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Uncovering the Treasure of Self-Directed Learning

W. Alex Foxworthy and William “Bill” McCarter

ABSTRACT

Self-directed learning enables students to take charge of their educational journey by selecting their own paths, thereby fostering intrinsic motivation. Traditional educational models often rely on extrinsic motivators like grades and rewards, whereas self-directed approaches emphasize personal satisfaction and curiosity. Review of existing research highlights how extrinsic rewards can undermine intrinsic motivation, leading to decreased academic performance and well-being. Herein we also present practical examples from classroom settings, demonstrating how real-world applications and student-led investigations can enhance engagement and learning outcomes. Additionally, we address the role of digital platforms in facilitating self-directed learning while noting the challenges of information reliability. Our research review and classroom experiences suggest that fostering intrinsic motivation through self-directed learning not only improves academic performance but also contributes to broader educational success and personal growth. Ultimately, this work advocates for a shift towards educational environments that support students’ natural propensity for exploration and self-driven inquiry, creating lifelong learners who are passionate and engaged in their educational pursuits.

Introduction

Living and teaching on Virginia’s Eastern Shore offers a unique charm, with its tales of pirates and buried treasures adding a touch of mystery to the landscape. One intriguing legend suggests that Blackbeard, the infamous pirate, was married to a woman from Assateague Island, a place he frequented when on the run. According to recent lore, his treasure might still lie hidden on that very island (Mariner, 2024). These legends, much like the treasure hunts they inspire, can serve as powerful metaphors for education.

In the realm of education, the journey of meaningful learning often mirrors a treasure hunt—where the pursuit and discovery of knowledge are as crucial as the knowledge itself. Authentic, self-directed learning – a concept championed by educational theorists like John Dewey (1986) is akin to embarking on a treasure hunt where students have a say in choosing both the treasure and the path to find it.

The Quest for External Validation

Self-directed learning is defined as a process where learners control the conceptualization, design, conduct, and evaluation of their educational projects (Brookfield, 2009). It represents a shift from traditional, factory-model classrooms to environments where students take charge of their own learning experiences. This approach emphasizes intrinsic motivation, which is the drive to engage in an activity because it is inherently satisfying, as opposed to extrinsic motivation, which relies on external rewards such as grades, accolades or punishments.

Research has shown that over-reliance on extrinsic motivators can undermine intrinsic motivation, leading to decreased academic performance and overall well-being. This phenomenon has been documented since the 1970s and is supported by a variety of studies (Ryan & Deci, 2017). When education becomes a

quest for external validation rather than personal satisfaction, students may lose their natural curiosity and enthusiasm. One of the most well-known studies of the deleterious effects of external rewards on intrinsic motivation took place in a Stanford study of preschool students. In the study, researchers gave preschool children a drawing task. Some students were told they would receive an award for completing a drawing while others did the same activity with no mention of an award. Several days later, the children were given a free-choice period in which they could choose to draw or engage in several other interesting activities. Children who had received the award spent significantly less time drawing than those children who had not received the reward (Lepper et al., 1973). Similar findings have confirmed the undermining effect of external rewards on intrinsic motivation across all age groups, cultures and in a variety of school, work, home and other settings (reviewed in Ryan & Deci, 2017). If there is little intrinsic motivation for learning and no inherent interest and excitement in what is going on in the classroom, academic achievement and student wellness suffer (Gottfried et al., 2008). In fact, research shows that intrinsic motivation often declines over the school years, partly due to a failure to engage with students' intrinsic interests (Gillet et al., 2012; Harter, 1981; Lepper et al., 2005).

Treasure Map: Intrinsic, Self-Directed Approach

The analogy of a treasure map illustrates this concept well. Traditional education can be likened to drawing a meticulous treasure map, but without the adventure of exploration, the treasure remains elusive. In the context of writing instruction, for example, the "treasure" is the ability to effectively use words, phrases, and punctuation. Students can discover and master these tools in everyday life—on cereal boxes, funeral bulletins, and other mundane items—by paying attention to and engaging with their environment. In the sciences, we often prescribe reading materials and laboratory experiences that emphasize rote learning of previously established facts. One of the joys of the scientific method is experiencing exploration of new frontiers and the testing of novel hypotheses. To quote Carl Sagan, “Every kid starts out as a natural-born scientist, and then we beat it out of them. A few trickle through the system with their wonder and enthusiasm for science intact” (*Carl Sagan Psychology Today*, 1996).

An intrinsic, self-directed approach to learning empowers students to see themselves as professional writers, scientists, or historians (or whatever subject the student is learning) and will make them more likely to engage with classroom taught tools in their daily lives. The instructor's role then shifts to one of guiding and supporting rather than dictating. Students can bring their discoveries and questions to class or online forums, not for grades or praise, but for the pure joy of learning and exploring.

Several anecdotes from our classrooms highlight the impact of this approach. One student brought a cereal box to class, having identified grammatical elements in its text. Another student texted a comma-related question from a funeral bulletin. These instances exemplify how real-world encounters with writing can be

transformed into learning opportunities when students are intrinsically motivated. In a microbiology class, students worked to capture and identify airborne bacteria throughout our academic building. In general biology, students tested water samples from our back pond to attempt to identify the cause of a severe spring-time algal bloom that killed many of our fish. Another cohort of biology students is currently involved in measuring the prevalence of airborne tire particles on our campus grounds and in our buildings. In these cases, the answers to the student investigations were not already known – they were exploring frontiers of information and their explorations were relevant to their lives and interests. These approaches foster an understanding of the real-world applicability of the scientific method and empower students to gain confidence in applying this method to the world around them.

One seemingly ubiquitous feature of modern education is the availability of online classes. The virtual classroom offers an ideal setting for self-directed learning. Digital platforms can facilitate connections and inspire intrinsic motivation, though they also present challenges such as ensuring the reliability and context of information. Wikipedia, social media, AI platforms and search engines like Google have become the self-directed informational playground for the world, but their use often comes without context and in too many situations without verified information. Modern educators must navigate these challenges while cultivating an environment that supports intrinsic motivation, critical thinking, and information literacy.

To best serve our students, research shows that when learning environments are supportive of students' intrinsic motivation and psychological needs – well-being and high-quality learning are likely to result (see Reeve et al., 2008 for a review). When teachers make an effort to understand and relate to students' perspectives, they can provide students with opportunities to take initiative in their own learning and to seek information that is in line with their own interests. When humans are healthy and not experiencing immediate physical need, they have a propensity to seek out novelty and challenges, to explore new environments, and to gain competence in new skills (Deci & Moller, 2005; Kashdan et al., 2004; Ryan & Deci, 2013; Silvia, 2006). This is the natural human condition and has aided in our survival for many thousands of years – we should aim to take advantage of the natural human propensity to learn and explore rather than emphasizing rote memorization and rigid patterns of thought to achieve scores on assignments and standardized exams.

Even relatively small changes in the organization of our courses can have large positive effects on student motivation. For example, Skinner, Chi, and the Learning-Gardens Educational Association (Skinner et al., 2012) implemented a gardening program in a middle school and found, perhaps not unsurprisingly, that the students who felt more competent, autonomous, and intrinsically motivated while working in the garden learned more about gardening. However, what is more surprising is that these students also performed better in their regular classroom courses, suggesting that this intervention to increase intrinsic motivation and student interest had a generalized effect on the broader school experience. Follow-up studies showed that students

who had been a part of the garden-based learning program experienced a substantial decrease in school failure, school dropout, and disruptive behaviors, while also showing an increase in skills and self-confidence (Ruiz-Gallardo et al., 2013). This suggests that enhancing intrinsic motivation can have far-reaching effects beyond the immediate learning context.

Conclusion

Ultimately, the challenge is not whether to foster intrinsic motivation but how to implement it effectively across different disciplines and learning environments. Students accustomed to extrinsic models may initially resist the open-ended nature of self-directed learning. However, the benefits are clear: students who are intrinsically motivated are more likely to engage deeply with their studies and achieve better outcomes.

In conclusion, fostering intrinsic motivation and self-directed learning can transform the educational experience. By encouraging students to explore their own interests and pursue knowledge for its own sake, educators can help them uncover their own "treasures" of learning. The role of the instructor is to model this process, creating lifelong learners who continue their educational journey with curiosity and enthusiasm.

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