Chapter 2
Lessons from the STEM Sector

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ABSTRACT

The purpose of this chapter is to examine possible causes such as lack of interest, lack of skill/ability, and anticipated work/family conflict (WFC), in addition to analyzing successful recruitment tactics that have brought more women into various other male dominated fields in an attempt to solve this problem. Results of the literature review show that the main contributing factors for the lack of women within the sector are lack of confidence in skills and abilities, lack of female industry role models, and lack of available mentorship and community outreach programs for interested women. This chapter takes this information into consideration and makes possible suggestions for the industry on how to remedy this problem.

STEM AND THE VIDEO GAME INDUSTRY

The video game industry combines a variety of disciplines to make up its collective whole. It involves both Science, Technology, Engineering, and Math (STEM) disciplines such as programming, animation, audio engineering, and motion capture in addition to non-STEM related disciplines such as art, design, and production; therefore literature from both STEM and non-STEM career disciplines could be effectively applied to the industry. It is important to remember that it is necessary to examine both aspects of the industry in order to benefit it as a whole, because not all STEM methods may be applied to non-STEM disciplines, and vice versa. Therefore what works for one may not work for another, and thus both avenues must be taken into consideration. The purpose of the following sections is to analyze successful recruitment methods for STEM and non-STEM related fields, and utilize that information in tailoring recruitment methods towards bringing more women into the game industry.

STEM RELATED STUDIES

Method

This study will be a qualitative one. No new data will be recorded or gathered; instead a thorough analysis of prior successful recruitment programs of other STEM and non-STEM disciplines will be conducted, and the results will be applied to the video game industry. This is the most appropriate method because there have already been successful programs that have been implemented

in other disciplines, and instead of developing an entirely new recruitment system for the video game industry that has not been tested yet, generating a practical application of already existing programs would be more appropriate.

Article 1

The first article under discussion was written by Pamela Cantrell and Jacque Ewing-Taylor (2009), and deals with the University of Nevada, Reno and how they started a program in 2003 called the K-12 Engineering Education Programs, or KEEP, in order to interest more students into pursuing careers in the STEM fields. By allowing high school juniors and seniors a chance to attend seminars led by professionals in STEM careers, they were able to interest more students, particularly women, into pursuing careers in the STEM fields and becoming more confident about their career choices. The purpose of the study was to answer three different questions. The first question was whether or not the seminars had an impact on the career choices of the students involved. The second question was to determine whether the students could connect the information they received from the seminars to things they were learning in their classes. Finally, the third question was to determine whether grade level or gender differences had an impact on the students' career interests or their ability to relate the information to what they knew from school (Cantrell & Ewing-Taylor, 2009).

Summary

To summarize the main findings of this study, the results showed that female students were less likely to change their minds about their career choices once they were already set on one, and that senior level students were more likely to bridge connections between the information they gained at the seminars and things they were learning in school (Cantrell & Ewing-Taylor, 2009). Results also showed that attending seminars led by industry professionals did increase female interest in those fields (Cantrell & Ewing-Taylor, 2009). According to the researchers, this was consistent with other literature that found female students and senior students were more stable in their career choices (Cantrell & Ewing-Taylor, 2009). In other words, the results of this study directly supported the results of prior studies as well, and provided the researchers with clear answers to the questions they intended to solve.

Significance

The significance of this article is that it shows that by the time females to get to high school, if they are already set on a career path then it is unlikely they will change their minds even when exposed to various STEM related careers. It also shows that female interest can be increased through exposure to industry professionals as well. This supports the claim that in order to bring more women into the game industry, it is imperative that the career possibilities are exposed to them at a younger age; meaning before they reach high school and are already set on a career path. However, it is important to also remember that this does not take into account the number of students who change their career paths once in college, but this idea will be revisited later in this paper.

Article 2

The next article in this section is by T. Carter Gilmer (2007) and deals specifically with women and minorities in STEM fields. It implies that women and minorities make up only a tiny fraction of STEM graduates and are thus highly underrepresented in STEM fields. In order to encourage more women and minorities to pursue STEM careers and help enable them to become highly skilled professionals, Bowling Green State University (BGSU) created an undergraduate program called Academic Investment in Math and

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