' and 'happy' (Figure 2) and Group A speaks of 'feelings/felt', 'emotions', 'think', 'learnt', and 'people' (Figure 3). (Note that the word 'group' which dominates the Group A discussions will be discussed in part two of the results.) A member of Group C commented that the videos

made me aware of my emotions and I could critically evaluate my feelings, which I have never done before.

This was echoed by others who felt more appreciative of their own situation, became more sympathetic and considerate of others, less judgemental and determined to change for the better. While those in Group 10B expressed similar responses to those from Group C, those from 9B appeared more removed and a little less engaged, more like spectators in the intervention rather than participants. While overall the intervention with Group B presents positive results (Figure 4) these should be viewed as requiring further investigation to unravel the contradictions presented by the more removed response of the 9B group versus the more engaged responses of 10B.

Figure 4:

Comments made by Group B pupils in relation to the perceived impact on their view of themselves, other pupils and role players in their lives

#### **Group B: Comments about Self**

- 'I felt they did sort of touch on my emotions and make me think'
- 'They made me feel happy as they were made by girls my own age'
- 'helped me accept who I am'
- 'taught me some valuable lessons'
- 'They really made me look deep into myself'
- 'There are so many things in the world I am not aware of. ... I asked myself questions I've never asked before, it was a good exercise'
- 'make me think about my state very carefully and question what I am like ... and how I go about living'

#### **Group B: Comments about Other Pupils**

- 'showed what others thought was a problem'
  - 'it was nice to see my friends act ... and to see that they are aware of what people could be going through and that they're not just boy- and party-obsessed'
  - 'It was comforting to know that others face some of the same difficulties'
  - 'the movies showed the true reflection of what is really going on between us as a grade'
- Experiencing rejection and secrets held by friends. ... how we relate in the issues we have between our parents'

#### **Group B: Comments about Other Role Players in their life**

'I personally feel movie making is a great way to express the teenage emotions. In the films you see peer-pressure, school pressure, life pressure, love, hate, anger and disappointment. You see our lives and I think by doing these movies we make a greater impact of understanding to the adults'

Figure 4 highlights their reflections on how they felt in relation to themselves, their peers, as well as other role players in their lives. They felt challenged to explore issues in greater depth and in ways not previously considered. They suggest that for future studies it would be valuable to share peer videos with other adults in their lives and explore ways to achieve this while still protecting the boundaries of privacy of the participants.

Overall, the reactions of Group A were similar to other groups but this video-'maker' group showed a deeper level of thought, reflection and reflexivity when compared to the rest (Figure 5). It is clear the intervention provided the students with a platform for their voice. Grade 9 and 10 pupils made 13 digital stories reflecting similar concerns or interests. 'Outside' topics dealt with physical abuse, peer pressure, autocratic parental expectations, boyfriend issues and school pressures such as work overload and expectations of teachers. 'Inside' topics related to communication, eating disorders, identity, trust issues with parents (ramifications of lying to them) and understanding cultural differences (inside I am still like you although I dress differently and have a different religion). It appears the creative process may have triggered levels of reflection and self-analysis not activated in those viewing the videos, as exemplified by comments in Figure 5.



Figure 5:

Comments made by Group A pupils in relation to the perceived impact on their view of themselves, other pupils and their context, and their own behaviour

#### Group A: Comments about Self

- 'writing the movie and trying to create characters helped me to understand my own feelings, thoughts and attitudes towards people, events and circumstances. It helped me to define my feelings. It was very stressful sometimes'
- 'I am not used to doing these type of things where I have to re-evaluate and look at myself and what I do'
- 'made me think about things about myself that I usually would not have'
- 'My movie made me want to try and be myself and to tell others not to try and change me. But I don't try to be myself around everyone because, like in my movie, it showed a girl saying 'no' to being changed but it doesn't show her afterwards and how she copes because most times we don't'
- 'some of the things I learnt were upsetting to me, but I realised it was reality'

#### Changes in behaviour

- 'I'm more sensitive to people's emotions'
- 'I could identify other people's emotions more easily'
- 'with the silent movies you really had to look at body language and non-verbal communication so now I tend to pay more attention to those things'
- 'I learnt to compromise'

#### Group A: Comments about Other People

- 'people are not who they are on the outside. They just portray that image 'to impress people'
- 'Our movie was a bit of a controversial topic. It affected my feelings because as we were acting out the different people in it, we realised that people act like that a lot and it felt good to bring awareness to [the] moral of the movie'
- 'It doesn't show her afterwards and how she copes because most times we don't'

#### Group A: Comments about their Context

- 'It was also a time of re-evaluating our surroundings- what was happening at this time in our lives'
- 'in some ways it was quite disheartening to know that we face these problems as pupils'

In addition to 'inside' or personal aspects of this reflection, pupils also considered the 'outside': i.e. their relation to others and their context. These comments suggest a social awareness of a potential, perceived similarity between 'self' and someone who may have previously been identified as 'other'. A new level of self- and other-awareness was clear in many pupil statements but it is of note that this awareness is also reported to have changed behaviour. When pupils from Group A were interviewed roughly nine months after the intervention they reported cognitive, perceptual and behavioural changes long after the project ended. One group created 'A Dream that Ain't Mine', focusing on parental expectations for their daughter's future, which were opposite to her own. A group member reported that recently, while arguing over a similar matter,

out of nowhere the movie we made popped into my head and I could suddenly see both sides of the story and realised that my parents had some valid points. I could see that, as a parent, they were concerned about my safety.

It changed the whole discussion and a compromise was easily reached, which, she claimed, was most unusual. Another group who created 'Masked', about coming to school with masked emotions and not revealing one's true self and challenges reported that 'putting it outside of ourselves, telling our story' made it easier to accept that most of their peers were masked as well. This resulted in reduced feelings of

isolation and an understanding that they were 'all in this together', so that there was a more mature, and kinder, perception of their peers.

### *Part 2: Unintended consequences*

Equally important as the impacts of the digital storytelling interventions are the challenges experienced and lessons learned. Four aspects are identified: the need to ensure an inclusive experience for all; managing the emotionally disruptive experience of the intervention; controlling for the effects of technically poor quality digital stories; and dealing with the challenges arising out of group work.

Control Group D (no intervention) felt ambivalent about the experience. On the surface of it they appeared accepting of the situation (most common word = 'Fine') as they knew they would make their own videos later. However, the majority of commentators expressed a sense of unfairness, isolation from peers and a sense that they had been victimised in some way: 'I was a bit irritated ... (it) looked like fun', 'I feel sad ... I felt very left out' and 'I feel very upset to be excluded from this'. As this control group was necessary for the quantitative study this situation could not be avoided, but it serves to stress the importance of ensuring inclusivity in educational interventions.

It is important that the reactions, which may be put in motion by an intervention, are appropriately managed. In this study, insufficient attention was paid to the potentially destabilising influence of the intervention on the participants' current frame of reference and their ability to manage their responses. All groups experienced this situation. Group C students reported feeling 'intimidated', 'confused', 'uneasy', 'upset and emotional'. They expressed a sense of frustration

... saying you going to believe in yourself it is easier said than done

and

the videos taught me how to handle situations but the situations that they faced (are) different from the situations that we face now.

Group B also expressed a sense of dissatisfaction when issues were raised and yet remained unresolved. This was echoed by Group A who felt the intervention did not go far enough in providing skills and coping mechanisms when issues arose during the study (see Figure 5). Participants in Group A found the pressures of group work (discussed later, Figure 6) placed pressure on existing relationships. These pupils reported that 'a Thing' inside them was 'quite different when it gets out into the open and has other people looking at it', but equally that it is not only the 'Thing' itself which may make one vulnerable but also the process by which the 'Thing' 'gets out into the open' which can make one vulnerable.

Participants in Groups A and B viewed and critiqued the digital stories produced by their peers. While this was a purposeful part of the study design intended to prompt students to think more deeply about the video they were viewing, it also resulted in a 'film-critic' styled distancing of the audience. This may have inhibited some of the participants from experiencing a personalised, immersive response to the digital story. The irritation of watching badly-made videos marred the event for many. It would appear that well-made public videos may have an equal, or greater, effect than badly-made peer videos. However, this needs to be balanced against the obvious impact experienced when they could relate to issues being expressed by their peers (Figure 4: Comments about other pupils).

All Group A pupils chose to work in groups. The making of their own digital stories raised numerous issues directly related to working in a group. These impacts influenced group members in a variety of ways, which need to be considered alongside the benefits already mentioned. As an example, there were

challenges in negotiating topics. Pupils appreciated having a range of ideas from team members but some felt strongly about their personal message and questioned if the topic related to the actual experience of any team member or represented a constructed reality. The Figure 3 word clouds clearly show the predominance of comments relating to group work. Reactions were mixed in terms of whether or not it was better to work in a group or individually. The benefits of being in a team were very clear and highly regarded but small teams complained that they had to work harder to complete, yet larger groups felt that working in a smaller team, or alone, was better (Figure 6). Opinions were divided, if being in a group of friends was better or if teams should be randomly assigned. Problems experienced included scheduling, a shared commitment to the task and reaching consensus (Figure 6).

Figure 6:  
Group A comments relating to working in groups

#### Group A: Positive Comments about Working in Groups

- 'added value'
- 'you get different ideas and ways of making one (movie)'
- 'people to help'

#### Group A: Comments about Size of Group

'Our group was small ... We did have a lot of difficulty'

vs

'I would have preferred to work in a group of 2 or if necessary alone'

#### Group A: General Comment

- 'why the group chooses that topic for the movie? Does it have anything to do with someone's personal life or maybe something they see everyday'
- 'I got to learn about the other person in my group. It showed me that most people only care for themselves'

#### Group A: Negative Comments about Working in Groups

- 'Difficult to meet as we all live within a 120km radius'
- 'We all do different extra-mural activities'
- 'other people are not always reliable'
- 'commitment was a problem! As I previously said my group didn't help'
- 'others who did not pull their weight'
- 'We also found it hard to agree on important issues like voice projection, acting etc.'
- 'the group couldn't get a good story and script'
- 'it was annoying sometimes to try and incorporate everyone's ideas even if you thought your own idea was great'
- 'get(ting) my own personal message across instead of a general thing that applies to very many people'
- 'when working with your friends you suddenly know too much about them .... and at the end you fight (and or) lose a friend but it might be for the best'

## DISCUSSION

The results of this study support many of the premises suggested by the existing literature. The use of constructivist and constructionist pedagogy, employing collaboration and visual media have led to personal reflection and changes in behaviour. This illustrates the development of critical thinking skills in numerous participants as suggested by prior studies (Cheung & Jhaveri, 2014; Kwan & Wong, 2015). The results of the study support the decision to use digital storytelling as an accessible medium for understanding others, and for self-expression. The feedback from these digital storytelling experiences shows extensive, detailed evidence of pupils reflecting on the emotions felt and questions raised by the intervention as well as how they have contextualised this in terms of their personal situation and the world in which they live. There is substantive evidence of the consideration of differing viewpoints: including views expressed by an individual, friend, group member, peer who may have previously been considered 'other', parent or other adults. The Grade 9 and 10 (14-16 years old) participants of this study have provided comments, which suggest they have reflected on, and in some instances, revised their way of thinking and behaving, illustrating the skills that are seen to represent the use of critical thinking; including reflective and reflexive

practice. The results thus show that digital storytelling is able to stimulate critical thought, deeper understanding and personal change in individuals as suggested by Ebersöhn et al. (2012). These results support the findings of those studies claiming critical thinking skills can be effectively taught to children of school-going age (Abrami et al., 2008; Cheung & Jhaveri, 2014; Kwan & Wong, 2015).

Digital storytelling is inclusive, allowing the pupil to be both the producer and the consumer of knowledge. This was clearly demonstrated in all participant groups (A, B and C). Although the teacher provided a broad topic to direct the intervention, the choice of the title 'Inside Out' appeared to provide sufficient scope without limiting pupils' choice. Pupils' sense of agency in their choice of content led to positive results. Pupils' greatest benefit appears to be derived from creating their own stories (Group A), as in Robin (2008), although there are two clear caveats from the results of this study. Firstly, if one is required to work in a group the group dynamics may negatively impact the personal outcomes experienced and; secondly, well-made public videos involving relatable characters may be equally, or more useful, than poorly-made peer videos. These situations were not explored during the study but are observations noted for further study.

In addition, the digital stories created demonstrate that students have endeavoured to communicate a specific message with their story, having a specific intent and audience, in mind. Cheung and Jhaveri (2014) suggest that videos which achieve this, rather than merely reflecting reality, represent a good example of critical thinking. Only two examples of the digital stories were presented here; namely 'A Dream that Ain't Mine' and 'Masked'. While not explored in the study, one participant even suggested that topics may have been specifically selected for the response they could elicit; querying if any team member had in fact experienced the event portrayed.

Unintended consequences of the study suggest that care must be taken to ensure no group of students feels disadvantaged in the design of an intervention. In addition, including students in the critical review of digital stories should be designed as a second-phase of an intervention to prevent it causing them to distance themselves from actually experiencing the material. This positionality may also be explained by Gee, Allen and Clinton's (2001) claim that teens in different social strata use language differently when describing their experiences. They suggest that pupils from upper middle-/upper-class families (such as those in this study), use language in a 'more abstracted and elaborated' way (Gee et al., 2001: 191). This makes it appear as if

something seems to stand between the upper middle class teens and their relationship to their language and the world. It is almost as if they have, in their heads, a map of how (they think) people, families, and institutions are related in society in terms of achieving professional (elite, specialised) success' (Gee et al., 2001: 192).

They thus appear to distance themselves from personal experiences through this 'sidelong glance' at norms. This study did not explore the reasons for this distanced stance but it may suggest that the socio-economic status of participants may play a role in the results reported by participants.

A debriefing at the end of the exercise, involving all groups, appears to be necessary to help pupils deal with: (a) inter-group tensions, (b) intragroup, interpersonal and other issues, (c) feedback on the different experiences of each group of pupils, and (d) the management of self and relationships moving forward. In South African schools, this could be achieved by collaborating with a school psychologist or 'Life Orientation' teacher (a compulsory subject equipping 'learners for meaningful and successful living in a rapidly changing and transforming society' (DoE, 2002: 4).

All pupils chose to work in groups and learning was thus socially mediated. In feedback, some did indicate; perhaps with hindsight, they would have preferred to work as individuals. Group work led to scheduling and interpersonal problems but overall pupils appeared to find the benefits of working in groups outweighed the disadvantages. This supports the tentative findings of Abrami et al. (2008) that collaboration is advantageous. The practical, social dynamics of group work appear to dominate the experiences of pupils while making the videos and thus it is suggested that teacher training in group work should be a precursor to implementing this pedagogy.

The outcomes of the study need to be contextualised in terms of the limitations of the study. In particular, the impact of the digital storytelling activity may have been influenced by the fact that these pupils simultaneously participated in a quantitative study involving standard trait emotional intelligence (EI) questionnaires.

## CONCLUSION

In conclusion, for those of 'very Little Brain' or, to be kinder, those who are going through major neurological and physiological changes in the brain's dopaminergic system during puberty, digital storytelling could be a useful pedagogical tool. Putting issues 'out into the open' and having 'other people looking at it', allows pupils to gain new perspectives. The assignment title – 'Inside Outside' – allowed for individual and group interpretations that were meaningful to the pupils and facilitated learning.

As has been explained, digital storytelling proved to be a worthwhile, empowering and educational exercise for all pupils participating in the study. There was a greater appreciation of shared issues. Participants came to feel they were not alone in experiencing their external problems such as physical abuse, peer pressure, autocratic parental expectations, boyfriend issues and schoolwork pressures as well as internal psychological ones of eating disorders, communication, identity, trust issues with parents and understanding cultural differences. They enjoyed the process and the comments showed good critical analysis. The qualitative data showed that group work provided opportunities for understanding another's point of view and proved to be a source of new ideas.

The greatest short- and long-term gains were found in the pupils that created their own digital stories. Pupils, who might sometimes be 'of very Little Brain', therefore clearly find value in putting their story 'out there'; but equally pupils who watched peer and public videos were exposed to alternate viewpoints, engaged in self-reflection, and experienced improved critical thinking skills, which could positively alter their decision-making processes. Bearing in mind the physiological and social pressures at this critical age, further research on digital storytelling in the education of the teenager is highly recommended.

There is scope for further research among boys and mixed (co-educational) schools as well as government schools, and rural schools, where both 'internal' and 'external' experiences could differ significantly from those experienced by the pupils from the school in this study. As this research is based in South Africa, it would be fruitful to determine whether there are any similarities with schools in other countries.

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