



Research article

Effects of a vocational program on professional orientation

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ABSTRACT

Students that enroll in a vocational orientation program develop an early interest in the profession. Their involvement generates a higher sense of personal wellbeing, as well as positive academic and professional outcomes. A program was developed for high school students to experience first-hand what it means to work on health sciences. Two years after, the effects of the vocational program were assessed to analyze students' motivation and satisfaction with their professional orientation.

1. Introduction

Students that enroll in a vocational program develop early strong identity of the profession. Authors argue that during adolescence the identity consolidates, making it essential to advocate for this development in the first years of professional training. The high school to university transition has been commonly underestimated, but this period represents the introduction of students to a challenging academic setting (Tackett et al., 2018). Education in a clinical setting is characterized by high levels of stress, related to students trying to live up to personal, family, professor, and peer expectations, all while seeking independence in a demanding academic environment (Nechita et al., 2014). For Champaloux and Keeley (2016), interventions in educational programs correlate with improved academic and clinical performance, as well as well-being and empathy. Greater consistency in this process creates increased personal wellbeing, as well as positive academic and professional outcomes.

1.1. Vocational orientation

Vocational orientation also called as professional orientation, has been considered as a step in the choice to pursue one career. For Kosine and Lewis (2008) it is more a dynamic process rather than a static one-time decision. Several studies have linked the decision-making process to the development of the self-image of the professional, which is continuously contrasted to their real context (Darling-Hammond et al., 2019; Wray and Stone, 2005). According to Vladimirovna et al. (2016), universities have a responsibility to foster environments where students can explore their motivations to develop their full potential. However, prior to this life-steering decision, it is necessary to perform a deep introspection over one's strengths and weaknesses, and the implications in the lifestyle within the chosen professional field (Zopiatis et al., 2016).

Choosing a college major represents a naturally critical life-decision of anyone interested in pursuing higher education (Vicente-Sánchez et al., 2014). Particularly in health sciences, few studies have analyzed the impact of a professional orientation on students. According to Loan and Van (2015), career guidance must include an analysis of the impact of their professional future on their interests, passion, and abilities. Sovet

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and Metz (2014) point out that the time when the decision of the future lifestyle is made, mostly at the end of high school, students are undergoing a complicated transition. This commonly leads to uneducated decisions that could upset their lifestyle and impact their future negatively. Certain specialties require practitioners to be on-call during weekends and holidays, while others are highly stressful no matter the hour or day. Vocational programs need to provide students the appropriate context and first-hand experience to tackle those life-defining decisions.

1.2. Learning communities

A particular model to operate vocational programs are the learning communities. This groups composed of students and faculty members promote vertical interactions with the objective of providing a better learning environment for academic experiences. For Tackett et al. (2018), the impact of these interventions is directly correlated to its application in specific career time points. These interventions range from academic programs to sports and arts tournaments, allowing participants to establish valuable connections that go beyond the classroom boundaries. These safe spaces that are created for interaction and are highly estimated by students, emphasizing the importance of developing the program for this particular purpose.

Some programs have reported successful results. Arnold et al. (2018) describe a program to develop leadership skills using both formal and informal settings or techniques. The University of Missouri-Kansas City focused on role modeling as a fundamental part of their development, with the interactions being continued over the course of four years, not just witnessing their models in action on a one-time basis. According to Shochet et al. (2019), programs must provide clarity of faculty roles to the learning community and in student-related activities, promote integration between students from different school years, and foster the longitudinal relationship between students and faculty members.

According to a national study of different programs in the United States, with universities such as Stanford, John Hopkins, and Vanderbilt, a design should focus on professional development, professional identity formation, and mentoring/advising (Shochet et al., 2019). For Liu et al. (2014), these programs tackle the hesitation of pursuing medicine as a career, that recently has gained prevalence among students in early years.

1.3. A model for a vocational program

Students that enroll in a vocational orientation program develop an early interest in the profession. Their involvement generates a higher sense of personal wellbeing, as well as positive academic and professional outcomes. Personal wellbeing is experienced by being confident to choose a career in which the self will flourish in the mental, physical and spiritual level. A positive academic outcome arises from achieving the learning objectives of the educational program to become a health professional. A positive professional outcome is a result from being part of a community of practice in which to develop a successful career.

Afghani et al. (2013) highlight the importance of implementing cascade mentorship programs, based on the premise that it promotes a positive educational environment. In these programs, physicians serve as mentors for students, which in turn take on the same role with their fellow classmates.

In the context of this study, a constant request by high school students eager to confirm their decision to enroll in medicine, was to visit the school of medicine and know the professors that participate in the setting. This growing need, fueled by the educational transformation that the university in which this study was performed, experienced; was the inspiration for a vocational program for them to experience first-hand what it means to be part of the healthcare team. It was achieved through a student-run clinic led by 7th-year trainees with the incorporation of methodologies that facilitated learning and sparked interest in

the clinical setting. The strategies were: clinical simulation, shadowing, and near-peer mentoring.

The design, described in Figure 1, depicts a program where the students interact under supervision of 35 medical students, some authors have referred to it as near-peer mentoring (Afghani et al., 2013; Flores-Meléndez et al., 2019). The 7th-year trainees voluntarily decided to participate in the educational program and committed to stay during the full-length of the implementation. The coordinator of the program provided a workshop on education and described the objective of each activity. The setting fosters a safe environment for the students to engage in profound introspection over their motivations, strengths, and weaknesses. The integration of the community foster valuable mentoring connections.

The objective of this program was for high school students to experience first-hand what it means to work on health sciences. Two years after, the effects of the vocational program were assessed to analyze students' motivation and satisfaction with their professional orientation.

2. Material and methods

2.1. The context

The university where the study was conducted is a private non-profit institution that offers undergraduate training in: medicine, dentistry, psychology, nutrition and biosciences. It has recently undergone an educational reform to change from the traditional teaching methods to active and engaging strategies.

2.2. Design of the study

A positivist approach was implemented because the focus was on finding evidence to support the theory presented in previous qualitative studies (Tavakol and Sandars, 2014). The design of this study was descriptive and cross-sectional (Frye and Hemmer, 2012; Hernández et al., 2010).

2.3. Participants of the study

The sample consisted of sixty undergraduate students enrolled within the health sciences program who previously participated in the vocational training. As high school students they were in the 16–17 years old age range, and enrolled in programs nationwide in both public and private institutions.

2.4. Data collection

The instrument used was an adaptation of the questionnaire by Flores-Melendez et al (2019), that examines whether the program changed their position on their career choice, how convinced they felt with their choice prior to enrolling, and how satisfied they felt about their decision at this point in their program.

The questionnaire was distributed online and answered anonymously. It included eight items with a 5-point Likert-scale format, where 1 stands for complete disagreement, and 5 for complete agreement.

2.5. Data analysis

The collected information was analyzed using statistical software Minitab 18. Descriptive analysis was performed to present the distributions on participant's perception.

3. Results

The results, in Table 1, indicate that 50% of the participants were convinced of their professional orientation prior to the vocational program, this is similar to what Zopiatis et al. (2016) found on how students

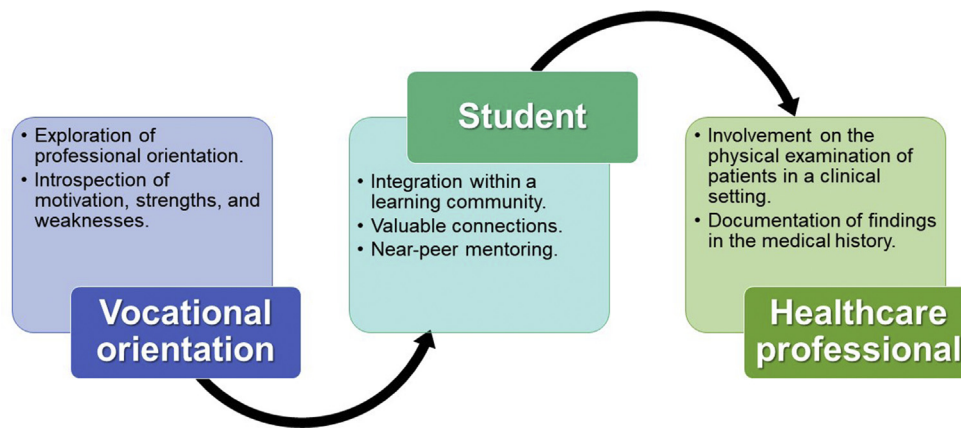


Figure 1. A model for a vocational program of a student-run clinic.

Table 1. Distribution of the participants' impression of the vocational program.

Items	Completely disagree	Partially disagree	Neutral	Partially agree	Completely agree
1. Prior to the vocational program, were you convinced of your professional orientation?	5.0%	5.0%	13.3%	26.6%	50.0%
2. The program helped me make a decision regarding my career choice.	3.3%	3.3%	23.3%	40.0%	30.0%
3. The vocational program increased my desire and interest in pursuing a career in healthcare.	0%	3.3%	20.0%	30.0%	46.6%
4. The inclusion of students (near-peer mentoring) was key to the success of the vocational program.	0%	5.0%	8.3%	28.3%	58.3%
5. At this point, I am satisfied with my decision to be a healthcare practitioner.	0%	1.6%	1.6%	8.3%	88.3%

have previous information to support their decision making process. 30% of the participants stated that they believe the program helps them make a decision regarding their career choice.

About 47% of the participants said that the vocational program increased their desire and interest in pursuing a career in healthcare, and 58% attribute the success of the program to the inclusion of students (near-peer mentoring). This was also found in the study of Zopiatis et al. (2016) where participants valued that the decision was supported on what was discussed with professionals of the field and possible career tracks identified. After two years of participating in the program, 88% remains satisfied with their decision to becoming a healthcare practitioner.

Students identified their participation as assistants in clinical practice and their enrollment in clinical simulation, as methodologies that facilitated learning and sparked curiosity. These correspond to the inclusion of active learning and linkage with professional practice. The near-peer mentoring part of the program promoted an approach to a real and simulated environment. Other authors have used cascade mentorship to help students overcome the barriers created by doubt or fear (Flores-Meléndez et al., 2019). Moreover, it eliminates the apparent breach between what is immediately ahead of them as students and what they can aspire to become as specialists in the distant future.

4. Conclusions

Although caring for patients has been considered as one of the noblest of professions, the journey of becoming a healthcare practitioner is filled with anxiety, frustration, and exhaustion. Awareness of the many stresses it encompasses should be considered before pursuing this career path.

Preliminary results of student's satisfaction with this intervention was published by Flores-Melendez et al. (2019), were students highlighted

how this career exploration setting was useful for them to experience their lifestyle as medical students, and later as medical professionals. These vocational activities targeting high school students intend to provide them with a glimpse of the reality behind their goals. Consequently, they get the opportunity to explore their aptitude and their willingness to adapt to that demanding lifestyle.

This vocational program, with a cascade mentorship design, helped solidify their intention to pursue medicine, and the study was able to identify a high sense of satisfaction with their decision later on. In a study by Afghani et al. (2013), similar results were found on how the program increased self-confidence, and leadership. As the dropout rate from medical programs has increased, it has been linked to the prevalence of self-doubt and lack of self-confidence, related to the uncertainty about their desire or ability to pursue a career in this field (Liu et al., 2014).

Other universities and programs could replicate this intervention during their admission process to ensure that their candidates are resolute regarding their career choice and awareness. If included during their undergraduate program, students would be able to revisit their decision; they could also reflect on the certainty that they have regarding their choice, based on experience and not on the level of stress that they must overcome during this transition process.

Declarations

Author contribution statement

M. Quiroga, D. Flores and R. Cantú: Conceived and designed the experiments; Performed the experiments; Wrote the paper.

I. Eraña and M. López: Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data; Wrote the paper.

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Competing interest statement

The authors declare no conflict of interest.

Additional information

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