

International School Science Teachers' development and decisions under social cognitive career theory

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ABSTRACT: A qualified teachers' shortage is challenging in science teaching at the P-12 level, particularly in international schools. The purpose of this study was to understand how the social cognitive career approach influences international school science teachers' career development and career decisions in Taiwan. For the study, qualified international school science teachers were surveyed about their teaching and living experience at international schools all over Taiwan. To recruit participants into a wider sample, the snowball strategy and general inductive approach were employed to collect and analyse 38 participants. The focus of this study was the issues in Taiwan, and may serve as a blueprint for university administrators, educators, school principals, policymakers, student and career counsellors, human resource professionals, and government leaders, to promote and develop their present human resource planning, teachers' professional development schemes, and international and domestic school teachers' management.

Keywords: Career decision, international school, science education, science teachers, social cognitive career theory, teachers' professional development

INTRODUCTION

The recruitment and retention of qualified science teachers is a significant challenge in the East Asian region. At present, a large number of international professionals are working in Taiwan responding to economic development and globalisation. Because of educational differences, expatriates usually send their children to one of the international schools, where students may complete P-12 qualifications under their own nation's system. Although there is a reasonable amount of junior- and senior-level educators in the market, international schools are still thirsty for qualified teachers who can exercise the targeted examination and educational system of the home country.

Besides financial, economic and professional development, educators also take into consideration their previous experience and background, when choosing to teach at international schools. Therefore, there is no single factor that controls the retention of in-service teachers, attracts qualified teachers or influences post-service teachers to leave an international school and host country. Therefore, it is vital to explore long-term solutions and discover the reasons, factors and understanding of how to retain international schoolteachers [1].

Research Statement

International schools in Taiwan were selected for investigation, for two reasons. First, there are 32 international schools that provide P-12 education in Taiwan. However, due to geography and being an island, career and professional development is limited, which, in turn, limits the opportunities for professionals and influences their decision to seek a career in an international school. Second, although there are no human resources statistics about international teachers, their frequent departure is one of the sector's major challenges. It is not hard to presume that international schools in Taiwan face this problem [2].

Although in some research studies the argument is that reasonable departure and retirement of schoolteachers may have a positive impact, because those who leave tend to not perform well, negative outcomes have been expressed in most studies [3]. In any case, it is important for school leaders to handle the balance between stable human resource management and teaching quality [4].

Dealt with in this qualitative study are international school science subject teachers' professional development, career development and career decisions in Taiwan. One research question guided the present research study:

- Why do international school science teachers decide to stay in Taiwan for long-term teaching career development?

Theoretical Framework

To understand the career development and career decisions of international school science teachers, it is necessary to locate an appropriate theoretical framework for investigation. Researchers developed the social cognitive career theory (SCCT), based on social cognitive theory [5].

The SCCT aimed to understand and discover the decisions related to academic and career development, as well as performance and persistence. This theoretical framework was aimed at explaining how people's personal factors impact their career development, procedures and professional trajectories. Besides, the SCCT identified the differences in how intention (people's thinking and personal goals) and behaviours (practice and exercise) influence individuals' ways of conducting themselves [6].

The SCCT has three major foci related to career decisions and development, which are:

- Formation and elaboration of career-related interests.
- Academic and career selection.
- Performance and persistence in education and careers.

Providing the collected directions and elements about how the SCCT, people, behaviours and environmental impacts may influence the career decisions of international school science teachers in Taiwan, elements were explored in another study by the author that may be related to their career decisions [2]. The SCCT works as a guideline when seeking to understand gaps in the literature related to international school science teachers' recruitment, career decisions and career development.

METHODOLOGY

The SCCT was employed in the present study so as to understand international school science teachers' professional development, career development and career decision in Taiwan. A phenomenological analysis would be appropriate to understand how life experiences and personal backgrounds associated with financial concerns, family engagements and career goals influence the decisions of international school science teachers [7].

Participants

For this qualitative research, the participants in the study consisted of international school science teachers in Taiwan. The scope of this study involved 38 participants from all over Taiwan. The researcher employed a snowball strategy to recruit participants with similar backgrounds.

Although there are different types of international school in Taiwan, such as British, American, Japanese, Italian, Dutch, Korean and European, the recruitment was not limited by the background of the sites and participants. In other words, as long as the participants were qualified international school science teachers in Taiwan, they were qualified for this study. Participants had to meet the following criteria:

- Currently employed by one of the international schools in Taiwan.
- Currently teaching a science subject.
- Hold an initial licence in Taiwan or their home country.
- Have teaching experience in Taiwan for at least three years.

Instruments

An email invitation was sent to five international school science teachers who belonged to a non-profit organisation for international expatriates in the Great Taipei metropolis. Each of the participants invited other qualified participants who were interested in this study. After several rounds of invitations and referrals, 38 participants were recruited.

An in-depth interview tool was appropriate, because of the goals and directions of this study. All conversations were digitally recorded, transcribed and returned (i.e. member checking) to the participants for validation [8].

RESULTS AND FINDINGS

After in-depth interview sessions with 38 participants, the researcher analysed the interview transcripts and divided them into major themes and subthemes following the general inductive approach. Through this qualitative study, the researcher was able to conduct an inductive analysis of the data and establish categories, so as to answer the research question and enable discussion of the results. The analysis of the interviews yielded two major themes and six subthemes, outlined in Table 1. Quotations from interview transcripts support the findings.

Table 1: Major themes and subthemes of the findings.

Theme	Subtheme
Students' attitudes and learning behaviour	Traditional East Asian cultural influences
	The positive science learning environment and support
	The positive family-school-student relationship
The Taiwanese environment and open minds	Gender issues
	Religious minorities
	Skin colour

Students' Attitudes and Learning Behaviour

The text following addresses the research question based on the results and findings. The first major theme mainly was focused on the goals of the school-oriented themes and ideas, and the second major theme mainly was focused on the goals of the living environment and community.

Unlike P-12 teachers in their home nation, international school science teachers face culture shock, homesickness, isolation, a sense of discomfort, a sense of being foreigners, language barriers, housing problems and money management issues. All participants spoke about being expatriates and international school science teachers in this unique East Asian Taiwanese school environment. In expressing this primary theme regarding school environment, participants expressed how the SCCT, people, behaviours and environmental impacts might influence science teachers' career decisions. Two subthemes identified within this primary theme were *Traditional East Asian cultural influences*; *The positive science learning environment and support*; and *The positive family-school-student relationship*.

Traditional East Asian Cultural Influences

Most participants were mid-level or senior international science teachers, with both domestic and international teaching experience. Many participants believed that, compared to students from different countries and nations, local students and expatriates' children at Taiwanese international schools have a positive personal attitude towards their schoolwork and education. Although international school students may have different family backgrounds and cultural understanding, most students are influenced by traditional East Asian cultures, with their behaviours being guided by respectfulness and positive attitudes; as one participant said: *...both local and expatriate students showed a positive attitude towards education and school work ...I believe local Asian culture could influence their thinking about teachers and school* (Participant #34, chemistry).

Other participants also expressed their positive teaching experience about how local and East Asian cultures could impact students' attitudes at school; as one said *...although we are an international school, we also teach students about the advantages of Asian cultures, such as the attitudes to their subjects, schools, and school staff* (Participant #27, biology).

In short, most of the participants believed that the Asian cultural environment influenced positively the teaching and learning environment in the science subjects. Students can express and explore their science interests as sources of encouragement. Parents, students, teachers and schools are also highly positive and supportive of science learning.

The Positive Science Learning Environment and Support

Besides the students' positive attitudes due to local and East Asian cultures, all participants expressed that the cultural environment encourages students' scientific learning and promotes the position of schoolteachers, particularly science teachers. In terms of scientific learning and encouragement, almost all teachers said that Taiwanese communities always host science awards, contests and shows, where all eligible students can display their results: *...there are always school-wide, community-wide, district-wide, national, and international science contests and shows ...the city also encourages students to have an interest in science ...which is very positive* (Participant #18, biology).

Some groups of teachers also expressed the satisfaction of leading students in science experiments at school; one said: *...students in Taiwanese international schools are very active ...they like to conduct scientific research and activities* (Participant #23, physics). Some other teachers lead their students in international science contests in the United Kingdom; as one teacher said: *...the local government and school foundation always support students to go to international contests and science fairs ...United Kingdom ...does not have such funding or motivation to go to international contests* (Participant #25, computer).

In short, the government, school and society always support science teaching and learning. There are substantial opportunities and resources to support local and international school students to join international and local games and shows, to express their talents to others. One of the keys from the participants was the support of international-level contests and shows for all eligible students in the region. Regardless of students' financial and school background, all students are eligible for such science contests and shows with governmental funding.

Most participants believed that the learning of international school students in Taiwan went beyond their expectations. Parents, classmates, school staff and the social environment encouraged students' learning. A participant also shared his experience about how his students encouraged him to continue with his postgraduate degree: *...my advanced biology students always encouraged me to continue with my research in biology ...I can see their passion ...I also share my passion with my students ... We are a learning group rather than being in a teacher-student relationship* (Participant #8, biology).

In short, most participants expressed a positive teaching and learning experience in international schools in Taiwan, because of the positive attitude and learning behaviour of their students, particularly the fact they can build a close relationship, which encourages both parties to grow and develop.

Taiwanese Environment and Open Minds

The second subtheme in this category was about the unique East Asian environment and open mind of Taiwanese society. The living environment is one of the most significant themes in the interviews, particularly for female teachers, minorities and people of colour. The three subthemes identified within this theme were *gender issues*, *religious minorities* and *skin colour*.

Gender Issues

Regarding gender issues, both male and female teachers advocated that residents in Taiwan always respected their gender. However, a teacher who had taught in another Asian country shared a negative story about her experience there, saying *...when I was in another country near Taiwan, I was not respected because of my skin colour and gender ...some parents even asked me to leave the science classroom because of my gender* (Participant #5, chemistry).

It is worth noting that gender is a highly significant issue in the contemporary Asian environment. Although the rights of female professionals are increasing through the impact of globalisation, many female professionals still suffer from gender-oriented discrimination.

Significantly, three participants shared positive opinions about the openness of the Taiwanese school and social environments as homosexual professionals. In 2019, the Taiwanese government approved same-sex marriage, which protects homosexual professionals who have the same rights as heterosexual people in the society. The teachers' feedback includes: *...gay and lesbian issues are taboos in most of the Asian environments, schools, and society ...in Taiwan, I can freely express my sexual orientation and interests in front of people* (Participant #1, environmental science).

Another participant also expressed his positive opinions about the openness of the society, which encouraged him to continue his long-term teaching career in Taiwan. He shared: *...being a homosexual is still illegal in my home country ...I want to stay in Taiwan so I can be safe ...I can develop my teaching career better ...I can have freedom of speech ...I can live with my own living style without any legal concerns due to my sexual orientation* (Participant #15, biology).

In short, although some countries in the Asian region are working with gender and sexual orientation issues, the Taiwanese environment provides a safe and friendly environment in which sexual minorities and female professionals can express and expand their teaching. Not only teaching professionals are attracted into Taiwan; other talented professionals are, too.

Religious Minorities

Besides gender issues, all female Muslim teachers also face difficulties in other East Asian countries, particularly Hijab-wearing teachers. Both Muslim and non-Muslim teachers agreed that Taiwan is a religious-friendly area, where people of different religions can practise their faith. A participant expressed her experience as a female Muslim in Taiwan, saying *...no one laughed and pointed at me and my Hijab ...but when I was in another East Asian country, the residents pointed at me and asked me to take it off* (Participant #17, engineering).

Several Jewish teachers also indicated that the religious environment in Taiwan is safe and friendly to people with a different religious background; as one shared: *...although there are no large-size Jewish churches in Taiwan, we can still practise our religion in the community with several fellows. I do not see any limitations of being Jewish in Taiwan* (Participant #24, biology).

Another Jewish participant also indicated that religious practice is very open in Taiwan, where international schoolteachers should not fear about their safety: *...Jewish people may not be safe in the Middle East, but we are safe in Taiwan ...to practise our religion and science teaching* (Participant #26, biology).

In short, besides the openness of science teaching and learning, Taiwan is a place where international school science teachers can enjoy their religious practice without limitation. Many participants opined that safety is one of the most important concerns in their career development. This is why Taiwan became their priority.

Skin Colour

Furthermore, all teachers of colour highlighted the safety and respectfulness they felt while living and teaching in Taiwan. People of colour experience discrimination in many countries, including other East Asian countries. However, all teachers of colour believed their skin colour was not a problem while teaching in Taiwan; as one shared: *...students, school staff, and parents do not look down on me because of my skin colour ...although some residents in the community may ...it is not significant* (Participant #34, physics).

Another African American science teacher also advocated that her skin colour is a positive element of her teaching experience, saying: *...local students had never seen an African American teacher before having met me, and they love me very much ...no one discriminated against me in this region* (Participant #36, biology).

In short, all participants with at least three years of science teaching experience in Taiwan reported having a positive experience at one of the international schools. It is worth noting that none of them shared negative teaching and learning experiences related to their school environment, mentioning their inclusive experience with regards to their backgrounds and other factors. More importantly, most teachers compared their previous experience in other countries with their Taiwanese experience, including, but not limited to, student attitudes, internal and external support, and community support.

CONCLUSION, IMPLICATIONS AND FUTURE DIRECTIONS

In reflecting the SCCT guidelines [5], most participants advocated that the environmental elements and factors highly influence their career decision and career development in Taiwan, particularly for teachers with additional international teaching experience in other countries and states. It is worth noting that all advocated students and parents' expectations and understanding highly attract them to invest their life-long teaching development in Taiwan. Although the researcher asked about how personal goals and personal intention impact their decision, most believe the behaviours (the practice of students and parents) and environmental factors (rich East Asian culture and open-minded society) allow them to continue their teaching career in Taiwan. The result reflected how the environmental factors and behavioural considerations highly influence their career decision based on the SCCT [6].

The study discussed in this article was an attempt to understand how the social cognitive career approach influences international school science teachers' career development and career decisions in Taiwan. The research has provided three significant insights into human resources management in international schools. First, the reasons and motivations were outlined of international school science teachers in selecting long-term career development in the East Asian region. Although this research was targeted at participants in Taiwan, the results may reflect the experience of international schoolteachers in other regions.

Second, based on the SCCT guidelines, the researcher explored the career motivations and understandings of international school science teachers [2]. Although international school science teachers' opinions and feedback may not reflect those of all other professionals in the field, the results captured how social, cultural and financial factors influence individuals' professional development, career development and career decisions [9].

Finally, the results of this study provide guidance for managerial improvement for a number of professionals, such as international school leaders, policymakers, professionals who would like to pursue career pathways outside of their home country, and foreigners who are living in host countries and international communities. Through globalisation, many countries and regions are thirsty for qualified professionals in all areas, particularly for science teachers. Therefore, present policies should be reformed to meet the demand [10].

The geographic limitations of this research mean future studies may be aimed at larger populations affected by the issue discussed here. For example, educational institutions in the Middle East are recruiting international schoolteachers, particularly science teachers [11]. However, because of cultural and environmental differences, foreign teachers may face difficulties in many areas. Researchers may extend the research worldwide [12].

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BIOGRAPHY



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