Using stories to improve learners' persistence

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Context

The research was undertaken in Reading College. Reading College is a vibrant general further education (FE) college situated in Reading, Berkshire and is part of Activate Learning which aims to transform lives through learning. The college has a broad range of curriculum areas that commonly aim to enable students to go further than simply gaining a qualification. The engineering department offers full time programmes at level 2 and 3 in general engineering and Higher Education (HE) and apprenticeships in electrical/electronic and mechanical engineering disciplines. There are more than 200 students enrolled within engineering at Reading College. Most full time and part time (apprentices) undertake BTEC as their study programme where students learn a range of practical skills and theoretical principles in relation to criterion referencing against the assessment criteria.

My role within Reading College is to teach mathematics to BTEC Engineering learners. In particular, the learners in this research are composed of 8 BTEC Level 3 Engineering learners. The learners are currently studying for the qualification part-time and are working in various engineering companies as apprentices.

The Problem

Persistence is often the difference between those who makes it and those who don't. Learning key engineering skills is difficult, it is a challenge for most learners. Those that possess persistence will often overcome these difficulties and achieve the valuable skills required to be an engineer. Those that give up at the first sign of trouble never stick with the subject long enough to develop these skills.

Too many learners don't understand that valuable skills are valuable because they are difficult to learn. As a result, the focus of this particular research was on developing persistence and deliberate practice.

Due to unforeseen circumstances, the group I'm focussing on had 2 changes in teaching staff through the year. This led to low group morale and lack of trust in the college. As a

result, the learners in this group had a tendency to blame the college. For example, should the learners run into a difficult problem, they are quick to blame the teacher for not teaching them the material well enough.

I have thus chosen this group in order to help them develop persistence and take control of their own problem instead of blaming others.

Review of Current Practice and Literature

There has been a lot of research on the science of success. The majority of research indicates that the biggest factors contributing towards success are people's mindset and personal values. Therefore, in order to give our learners the best chance for success, we need to develop our learners' mindset.

Dweck (2006) showed that people can be placed on a continuum of fixed and growth mindset. Those with growth mindset embrace challenges and learn from criticism. They have more persistence because they believe they can overcome their problems and through this persistence, they improve their abilities and ultimately become more successful. Dweck also demonstrated that mindsets can be changed and developed.

Based on Dweck's findings, Gladwell (2008) has found that in order to be successful in any pursuit, deliberate practice needs to be exercised. What is perceived by other people as talent is often the result of over 10000 hours of persistent practice.

Studies done by Duckworth et al. (2007) found that 'grit' is one of most significant predictor of success over social intelligence, looks, health and IQ. Grit is defined as 'perseverance and passion for long-term goals' and is associated with concepts such as persistence, resilience and ambition.

In conclusion, this research all points towards persistence and resilience as a key attribute for success. As a result, they formed the basis for this my research.

My Research Question

My action research question is as follows:

'If I introduce stories of successful people who overcame adversity, will my learners persist at difficult problems?'

The Project

Research

Initial data was collected using Self Report (Appendix 1). Students had to rate from 1 to 5 whether they agree with statements relating to persistence.

Further data was collected through teacher observation during lessons.

The final data collected using the same report so that the data can be compared. There is a difference where learners were asked to comment on their thoughts regarding the research and whether they found it useful to their learning.

Action

Stories regarding people who overcame difficulties were handed out every lesson and learners were given around 5 minutes to read the article. The stories mainly focussed on engineers and scientists (e.g. Dyson) in order to be more relevant to the learners in question.

After learners finish reading the article, they are then asked to think about what lessons they can draw from the articles.

Findings

The result of the research were obtained through learners' self-assessment where they had to grade themselves from 1 to 5 based on how much they agree with the statements listed on the assessment.

The result from the initial and final assessment has been collated and the difference between the two taken. A positive number indicate the learner graded themselves to be more persistent compared to the initial assessment. A negative number indicate the learner graded themselves to be less persistent.

The results are below:

Student	1	2	3	4	5	6	7	8
Point(s) difference between assessment	1	-1	2	1	0	-1	4	1

Learner Self Assessment Points Change
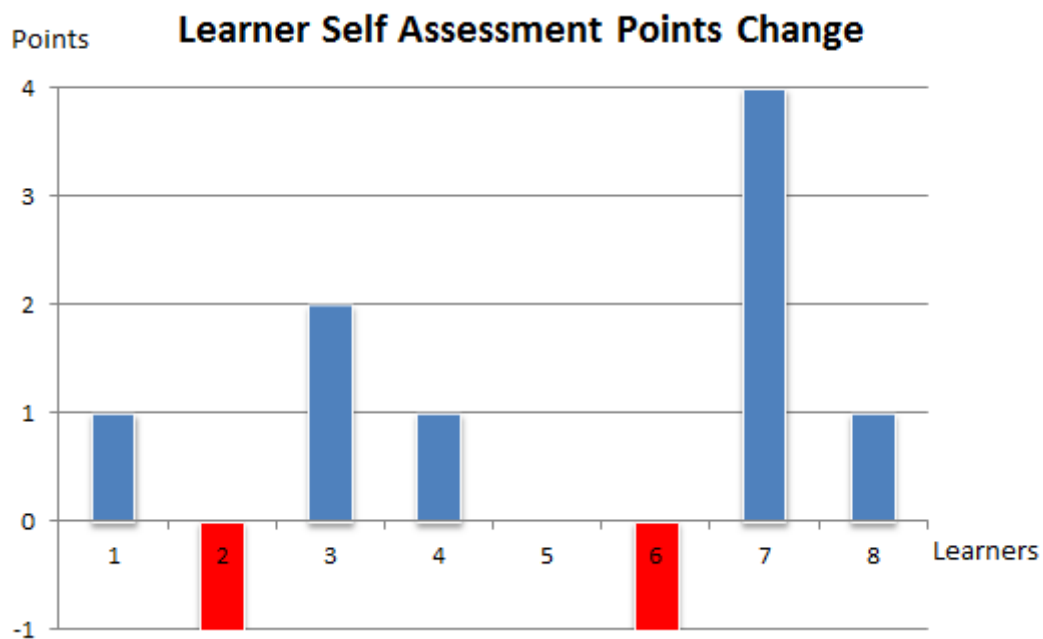
The result shows that the majority of learners have rated themselves to be more persistent and hardworking compared to before. This shows that the intervention has improved the learners' mindsets.

Most learners did not make a comment regarding their thoughts on the stories shared.

There are two important points to note about this data.

Number one is that most learners' point change was very small. The learners were asked to rate themselves on a total of 6 questions. A one point change in rating could easily have been caused by outlier circumstances such as the learners' mood on the day. Despite the small increase in points, learner 4 commented saying he did not think the stories helped.

Part of this small change could be caused by the limited scale. A scale from 1 to 5 makes it very difficult to document small changes in learners' rating. Some learners who may have progressed from 3 to 3.5 may still mark themselves as a 3 thereby showing no improvement.

The second thing to note is the fact that two learners have shown a decrease in points. Despite the decrease, both learners commented saying they found the stories used in the invention to be helpful for their learning. Therefore a possible explanation for this decrease could be that because the learners did not have access to their original self-assessment, their standards have changed. They may have simply moved the goalpost of what they perceived to be a 5 in persistence.

Of course, another explanation for the decrease lies in the fact that the decrease is small. Therefore it would have the same issues as those raised in point one.

In regards to general observation of learners, I have found the following

1. Learners stayed on tasks for much longer in lessons
2. Learners have stopped relying on me as the sole resource for help.

Learners staying on task for longer may show that the intervention was effective. Equally, it could be caused by the end of year deadline. Many learners may suddenly realise that they need to put in more work in order to get assignments handed in on time in order to complete their qualification.

Learner independence on the other hand is an encouraging observation. Logically, as learners get to the end of the year they will seek more help in order to finish their work. However, by going against this and becoming more independent, it shows that the intervention has made an effect on the learners.

Lessons Learned and Next Steps

I would like to undertake the research again where learners were given the stories over a longer period of time to not only to give the learners more time to assimilate the articles but also to eliminate discrepancies caused by various deadlines.

An improvement to the intervention would be to structure the order which the articles were given. An idea is to start with stories regarding persistence, move onto deliberate practice and finish with psychology articles on mindset and GRIT. This method allows the articles to build on each other and improve the retention among learners.

A change in this research would be to give the learners time to think, write down and discuss what they thought was the important lessons from the article. This was not incorporated in the original research as I didn't want to 'push' the learners to a conclusion as this often pushes the learners in the other direction. However by not giving the learners the opportunity to discuss, the lessons learnt from the articles are easily forgotten.

More evidence for the intervention needs to be taken. With more time, I would like to plan various timed activities in order to collect more objective and quantitative data on learner persistence. I would also like to keep track of assignment hand in dates as whether a

learner hands an assignment in on time indicates whether they persisted with the assignment questions or just simply given up.

The self-assessment should also have a larger scale in order to measure small changes in learners' attitude and mindset. The self-assessment should be given out throughout the intervention to provide a better look of the learners' progress and will eliminate any discrepancies caused by extenuating circumstances. Finally, an observation grid should be used in order to obtain more objective observation data.

References

Duckwork, A., Peterson, C., Matthews, M., Kelly, D., (2007) *Grit: Perseverance and passion for long-term goals*. **92**(6), pp.1087-1100
Dweck, C. (2006) Mindset: *The new psychology of success.* New York: Random House
Gladwell, M. (2008) Outliers: *The Story of Success*. New York: Little, Brown and Company

Appendix 1:   Initial self-assessment

Name: _____

Please state whether you agree with the following statements

1 being strongly disagree
5 being strongly agree

I work hard and practise to get better, even when it's tricky	1	2	3	4	5
I enjoy a challenge	1	2	3	4	5
When something is difficult, I work hard to overcome any difficulty	1	2	3	4	5
I believe in hard work and practice more than innate abilities	1	2	3	4	5
I don't give up when I'm faced with a hard task	1	2	3	4	5

Appendix 2:   Final self-assessment

Name: _____

Please state whether you agree with the following statements

1 being strongly disagree
5 being strongly agree

I work hard and practise to get better, even when it's tricky	1	2	3	4	5
I enjoy a challenge	1	2	3	4	5
When something is difficult, I work hard to overcome any difficulty	1	2	3	4	5
I believe in hard work and practice more than innate abilities	1	2	3	4	5
I don't give up when I'm faced with a hard task	1	2	3	4	5

Please make a comment regarding how you feel the stories have affected you