



The impact of using programming language as a storytelling tool on the development of social responsibility in Grade 10 boys

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Further Information

This poster and further information is available at <http://www.theibsc.org/>

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Introduction

When boys are programming in Java, they are meaningfully engaged with the skills needed to achieve a specific goal which gives them immediate gratification if their program runs and a particular result is achieved. Environmental education falls within a theoretical component of the syllabus and the boys have historically seen this as an issue that affects other people, but not them. Since they can easily distance themselves from the content, they have often been disengaged.

Robin (2008) indicates that if learners can incorporate personal stories or experiences into the digital story they relate better to the content and “can draw connections with the content” (p. 225-226).

The Research Question

How does using a programming language as a tool for storytelling impact the development of social responsibility in Grade 10 boys?

Research Context and Participants

St Stithians Boys' College is located in Sandton, South Africa and enrolls approximately 760 boys. Information Technology is an optional subject for Grades 10, 11 and 12. This action research project was conducted with 23 students from Grade 10 during the last term of the academic year.

The Research Action

I designed the research task with the hope of changing the way the boys looked at social and environmental responsibility. The boys were first given subsections of the content to research. They then developed a story through the mechanism of a programming language; these stories provided an opportunity to tell their stories and have their voices heard. This process involved considerable introspection and discussion.

Data Collection and Analysis

Data were collected using primarily qualitative methods. These included:

- Baseline survey
- Video interviews
- Field notes
- Learner reflections
- Peer interviews
- Exit forms

Using several data collection methods ensured trustworthiness and consistency in the data. I coded and categorised themes to establish connections between data and the research question, including conflicting or contradictory data. This process enabled the development of general conclusions and observations to answer the research question.

Key Findings and Discussion

The Challenges of Balancing Programming with Storytelling Content

Transferring feelings and thoughts into programming code meant that the boys had to pause and reflect on the type of language they used and the way in which they elected to tell that part of their story. The level of programming at this stage of school curriculum was one of the limiting factors in the storytelling. The boys did, however, find ways around their lack of programming skills.

An Increased Understanding of Social Responsibility

Through the course of the project, the boys began to realise that programming language could be used to spread important messages. One of the key issues revealed through the process of the research was that most boys thought that people did not understand what role they could play in being socially and environmentally responsible.

Social Responsibility Extended Beyond the Programming Task

Determining if the boys were prepared to get involved in environmental and social projects was perhaps the most exciting result. It was pleasing to note that many different levels of actions were identified by the boys as a collective.

Programming Kept Boys Engaged and Resilient

When the boys were unable to get the programmed code to work, they had to adjust their approach many times and relook at how they wanted to tell their story.

Conclusions

The boys realised that they were not as socially and environmentally aware as they initially thought. This was partly because they did not realise the different dimensions of social awareness. Their newfound interest and curiosity prompted them to consider potential projects in the school and the community, including:

- Incorporating an environmental responsibility project in the house points system and using incentives to “gamify” this process.
- Encouraging the local government council to run competitions in local communities to improve environmental and social responsibility.
- Suggesting that social and environmental responsibility themes become incorporated into all school learning.
- Joining the school environmental committee in order to be more influential in improving social and environmental responsibility in our school.

Key Readings

- Hansen, A., Iveland, A., Dwyer, H., Harlow, D., and Franklin, D. (2015). Programming digital stories and how-to animations. *Science and Children*, 53(3), 60-64. Retrieved from <http://www.jstor.org/stable/43692231>.
- Lederman, J., Gnanakkan, D., Bartels, S., and Lederman, N. (2015). The e-mail lab: Teaching nature of science and science practices through story construction. *The Science Teacher*, 82(6), 57-61. Retrieved from <http://www.jstor.org/stable/43683289>
- Robin, B. (2008). Digital Storytelling: A powerful technology tool for the 21st century classroom. Retrieved from http://desarrollodocente.uc.cl/images/Innovaci%C3%B3n/Storytelling/Digital_Storytelling_A_Powerful_Technology_Tool_f.pdf

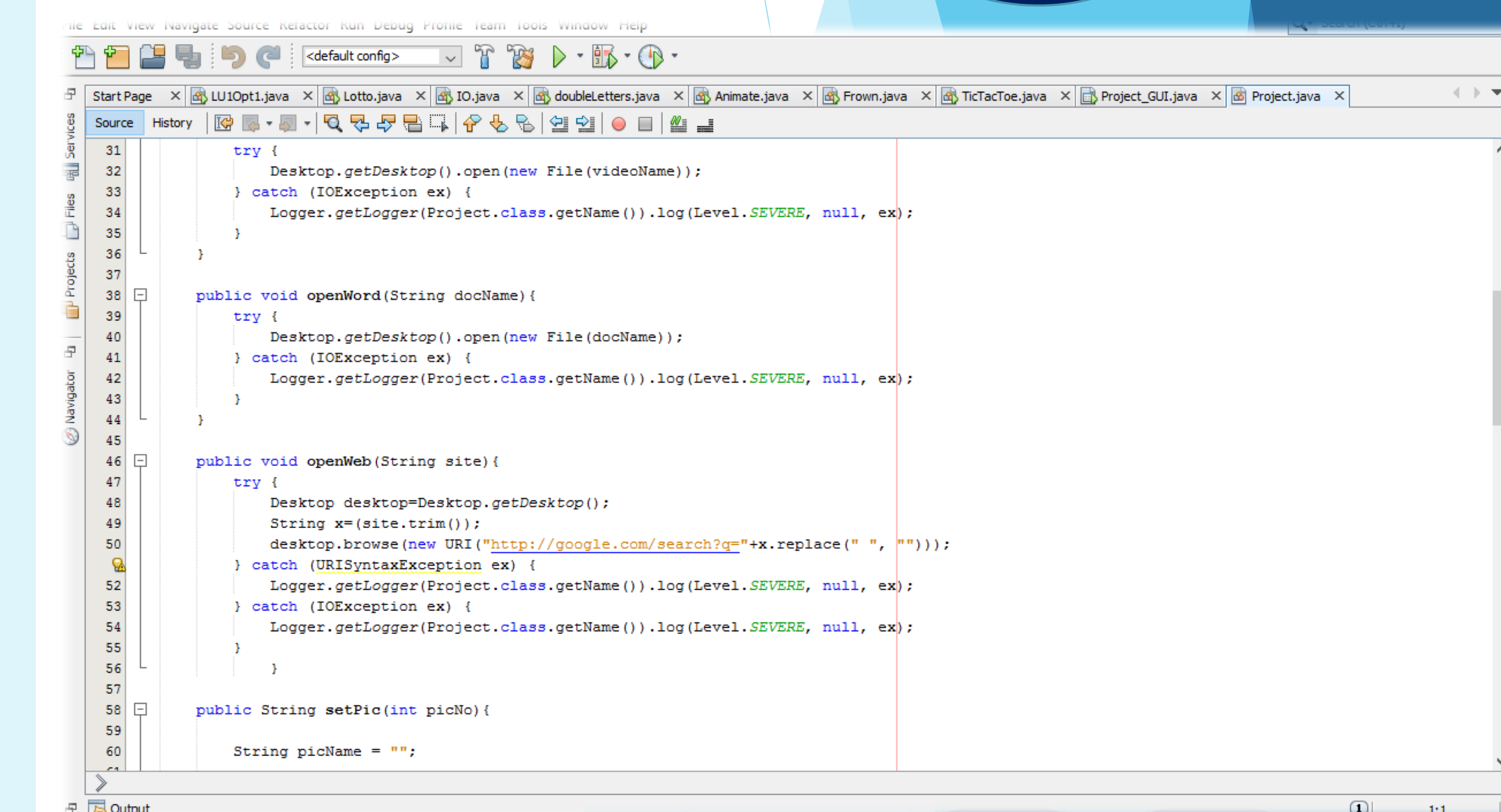


“Lack of information leads to lack of responsibility.”

I felt guilt because I may be causing the problem.”

“...kept it interesting”

“It allowed everyone to do things differently.”



“You have to plan... and make sure it all fits together even when it was not working to plan.”



Scan this QR code to watch a video trailer of my research project.