Trial and Error Student Science Blog: Building a supportive community amongst students aspiring towards being research scientists

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Abstract: Trial & Error is a student science research blog with the goal of being a supportive platform for young student researchers aspiring towards a field in STEM. Blog posts include students communicating their research projects and reflecting on the failures encountered during project implementation and how these failures were overcome. Submission requests were given to over 30 middle and high school science teachers across the state of Iowa. Individual personalized requests were also sent out to award winners of the 2016 and 2017 State Science and Technology Fair of Iowa (SSTFI), the Iowa Junior Science and Humanities Conference (IJSHS), the Iowa Junior Academy of Science Conference (IJAS) and regional science fairs across Iowa. Social media websites Facebook and Twitter were also created to advertise the blog. Cash prizes were given to the top three blog posts and a total of six blog posts were submitted. By the end of April, the site got a total of 200 unique visitors and an average of 439 page views per week. In the future, the blog hopes to increase readership and contributors by continuing advertisement at regional and state high school research competitions and expanding awareness at national and international high school research competitions.

Narrative: Failure is an unavoidable aspect of research. Innovative and novel ideas often arise from persisting through the trail and tribulations in project implementation. As a young researcher aspiring towards a field in STEM, it is easy to fall into a trap of feeling alone and isolated when working on a research project. Having to undergo the trials and tribulations of research while often the youngest or least experienced person in the lab can be intimidating. A community of young and motivated researchers in the same situation may provide a sense of support to keep persisting through failures in research.

The Trial and Error Blog was created with the goal of creating a supportive online community amongst young aspiring researchers. The blog not only aims to provide a supportive community but also encourages self-reflection, practicing research communication and writing skills and broadening participation and interest in STEM. The age range of the target audience for the blog was middle school to high school students aspiring towards being research scientists.

In project implementation, the weebly website design software was used to build the blog website. Canva.com design software was used to design the logos and for branding of the blog and a google account under the blog’s name was created in order to receive submissions. Cheerful and vibrant colors were picked for the blog in order to attract readership and contributions from young readers. A competition was established in order to encourage contributors to the blog with cash prizes given to the top three blog posts. Requirements for what to include in a blog post was standardized and was included in the “about” section of the blog.

In order to advertise the blog, a competition flyer was created and distributed to over 30 high school science teachers across the state of Iowa through email. The flyer was also distributed to high school and middle research competitions across the state including the
State Science and Technology Fair of Iowa, The Iowa Junior Academy of Science, The Iowa Junior Science and Humanities Symposium and regional science fairs across Iowa. Personalized invitations to submit to the blog were given to the winners of these competitions through email. Social media accounts, Facebook and Twitter, were created for the blog to further increase awareness. I was also able to go to some middle school science classrooms with 18-20 students per classroom to spread awareness about the blog.

At first the blog was meant to be participation based, but I decided to create a blog competition in order to increase the number of contributors. I realized that adding a competition and cash prize increased submissions and interest. Project partners for the blog included the State Science and Technology Fair of Iowa, Iowa Junior Science Humanities Symposium, Iowa Junior Academy of Science, regional science fairs and high school science teachers across the state of Iowa.

When looking at the project impact, a total of six submissions were accepted to the blog. By the end of April, the blog had around 480 views/week and had a total of 200 unique visitors. Writing the blog posts pushed students to reflect about their research and practice their research communication and writing skills. The blog posts will hopefully inspire other students to pursue a career in STEM and increase science literacy. I have learned through this project that when starting a blog it is important to start early advertisement for submissions and when building partnerships. Perhaps more blog posts would have been submitted if the advertisement for submitting were started early.

In the future, the blog hopes to increase its contributors by spreading awareness at national and international high school science research competitions like the Intel International Science and Engineering Fair, National Junior Science and Humanities Symposium, and American Junior Academy of Science. The long time goal of the blog is to ultimately create a global supportive community amongst young aspiring research scientists.
WHAT IS IT?
A COLLECTION OF STUDENT NARRATIVES CHRONICLING THE TRIAL AND ERROR PROCESS OF CONDUCTING RESEARCH

GOAL:
To create a supportive community amongst young budding researchers and scientists aspiring towards careers in STEM. Research, in any field, can be hard and frustrating and the collection of narratives on this blog are here to comfort budding researchers and scientists that they are not alone in their research struggles. This blog was created to host a safe place to reflect on failure in research and how to overcome obstacles during project implementation. We hope the trial
I'm Owen Scott, from Clive, Iowa. I am 13 years old and go to Wake Middle School.

*I've always loved science, because I've always wanted to understand what, why and how.*

Why does the Earth spin? Why are there waves? How do computers work? How do rockets work? Can I build one? How do people program things? What is a black hole? The list goes on and on. I got involved with STEM because of a robotics club that my friend's dad started. We competed in First Lego League (FLL) for three years, won best in state twice, as well as a project innovation award.

Blog Website: [http://trialanderror56.weebly.com/](http://trialanderror56.weebly.com/)