Intrinsic, Extrinsic – Let's Call the Whole Thing Off

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(Originally published in the Home Education Journal Issue 15)

Autonomous education is often criticised, by those who don't understand it, or perhaps by those who simply don't approve of it in principle, as lacking rigour and academic underpinning, largely because they have not taken the time to research the literature.

The basic concept behind autonomous education is that of intrinsic motivation over extrinsic motivation. An internet search will find many thousands of favourable references to intrinsic motivation in the academic literature, going as far back as the nineteenth century. The great polymath Karl Popper famously pointed out that people learn most effectively when the learning is of functional interest to the student, a core argument behind intrinsic motivational theory. For the best part of half a century, intrinsic motivational theory is a cornerstone of modern industrial relations and managerial sciences.

The basis of the theory is that offering rewards not only fails to motivate someone to continue an activity, but may well remove the motivation to continue the task. To examine this idea, a team led by Mark Lepper of Stanford University, California, had children aged between 3 and 5 draw with felt-tip pens. Some were told they would receive a ribbon as a prize while others were not offered a reward.

Those children offered a reward were found to be less likely to draw when they were later offered a choice of activities. No similar effect was seen with children who were not offered a reward.[1]

There are three elements to this experiment:

- activity A – drawing.
- activity B – the choice of activities offered later
- the extrinsic reward.

The experiment showed that children who undertook activity A and were offered *no* reward evaluated the pros and cons of undertaking activity B against the pros and cons of continuing with activity A; children who *were* offered a reward evaluated the pros and cons of switching to activity B *exclusively* against the pros and cons of receiving the reward.

For children offered a reward, the benefits of activity A did not enter into the equation. Had it done so, one would expect to see more rather than fewer children continue to undertake activity A after the offer of activity B than did so when a reward was not offered, since they were not only going to continue the fun activity but were also going to be rewarded for doing so.

This suggests that offering an extrinsic reward can stop people continuing an activity for the sake of the activity itself, an idea known to psychologists as 'the over-justification effect'. The child focuses on the reward rather than the task. In short, the children behaved

irrationally by failing to take into account all the benefits of each option. This same result has been observed with adult decision making.

When applied to a learning environment, students concentrate not on the subject being learned but on the reward of a good exam mark at the end of the course. Once the examination is taken, the knowledge attained no longer has any relevance and is therefore forgotten.

The teaching profession is currently concerned about knowledge being lost by pupils during the summer vacation. To tackle this they want to cut the summer break short. This completely misses the point as it fails to address the question of why children would retain knowledge when they have no further requirement to hold on to it.

When someone gains knowledge or skills, the brain creates new connections between neurons called axons. When we use the knowledge, these connections become stronger and the axon become thicker so as to carry a stronger signal. If, on the other hand, a person learns something and then doesn't use it the connections associated with it wither away. Therefore, if teachers want pupils to hold on to knowledge over the summer break, the answer is not to cut the summer break but to make their offerings more relevant to their pupils' lives.

Extrinsic motivation fails to provide adequate motivation to retain learning beyond the examination, which was the reason (in the student's mind) for undertaking the task.

Intrinsically motivated students however, by the very fact that they are studying something for its own benefit, will retain the knowledge gained for as long as there is a reason for them to do so. Since the student undertook to learn something for a personal reason, one might conclude that the knowledge gained would be retained in the long term.

Extrinsic motivation is akin to bribing someone to undertake a task: it will be abandoned once the reward is gained, even where the activity is of benefit to the 'victim' of the bribe. On the other hand, with intrinsic motivation, the knowledge gained is itself the reward.

Another useful way of phrasing this is to say that being offered a reward is a barrier to the student owning the learning experience as it alienates the student from the direct benefits of undertaking learning for and of itself.

If this is true, one could extend the argument to other factors that might also alienate the student. Autonomous home educators argue that, for intrinsic motivational theory to work, the student must have control over all aspects over the learning experience. Where, what and how the education is delivered must be under the control of the student to ensure that the whole experience is owned by the student allowing nothing to alienate the student from the learning opportunity.

[1] 'Undermining Children's Intrinsic Interest with Extrinsic Reward', *Journal of Personality and Social Psychology*, 1973, vol. 28, p. 129, reported in *The New Scientist*, 9 April 2011, p. 40.