



The Self-Perceived Influence of Jane Austen on STEM Students

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THANKS TO THE BICENTENNIAL CELEBRATIONS of Jane Austen's works occurring from 2011 – 2017, there has been a revival of interest in the author. This has been manifested in the publication of spin-offs of Austen's work, both on printing presses and on the silver screen. As Austen has surged in popularity in the public's eye, scholarly interest in her works has also peaked. Multiple studies were conducted on how readers have been influenced by Austen and Austen retellings, how Hollywood has influenced the way people read Jane Austen, and how authors are being inspired by her stories and characters (Coldwell; Gevirtz; Sadoff; Robben). However, in these studies, one demographic has been glaringly ignored by all researchers: those people who rarely, if ever, read or engage in activities related to English studies. More specifically, the demographic of those college STEM (Science, Technology, Engineering and Mathematics) majors has been completely ignored. Considering that approximately one out of every three college students is enrolled in a STEM program ("More Students Earning STEM Degrees, Report Shows"), this gap can even seem unintentionally biased. After all, understanding the entire population of the upcoming generation is key to giving English teachers the knowledge they need to better educate their students. In a study conducted among STEM majors studying at Brigham Young University-Idaho, students responded to a survey designed to determine their level of literacy among Austen's works, as well as their general opinions of Austen and the influence of her works. The results indicate that most STEM majors at BYU-Idaho view Jane Austen as being pointless, frivolous, or inapplicable to their own lives beyond serving as a source of light entertainment. However, it is surprising that these same students indicate that they believe Jane Austen should still be taught in secondary and post-secondary school settings. The findings of this study suggest that educators should focus on relating Austen's characters and plots to their students' lives to help them develop relationships with her literary characters and extract applicable life lessons from their fictitious adventures.

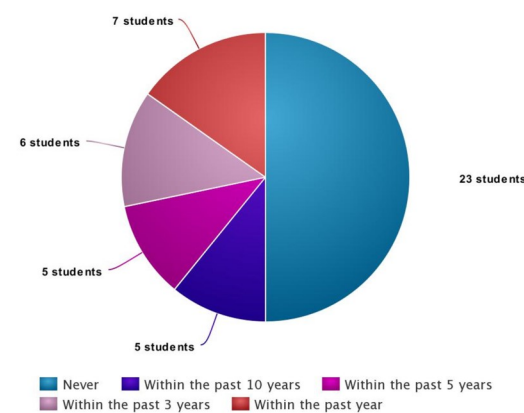
The resurrection and renaissance of Austen

In recent years, Jane Austen has surged in popularity, leading to several studies being completed to analyze her influence on her readers. In 2014, Andrea Coldwell analyzed young adult adaptations of Jane Austen's works and interviewed several of these books' authors to understand how Austen inspired and influenced them personally ("Imagining Future Janeites"). Completing a similar study among movie adaptations of Austen's works, Karen Gevirtz argued in her article "(De)Constructing Jane: Converting 'Austen' in Film Responses" that everyone feels like they own Jane Austen to at least some small extent, which is what allows people to feel justified in altering or twisting her works into new stories with different tones than the tone that Austen originally intended. Clearly, the recent surge of movie adaptations, TV shows and YA adaptations prove that people are not only actively engaged in enjoying Austen's works, but also in making her "their own" through synthesis of Austen's ideas with their own ideas. However, while Gevirtz and Coldwell remain optimistic about the influence of these spin-offs, two other studies present much more bleak views of the effects of this resurgence. Julia Robben warns that in today's culture, it is increasingly hard for adaptations to maintain these voices and remain true to the original source while providing modern entertainment guaranteed to catch audience's attention ("Preserving Jane Austen's Letters in Modern Adaptations of *Pride and Prejudice*"). As a result of Hollywood's drastic change of tone in Austen movie adaptations, many readers have a distorted view of "*Pride and Prejudice*" as being a chick flick or "light reading". Concurring with Robben, Dianne Sadoff goes further and states that the latest entries in the Austen fandom are purely part of a product brand and are not conceived out of genuine respect for Austen ("Marketing Jane Austen at the Megaplex"). She states that as a result, these spinoffs reflect poorly on Austen's original works by dumbing down her original descriptive language and objectifying interpersonal relationships between her characters (Sadoff).

As valid and interesting as these studies and subsequent conclusions may be, they only deal with a limited portion of American society. In each of the previously mentioned studies, the authors chose to focus their research on those people who are already directly familiar with Austen and her works, such as bibliophiles, movie enthusiasts, and authors. However, this approach is accidentally biased. Thanks to the technological boom, STEM majors are attracting more students than ever before. "Overall, 40 percent of bachelor's degrees earned by men and 29 percent earned by women are now in STEM fields. At the doctoral level, more than half of the degrees earned by men (58 percent) and one-third earned by women (33 percent) are in STEM fields" (Bidwell, "More Students Earning STEM Degrees, Report Shows"). As a result of this swing towards technological development, society is experiencing a shift from humanities-based majors to "hard science" majors. Consequently, more and more of the upcoming generation are skimming through their English appreciation courses and focusing on their scientific classes, creating a shrinking generation of young readers who love and appreciate Austen's works. No research has been done on how these STEM students perceive and are inadvertently influenced by Jane Austen's books.

Austen's new audience: Perceptions of STEM majors

In an attempt to begin to fill this void, a volunteer-based survey was completed at Brigham Young University-Idaho among randomly selected STEM major students to assess their familiarity with Jane Austen, as well as their attitudes towards the value of her works. In total, 51 students responded to the survey, ranging in STEM majors such as physics, biology, chemistry, mathematics, accounting and engineering. It was found that that STEM majors at Brigham Young University - Idaho, as a whole, have either never read a Jane Austen book or have not read one for many years. Only 13.7% of the students surveyed had read one of Austen's book within the last year, with only 33.4% having read one within the last 3 to 10 years. The remaining 52.9% have never read one of Austen's books. Despite the low levels of STEM students who have actually read one of Austen's works, 68.6% of the students surveyed reported having seen some cinematic adaptation of Jane Austen's works. Only 21.6% of those surveyed reported having watched the BBC adaptations of Austen's books, which are typically accepted to be truer to Austen's original works than most other cinematic adaptations of her works. Clearly, this disjoint between literacy levels and cinematic literacy levels suggests that popular cinematic adaptations of Austen's works are more likely have a higher influence on any given STEM major's opinion of Jane Austen than her actual literary works do. Not surprisingly, when asked to categorize Austen's books into a genre, 97.9% of students surveyed classified Austen's works as historical romances, with only 54.4% of students further classifying her works as classical fiction. While these results may not seem shocking or surprising to most, what is truly appalling is the general opinion of STEM majors in regard to Austen's works.



Overall, a majority of the students surveyed are not only uninterested in reading Austen's works, but also have an ingrained sense of disdain or contempt for Austen's contributions to literature. When asked to elaborate on how Jane Austen has influenced the student personally (if at all), only 25.5% of students indicated that Austen has had some sort of positive influence in their lives, whether it be small or large. This minority of students mentioned Jane Austen and her books teaching them about gender equality, the importance of hard work and passion, what might be considered appropriate social behaviors, and the importance of remaining non-judgmental of others. However, while these responses might touch the hearts of English scholars everywhere, the remaining 74.5% of responses will quickly bring their spirits back down. A staggering 43.1% of students claim there has been no influence at all, while the remaining 31.4% were vehemently hateful towards Austen. They described her books as being "cute", "unrealistic" or "boring". Others had a more apathetic view of Austen. One student wrote, "She does make some interesting points about various concepts, but none of them have been life changing". Another concluded that, "People call her creative and suggest everyone should read it [meaning her works]. However, they aren't willing to accept that some people are just not interested in historical romance novels". A final response demonstrates a complete lack of interest in Austen, other than treating her as a means to an end. "I've seen one of the movies based on her books, which impresses girls, I guess." Similarly proportioned responses were received when students were asked to elaborate on how Austen has influenced American culture as a whole (if at all). A common response might follow the form of, "She has given a lot of women and an infrequent man something by which to be entertained". Similarly, some students specifically felt that Austen's works create "non-idealistic goals of romance and women's roles", and that "most people get nothing real out of it". However, some students expressed that Austen has helped raise the level of humor and wit in American culture, and one student commented that Austen "demonstrated exactly how a woman can have an effect on the world and society without having to have a huge important status or position". Clearly, while a majority of the STEM majors surveyed were disdainful of Austen's works, her charm and value is still evident to a few lovers of literature in the STEM world.

Given the overwhelming evidence that most STEM majors surveyed have a disliking for Austen, it is shocking to see that 78.4% of total students surveyed believe that Jane Austen should still be included in high school and university curriculums. One student stated, "Although I personally don't care for her books, they provide insight to what life back then." Another concurred, saying that, "just because I am not a fan doesn't mean her works aren't truly classics in terms of literature, and should be read by everyone". Several students mentioned different ways that they would like to see Austen's works related to current issues and topics in American politics. One responder stated, "I think that Jane Austen novels are a fun way to get students thinking about how things have changed over time and how people can change when given the chance". Another cited the literary value of Austen's writing when they said, "Ms. Austen has a unique writing style. She shows critical thinking, being yourself, courtesy without having to like a person, and that we need to face our troubles instead of running from them. These are all things that we need to understand as a society today."

Taking preventative action as educators

This study illustrates two main points. Firstly, this study illustrates that STEM majors at BYU-Idaho are inadequately educated on Jane Austen. As a group, they mistakenly perceive her works as light reading instead of recognizing her works as social commentary and sophisticated psychological analysis of people placed in abnormal situations. Secondly, despite the lack of the students' knowledge or optimistic views on Austen, a large majority of the students surveyed wholeheartedly support teaching her works to future generations of students. The consensus of the survey seems to be that STEM majors at BYU-Idaho are aware of their deficiency in understanding and appreciating Jane Austen's works, and are encouraging educators to enrich their curriculum to better fill this gap for the benefit of future generations of students.

In her article "Colonel Snape's Veritaserum", Donna Parsons suggests using current pop culture trends to transition students' love of popular book characters to Jane Austen's works (7). As an example, she cites her own teaching experiment where her students watched the televised BBC edition of *Persuasion*. Her students immediately identified Alan Rickman, the actor who portrays Colonel Brandon, as also being Professor Severus Snape from the widely popular Harry Potter movie series. Thanks to this connection between Austen and pop culture, Parsons and her students were able to discuss the similarities between Snape and Brandon. Eventually, her students concurred that Brandon shared some similarities with Snape but was overall highly different by nature. At the end of the unit, a majority of her students felt a connection with Colonel Brandon equivalent to their previously established connection with Professor Snape (Parsons). Similar approaches can be used for most, if not all, of Austen's other works by comparing her characters to currently trending characters and entertainment franchises that students are already familiar with. This flexible usage of atypical literature in scholastic courses will be more likely to catch a student's attention. Furthermore, it will help them identify with Austen's characters in a way that is rarely attained by those who do not already have a love for reading, such as most STEM majors.

Another solution might be, as Schulten and Gilpin suggest, to immerse students in the customs and culture of Romantic era England to help them understand the world of Jane Austen's characters ("Teaching Jane Austen"). The usage of role plays, dramatized readings in class, or even a Jane Austen fair where people learn how to dress, eat and act like a person from Austen's time period will help students understand the cultural context of her plots. If it is impossible or difficult to put together these types of physical role play, Niemtus suggests using available online exhibitions that allow students to virtually explore objects and homes from Regency period England ("How to Teach Jane Austen"). These two solutions, as with Parson's, would help students relate to Austen's works instead of simply reading them as a school assignment. Regardless of what method educators choose to pursue, the fact remains: Austen's works must be more widely and comprehensively taught to students.

In conclusion, it is important to not only understand the impact of Austen on literature lovers, but also on the section of society who rarely, if ever, directly interacts with her works. Previous studies show that Jane Austen is being twisted to fit a stereotypical Hollywood role, which leads to many people making incorrect assumptions about her books; however, bibliophiles are still actively engaging with Austen's texts. A new study conducted at Brigham Young University - Idaho suggests that STEM majors are, as a whole, disdainful and derogatory towards Austen's works and view them as having little to no influence on their personal lives and society as a whole. Interestingly enough, these same students believe that Austen should be a continued part of English curriculums at higher education levels. Educators can rise to the challenge of making Austen applicable and interesting to the current generation of students through a variety of methods. Some of these methods include immersing students in Austen's culture, or creating connections between pop culture and Austen's characters. However educators choose to incorporate Austen into their works, the fact remains: the way that Austen is presented in classrooms must change to suit the needs of students of all backgrounds and interests, not just those students who love literature.

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