How to Succeed at Failing

Aside from being a learning technologist a big interest of mine is American football (Philadelphia Eagles fan). As you might imagine its very rare that these two aspects of my life coincide but something about the end of the Super Bowl stood out to me. In a speech just after the win Nick Foles, the Eagles quarterback, mentioned something that I believe to be very important both in life and in learning.

"I think the big thing is don't be afraid to fail," Foles said. **"When you look at it, you have a bad day, you think your life isn't as good, you're failing. Failure is a part of life. It's a part of building character and growing. Without failure, who would you be? I wouldn't be up here if I hadn't fallen thousands of times, made mistakes. We all are human. We all have weaknesses."**

Failure has traditionally had something of a bad reputation, something to be avoided at all costs, but there has been a growing idea that failure is a key part of the learning process (see list below). If you don't fail you won't grow, you won't learn what your current limits are and you aren't going to develop your skillset. Failing also builds resilience, which is something that employers are increasingly interested in, having employees that can deal with setbacks and carry on working creatively to solve a problem is a great asset.

Today, however, I want to talk specifically about how we can use Jupyter notebooks as a place to fail in a positive way. For those who haven't heard of these, I've done a brief introduction here. One of the most useful parts of notebooks is being able to immediately see the output from your code cells. This allows you to 'fail fast', quickly trying something and then adjusting based on the outcomes. By repeatedly trying something and adjusting every time you build

resilience and start to learn how to adapt your skills to a situation.

The next part we need to talk about is how we document failure. I don't mean making students wear dunce caps but I do think it's important to detail the steps you went through even if you ended up failing. Early on in school I was always told 'show your working' which I definitely didn't do but now I understand the importance of the concept. Getting a question wrong on a test doesn't necessarily show me what you don't know but understanding how or why you got it wrong certainly does. Showing that you have failed, tried again and then succeeded shows me even more.

I'm interested to hear your opinions on this, as an academic do you think it is helpful to have students include their failed attempts or would it make marking more difficult? Add your comments below.

List of Failures

Failure Is Essential to Learning – Edutopia 2015

Stanford Resilience Project

The Importance of Failure in Learning – ironically a failed attempt to introduce failure

Is Failure Useful – a bit off piste about failure in museums but worth a read

Innovation: Learning from Failure – An interesting insight into the tech industry's embrace of failure

Hello World

It's alive! ALIIIVEE!!!! [Cackles manically as thunderclaps in the background] The Noteable service is alive, up and running, ready for action. Okay so actually it was technically alive last year as people just couldn't wait that long but now it's official. In brief, the Noteable service is a cloud-based service providing Jupyter notebooks. If you haven't come across computational notebooks before then I've written a brief explainer Here. We are now into the pilot phase of this project, looking into the benefits (and cost) of providing a centrally supported cloud-based notebook service. Whilst Notebooks have implications for many different areas, we are specifically interested in the benefits within learning and teaching. I've copied in the scope section of the project draft so that you can get more of an idea of the main aims of this pilot.

Scope

- To assess the pedagogic impact of using notebooks to introduce programming concepts.
- To assess the desire and need for a centrally support notebooks service within the University of Edinburgh
- To assess the use of Jupyter notebooks for creating OER materials
- To assess the running cost of supplying this service within the University of Edinburgh
- Work with EDiNA to develop a development plan for the Noteable service to incorporate service improvements and feature requests

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Sounds easy enough right? Generally, as a learning

technologist, you have your hand snapped off when you offer up a new service that people are interested in but the important work will be quantifying the impact offering this has and comparing it with what it costs the University to provide. There's a small bonus part in here that I am particularly interested in, OERs, I think that notebooks make a great basis for OERs. They can be easily shared via Binder or nbviewer and they can be easily aligned with the 5 Rs. I'll be trying to blog about this rather regularly, either working with Edinburgh academics to publish OERs or pointing out interesting existing resources.

Computational notebooks have been growing in use for a variety of uses in recent years, especially within HE institutions but this has created something of a quandary (or at least an opportunity). A lot of Jupyter notebooks use currently seems to be based around individual academics or small teams working to deliver their own material in their own way, there is little in the way of central support. This bit is where Noteable comes in, developed by EDINA, this is a centrally support service at the University of Edinburgh to provide notebooks. The idea is first to provide the service so that users have access to notebooks online, my part is to then make sure that users have the support they need to integrate these into their teaching. Alongside this, we want to create and promote a community of notebook users and publicise their uses to get more people involved. Some people will have come across notebooks before and are already using them in interesting ways but there are a lot more people who could start to use them if supported in the right way and that's what I'm here for.

If you are a member of staff and are interested in using the service then get in touch. If you have stumbled in here from the wilds of the general internet then watch this space, I'll keep you posted.