JOURNAL OF COMPARATIVE & INTERNATIONAL HIGHER EDUCATION

FEATURED ARTICLES

BOOK REVIEW

Philosophy for JCIHE

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Authors are encouraged to contextualize their argument, when possible, by citing from existing debates and discussions previously published in JCIHE and by sharing how the results of your manuscript contribute to previous published articles on related issues. These links build a sense of continuity and foster scholarly dialogue within the journal.

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contribute to current thought by expanding, correcting, broadening, posing questions in a new light, or strengthening current conceptual and/or methodological discussions in the field of comparative and international higher education. We especially welcome new topics and issues that have been under-emphasized in the field. Empirical Articles are 5,500 - 7,500 words excluding references and tables.

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1,500 words excluding references and tables. NOTE: Submissions must include a Letter of Support from the student's Supervisor/chair indicating their approval for the publication.

The style and format of the *Journal of Comparative & International Higher Education* follows the APA style (7th Edition). Edit to read: Footnotes/Endnotes are not allowed. USA spelling (e.g., center, color, organize) and punctuation are preferred (single quotations within double if needed), and requires a short paragraph of bibliographical details for all contributors. Please see Instructions to Authors for additional formatting information.

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Journal of Comparative & International Higher

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JCIHE: Vol. 13 Issue 1, 2021

Introduction

Rosalind Latiner Raby

California State University, Northridge

Editor-In-Chief

Dear Readers -

I am pleased to share the Volume 13, Issue 1, 2021 of the *Journal of Comparative and International Higher Education* (JCIHE). JCIHE is an open access, independent, double-blinded peer-reviewed international journal publishing original contributions to the field of comparative and international higher education. The JCIHE is the official journal of the Comparative and International Education Society (CIES) Higher Education Special Interest Group (HESIG). The mission of the journal is to serve as a place to share new thinking on analysis, theory, policy, and practice, and to encourage reflective and critical thinking on issues that influence comparative and international higher education. JCIHE showcases new and diverse international research that uses rigorous methodology that focuses on theory, policy, practice, critical analysis, and development analysis of issues that are influence higher education. JCIHE has as its core principles: a) comparative research; b) engagement with theory; and c) diverse voices in terms of authorship.

As JCIHE growths in breadth and depth, it is important to continually refine a structure that is useable for our readership. Widespread recognition of the importance of comparative and international higher educational themes is resulting in quality manuscripts from authors from around the world. Due to the increase in accepted articles, JCIHE has moved to a 5-issue format, starting with this issue. In addition, JCIHE has added book reviews that will be accepted on a rolling basis. The first book review is included in this issue. Finally, JCIHE will soon be adding author short-videos describing their research.

The Issue 1 for 2021 includes 9 articles and a Book Review that identify current issues of higher education in Africa; Bulgaria; China; Japan; Turkey; United States; Vietnam. There are two broad themes that are the focus of this issue:

Student Learning Strategies

Student learning strategies and pedagogy are explored in six articles. Yao, Bush, Collins, Tuliao, Briscoe, Lan, and Dang examine self-regulated learning of STEM undergraduates in a Vietnamese

Transnational university. Futagami examines motivations of international students studying in Japan research-intensive universities and captures their attitudes towards choosing to stay in Japan. Cayetano-Penman examines coping abilities and self-management strategies learned by international students in an EMPOWERMENT program offered in a U.S. university. Kilc. Karadağ, Kılıç, and Demirel examine strategies that international nursing student adopt during their nursing practice in the clinic at a university in Turkey. Célestine and Mangue examines how two philosophies impact curriculum generation by comparing the Chinese policy of talent cultivation to the Western concept of academic culture. Finally, Yamada explores the adoption of technological pedagogy in liberal arts curriculum as part of enabling Japan/s vision for Society 5.0.

Institutional Focus

A focus on institutional changes is explored in three articles. Bekelea and Thaddeus explores the strategic plan of 30 universities in Africa. Tananuraksakul examines the value and the use of English as a Global language in a Bulgarian higher education internationalization context. Finally, Gaudino examines School (K-12) District administrator perceptions and hiring practices of university students who are training to become teachers and who participated in education abroad programs.

The JCIHE Volume 13, Issue 1, 2021 includes the following articles:

Christina W. Yao. *University of South Carolina, United States,* Trentee Bush, *Northeast Community College, United States*, Courtney Collins, *University of Nebraska-Lincoln, United States*, Minerva Tuliao, *Texas Tech University, United States*, Kaleb L. Briscoe, *Mississippi State University, United States*, and Ngoc Lan Thi *Dang,Vietnamese-German University, Viet Nam*. "**Exploring STEM Undergraduate Self-Regulated Learning at a Vietnamese Transnational University**". This article explores "New Model Universities" in Vietnam that partner with foreign institutions to offer self-regulated learning programs to supply the demand for quality STEM higher education. The article examples how the Vietnamese transnational experiences enable students engage in self-regulated learning and if such learning contributes to overall success.

Tsuneji Futagamia, *Seigakuin University, Japan*. "**On motivations for mobility of international students studying in Japanese research-intensive universities**". This article examines outcomes of the 2008 Japanese government 300,000 International Students Plan, the intent of which was to attract excellent international students and to encourage post-graduates to stay in Japan to assist the decreasing Japanese workforce. The article

captures student voices as to why they choose to study in Japan, research capabilities, and their experiences while studying abroad.

Noparat Tananuraksakul, *Rangsit University, Thailand*. "**Value and Use of English as a Global Language in a Bulgarian Higher Education Internationalization Context**". This article examples the use of English as a global language (EGL) in Bulgarian higher education internationalization efforts. The focus is on the value and use of EGL as a de facto 'extraterritorial' lingua franca. The article also explores the linguistic, cultural, and psychological challenges that international students encounter as well as the determinants that impact their adjustment.

Teklu Abate Bekelea. *American University in Cairo, Egypt* and Denis Thaddeus Ofoyurub *Gulu University, Uganda*. "**Emerging University-society Engagements in Africa: An Analysis of Strategic Plans**". This article explores the strategic plans of 30 universities in Northern, Southern, Eastern, and Western Africa to assess external pressures from the need to demonstrate their relevance and significance to society poised to substantially reconceptualize their missions- education, research and community service. Using a S.W.O.T. analysis of Strengths, Weaknesses, Opportunities and Threats. Using this analysis, emerging engagement emphasis was analyzed in the strategic plans to target university-society engagements.

Aki Yamada, *Tamagawa University, Japan*. "**Japanese Higher Education: The Need for STEAM in Society 5.0, an Era of Societal and Technological Fusion**". This article explores how advanced technologies and service platforms integrate with and empower individuals in a human-based society with a focus on the potential role and benefits of incorporating liberal arts education into these technical studies, referred to as STEAM. The study shows how the humanities, social sciences, and arts can be used to enhance STEM education, and furthermore, how this STEAM approach to education is key to enabling Japan's vision for Society 5.0.

Ann C. Gaudino, *Millersville University of Pennsylvania, United States.* "**School District Administrator Perceptions and Hiring Practices of Teachers Who Participated in International Student Teaching Placements**"**.** This article explores administrators' perspectives on hiring practices of teachers with internationalization experiences as being a benefit in terms of increased personal confidence, cultural awareness, ability to self-reflect on their professional practice and implement change, and ability to

differentiate instruction for diverse learners. However, the study shows that these benefits did not help with the actual hiring as districts had no formal way of accounting for international student teaching experience any differently than student teaching experience in the United States.

Célestine Laure Djiraro Mangue, *Higher Teachers' Training College, University of Maroua, Cameroon* and Jean Gonondo, *Higher Teachers' Training College, University of Maroua, Cameroon.* "**Academic Culture and Talent Cultivation: The Chinese Experience**". This article examines the Western concept of 'academic culture' and the Chinese concept of 'talent cultivation'. The article examines the influence of 'academic culture' in the process of talent cultivation in the Chinese university context that is seen in internationalization practices and the innovation of scholars. The comparisons are then examined in relation to overall educational reforms.

Serap Palar Kilc, *Inonu University, Turkey*, Gülendam Karadağ, *Dokuz Eylül University, Turkey*, Nermin Kılıç, *Firat University, Turkey*, Cihat Demirel, *Firat University, Turkey*. "**Difficulties and Expectations of Foreign Nursing Students in the Clinic**". This article explores the difficulties and expectations of foreign nursing students during their nursing practice in the clinic at a university in Turkey. Socio-cultural and educational problems are affecting overall student success. The study shows that cultural differences did not seem to be the problem but applying treatments and applying care interventions were difficult based on their in-service training and former curricular experiences.

Joy Cayetano-Penman, *Monash University, Australia*, Gulzar Malik, *La Trobe University, Australia*, Kerry Hampton, *Monash University, Australia*, and Yaping Zhong, *Monash University, Australia*. "**Conceptualising a Program Aimed at Empowering Beginning International Health Science Students for a Successful Transition to University**". This article explores how a specific program in Australia, EMPOWERMENT, assisted beginning international students to expand coping abilities and self-management strategies. The goal was achieved in increasing resilience and improving skills to manage stress.

United States who is the JCIHE Book Review Editor and Peter G. Ghazarian, Ashland University, United States who is the JCIHE Social Media Editor. I also want to thank Sasha Cui, the outgoing Social Media Editor for her years of service to the journal. Finally, I want to give special thanks to the JCIHE Copy-Editors for this issue: Lul Admasachew; Nazgul Bayetova; Ryan Deuel; Michael Lanford; Rachel McGee; Sarah Schiffecker; and Nian Ruan; and Samantha Thompson.

Editor-in-Chief,
Rosalind Latiner Raby

Exploring STEM Undergraduate Self-Regulated Learning at a

Vietnamese Transnational University

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Abstract

STEM education in Vietnam is prioritized, yet effective learning may be difficult for students attending transnational universities. The purpose of this study is to examine the self-regulated learning experiences of STEM undergraduate students attending a collaborative transnational university in Vietnam. Challenges included English language instruction and STEM-specific terminology. Despite barriers to their learning, students describe strategies for navigating their learning process. Strategies included extensive rereading of the material, using Google to look up new terms/ideas or to translate words, asking instructors for translation, and reviewing online resources. Implications for practice include instructors providing more detailed feedback and guidance and leveraging technology use for learning.

Keywords: Vietnam, transnational education, STEM, self-regulated learning, undergraduate students

Introduction

Vietnam is unique in that there is a high demand for higher education yet the government has a limited infrastructure to support the demand (Ashwill, 2006). As a result, the Vietnamese government has invested in the creation of "new model universities," using partnerships with foreign countries and institutions to supply the demand for quality higher education (World Bank, 2017). Part of the national

strategy places an emphasis in producing skilled workers to contribute to the country's economy as a way to increase skills, particularly in science, technology, engineering, and maths (STEM) fields. As a result, STEM education is prioritized because of the belief that STEM training and education can develop high-quality human resources for Vietnam through the K-12 to higher education pipeline (Nguyen & Dang, 2019).

Effective STEM education is critical, as various factors influence the experiences of undergraduate STEM majors. For instance, lectures tend to be less successful means for students to obtain STEM material than active learning (Freeman et al., 2014; Smith et al., 2014) while self-motivation and institutional policies can play a role in a student's ability to keep moving forward (Cromley et al., 2016). In addition, various achievement gaps are often noted for minoritized groups in the STEM fields (Gonzalez & Kuenzi, 2012). Each of these challenges makes STEM education seemingly more difficult for students to gain and maintain interest in the STEM fields of study.

Another major factor in learning can be the language barriers between scientific community and the language of instruction. This scientific language, often full of English-based scientific jargon, can make it difficult for learners to translate and communicate across cultural barriers. In some cases, it might even lead to cultural identity conflict (Hwang, 2013). For students at transnational universities in Vietnam, they face the additional challenges of instruction conducted completely in English and considerable teaching by short-term foreign faculty. Despite the difficulties, Vietnamese students choose to attend transnational universities because of perceived benefits of English language instruction and low cost for an international degree (Yao & Garcia, 2018). Thus, understanding factors that contribute to undergraduate student learning in STEM will illuminate the classroom needs of students at transnational institutions. The purpose of this study is to examine the self-regulated learning experiences of STEM undergraduate students attending a collaborative transnational university in Vietnam. We seek to answer the question, "How do STEM undergraduate students engage in self-regulated learning at a Vietnamese transnational university?"

Student Learning in Vietnam

Vietnam is attempting to reach a global higher education standard (Nguyen, 2011), especially in STEM fields. Students proficient in STEM fields demonstrate strengths such as developing creative and logical thinking, possessing outstanding learning and working capacities, and being able to develop soft skills more. As a result, the Vietnamese Ministry of Education and Training (MOET) is now attempting to develop the curriculum of high schools and organizing teaching activities and methods in accordance with STEM contents (Nguyen & Dang, 2019).

The emphasis on STEM education has also permeated the higher education sector in Vietnam. The Vietnamese government has expanded higher education offerings in the past 20 years, resulting in a massification of higher education providers to meet the demands of students (Dao, 2015). Part of the strategy for improving higher education outcomes includes an emphasis in producing skilled workers to contribute to the country's economy. However, skills from recent graduates are not matching the needs of the developing science and technology economy. Transnational universities, all of which partner with foreign countries such as Germany, France, and Japan, play a critical role in developing the skills of the future workforce in STEM. These transnational universities conduct instruction in English, seek to use active learning strategies, and employ foreign faculty for teaching (Yao & Collins, 2018).

There has been little scholarship that specifically examines the benefits or challenges to the use of English in transnational STEM classrooms. Mazak and Herbas-Donoso (2014) discussed STEM learning in multilingual contexts and found that "there is nothing inherently scientific about English that should favor it over the use of any other language" (p. 30). According to Wilkins and Urbanovic (2014), TNHE use of English as a lingua franca is more pervasive due to "wide[ly] held assumption" (p. 2) that the only way to legitimize TNHE programs is to teach in English. Yet, some institutions opted to utilize host/partner nation language instruction due to concerns regarding quality of instruction due to a lack of proficiency at the university level by both student and faculty (Wilkins & Urbanovic, 2014). However, TNHE institutions not using English language instruction will require "a clear rationale and benefit to students of studying in a language other than English" (Wilkins & Urbanovic, 2014, p. 13) in order to be successful. This rationale is challenged by the fact that English is being pervasively deemed the "language of science" (Mazak & Herbas-Donoso, 2014) in contexts that find educators and students utilizing translanguaging and code-switching (Bahous et al., 2014) to implement curricula. According to Mazak and Herbas-Donoso (2014), translanguaging is used when multi-lingual speakers use multiple languages to communicate in complex multi-lingual contexts. Code-switching is the practice of multi-lingual speakers switching between multiple languages in a spoken context. For education this may include a lecture, or even a single statement by a student.

Practices of requiring and implementing English instruction on an institutional or national level may lead to difficulties in student learning. Yao, Garcia, and Collins (2019) found that the use of English as the operating language at transnational universities provided both challenges and opportunities for student learning. Challenges included the use of technical jargon and difficulties communicating with faculty. However, students used strategies such as collaborative learning and supplemental resources to navigate the English language barriers (Yao & Collins, 2018; Yao et al., 2019). Yet despite challenges,

Vietnamese students viewed English language development as a way to contribute to their employability post-graduation (Yao & Tuliao, 2019).

Conceptual Framework: Self-Regulated Learning

Self-regulated learning was used as a framework to understand the way students responded to the challenges of what they perceived as a barrier to learning STEM concepts within an English-instruction context. As a meta-construct, self-regulated learning is defined as a process whereby learners actively set learning goals, and flexibly guide and monitor their cognition, motivation, and behaviors within learning contexts to ensure success (Singer & Bashir, 1999; Pintrich, 2000). Students are described to be self-regulated if they are meta-cognitively, motivationally, and behaviorally active participants in their own learning process (Zimmerman, 1989). Prominent models of self-regulated learning (e.g., Zimmerman, 1989; Pintrich, 2000) focus on how cognition, meta-cognition, motivation, and context affect the learning process (Saks &Leijen, 2014). Specifically, Zimmerman (1989) considered three common components that existed across most self-regulated learning perspectives: 1) purposeful learning strategies used by students to improve academic achievement, 2) self-monitoring and feedbacking of both own performance and strategy effectiveness, and 3) motivational and self-efficacy beliefs that result from, or are influenced by, the type of self-regulatory strategy or response in a socio-environmental context.

In higher education contexts, self-regulated learning offers a way to understand individual differences in learning among students, including diverse strategies in delivering modes of learning, such as the use of technology (Cassidy, 2011). Previous research in educational contexts provide guidance on the implementation of self-regulated learning, including the creation of enabling environments that foster students' learning strategy development with growing emphasis on technology as a tool for self-regulated learning and positive self-efficacy in goal achievement (Cassidy, 2011). Additionally, Lin (2019) studied self-regulated learning strategies among international and ESL college students majoring in both STEM and non-STEM fields. She found that these students were motivated to learn specific and advanced knowledge and skills. When they try to avoid making learning mistakes, it demotivates them to using deeper self-regulated learning strategies. The socio-environmental context was also significant. Students try hard to succeed because failure is seen as a financial and social disappointment for their families back home, and students who are found to be more competitive than their peers were willing to study with classmates more often.

Methods

We utilized a single case study methodological approach for this study. Single case study research is most applicable when a researcher is interested in studying one thing or group (Stake, 1995).

Additionally, single case studies allow researchers to question existing and new theoretical relationships, which provides a deeper understanding of the case. While we were most interested in hearing about student experiences and how they may offer insight into the STEM learning experiences at a Vietnamese transnational university, the institution's context played a significant role in shaping the research design of this study. Therefore, the institution served as the case, using Vietnam Transnational University (VTU) as a pseudonym. Students were our units of analysis as they provided perspectives on what factors contribute to their STEM learning at a collaborative transnational university. The findings from this current study are from a larger study in which we questioned how students engage in the learning process at collaborative transnational universities in Vietnam, which included graduate students in social sciences and STEM.

Insitutional Context

To understand the institutional context of our site, we collected institutional data by conducting a keyword search and selection of documents from the college's websites. We specifically reviewed the institutional websites to provide an understanding of how VTU supports students learning within STEM. This data was then analyzed following Bowen's (2009) recommendations for document analysis.VTU is public university established in Hanoi, Vietnam in 2009, and collaboratively funded by both the Vietnamese and the French government. VTU offers eight bachelor's degrees, which follows the European model of three years for graduation. Courses are taught primarily by short-term French instructors who "fly in" to teach two week courses. The mission of VTU is "to provide high quality human resource in Science and Technology serving for the development of research and technology transfer, for the demand of socio – economic development of Vietnam and at the same time making all efforts to become an excellent research-oriented University in Vietnam, reaching the regional and international standards."

Data Sources

Selection of participants was a result of purposeful sampling. Purposeful sampling strategies are "based on the assumption that the investigator wants to discover, understand, and gain insight and therefore must select a sample from which the most can be learned" (Merriam & Tisdell, 2016, p. 96). Recruitment emails were sent to eligible participants, which included all current students enrolled at VTU. Semi-structured interviews were conducted in person with ten undergraduate students at VTU. Using semi-structured interviews provided the opportunity to ask follow-up or clarifying questions related to participants' specific and unique experiences in their respective graduate program (Glesne, 2010). Participants were able to share thoughts on their specific graduate programs, including feedback

on faculty and their motivation to attend VTU. All communications, including solicitation emails, interviews, and consent materials, were all conducted in English. Because English was not participants' primary language, the interviewers ensured ample time for participants to review printed consent forms and would clarify any unfamiliar terms. In addition, during interviews, interviewers took care to avoid the use of jargon and allow time for reflection.

Four of the participants identified as women, and the representation of grade level included first year (3), second year (3), and third year (4) students. Each interview lasted approximately 60 minutes and was conducted in English. Interviewing participants was the most appropriate mode of inquiry because it helped us learn about their experiences and allowed for their lived experiences to emerge (Charmaz, 2001). As a result of our participants' broad range of interests and experiences, we have been able to collect rich data, which has increased the trustworthiness of the data collected (Glesne, 2010).

Gathered data from each individual interview was organized and transcribed on an ongoing basis, including details on dates, pseudonyms, and any other notes that the first author took during and after the interviews. Examples of interview questions include: "Tell me what you were looking for in a university prior to starting in your current program" and "What do you think are the benefits of attending VTU instead of another university in Vietnam?" Although the researcher had some pre-determined interview questions, she allowed for conversation to emerge naturally and asked follow-up questions when appropriate.

Participants were encouraged to select their own pseudonyms to be used instead of their real names. The decision to do so with this study comes from the research group's belief that the designation of pseudonyms is a discreet form of power exertion (Guenter, 2009). Often in international research, the selection of pseudonyms anglicizes or indirectly removes the cultural identity of participants (Kvale, 1996), which the researchers sought to avoid throughout the interview process.

Data Analysis

Coding and analysis was conducted by a team of researchers after the first author returned to the United States. When coding, we made categories that were based on the research questions and conceptual framework from which we interpreted emerging themes (Rossman & Rallis, 2003). We utilized deductive coding, which includes a "start list" (Miles et. al., 2014, p. 81) based on this study's interview protocol and conceptual framework. We first searched for broad categories and then developed themes that emerged from the participants' experiences. Themes were coded by identifying appropriate phrases that related to our themes.

After concluding first cycle coding, we moved on to second cycle coding, which is "a way of grouping those summaries into a smaller number of categories, themes, or constructs" (Miles et. al., 2014, p. 86). We organized the first cycle codes by clustering them under common themes or patterns that emerged from the interviews. This was an iterative process of reflecting and clustering codes into code categories. We continuously refined the pattern codes until we felt the final codes were representative of the participants' experiences.

Findings

Participants shared their experiences that were distilled down to two specific themes related to learning and engagement: the simultaneous navigation of English language and STEM concepts and strategies for learning at transnational universities. Participants shared their experiences with using English in their STEM classrooms. For many of the participants, English had been learned at a young age, generally around grade three. Their English skills were developed enough to meet the required basic English skills for admittance at their university. Typically, the reading and writing of English are tested while speaking and comprehension of English were not included in the tests.

Challenges of Undergraduate STEM Education At a Transnational University

Students often noted challenges in the classroom with their English, whether it be from instructors lack of English proficiency or from their own translation challenges. Gia shared, "At first, I can still understand them. I just find it really uncomfy to hear them pronouncing words incorrectly, and it's quite frustrating at first, but then I just try to push it apart, ignore it and focus on the important things." Duong provided more insights on his own translation challenges, stating,

> So, the slide English, and the teacher also recommend some textbook in English. So we have to learn by this textbook. And some course the teacher also suggest us to learn from the online course. So we have to listen to that course. And many subject in university, we have to do the work because the presentation, and it is only in English, so we have to learn this for presentation.

Many participants described their challenges with utilizing English in courses that were STEM-heavy in topics. For example, Hat, a third-year Pharmacological, Medical and Agronomical Biotechnology (PMAB) major, summed up the difficulties, saying, "To be an English environment with little my own language here, that is challenging. I know this also a barrier to learning science, because we had a double barrier." This additional language of scientific or mathematic terms was challenging for the participants. In addition to the language challenges, the university emphasized a STEM culture that was new to many participants. Ghoster shared with us that the focus was on science when he said, "So I'd say this is a science university, science college, so it focus more on knowledge about the science than language."

Ghoster, a second-year student in Space and Applications (SA), described his professor who "used to say when you study science, no matter about the English, it also kind of language," which illustrates the complexities of learning science. Sherlock, a second-year student in Renewable Energy (RE), similarly found challenges in his STEM classes. He stated that "in courses, there's a lot of new terminology" and as a result, he "need to start to be familiar with the new terminology in the class so that I can maybe overcome it easier," but the intersection of learning new terms as a non-native English speaker proved to be difficult in classes.

Zimy, a first-year biology major, shared the reality of this barrier:

Sometime our student here think that, said that how English has destroyed their science dream because it's very hard to translate back and back to English again. And the teacher in our school try as much as they can to reduce. They try to explain every word in English so we don't have to translate it into Vietnamese.

Repetition of the learning challenges was noted. Most participants, even those who felt more proficient with English, found this simultaneous navigation of language to be difficult. For some other students, their studies at this transnational university were their first real venture into the English language. Naly, a second-year Advanced Materials Science and Nanotechnology (AMSN) major, was asked what her biggest challenge was at her university. Her biggest challenge was using English in the classroom because "I just study it last year. I do not focus on it when I was young, so now I have to study and I feel that this is hard." Thus, in addition to learning new content in classes, Naly had to navigate the complexities of language.

Participants also struggled with the timeline involved in the course structure at the transnational university. Many courses are shorted in terms of length of time and the material is taught in a very intense format. Hat shared that one of his courses was only one week long. In his opinion, "It's too short. We would like to extend it to two weeks, maybe they can convey all the knowledge to us in such a longer span of time." This challenge arises for the transnational university when faculty from the partner countries fly in to serve as lecturers for a short period of time. Sally, a third year Advanced Material Science and Nanotechnology student, shared her thoughts on the difficulties "to learn all, everything, in one week and then do the exam. However, for us, our lecturer said that we can do all the course in one week but if we have further answer, just give her an email."

Strategies for Self-Learning to Overcome Challenges in STEM

Ghoster described his process for understanding his professors' lectures at home when he has difficulty with comprehension while in class. He "just take key words and I re-skim at home. It's kind of way to understand the lecture. I'm not able to understand the words the teachers say when I in class so I

see the keyword and I read the slide at home." This process, as reported by Ghoster, takes a lot of time and interestingly, he would learn new words but not be able to translate them into his own native language. "I know the words mean something, but I don't in Vietnamese," which may prove to be difficult with future application.

Many participants described the importance of technology in their learning experiences. As Larry, a first-year student in PMAB, matter-of-factly stated, "everybody Googles." This sentiment was repeated by almost every participant in this study. Larry would study on his own and while writing papers, he "sometimes to the internet and find some picture to help" so that way, he "can understand this more." Another example of using the internet included Hat, who utilized Google because he found that "it is not interesting to have to hear lecturers talking all the time in class." Rather, he found much benefit by going online and finding "many different alternatives." He was able to search for and find lecture videos, which allowed him to be "exposed to new ideas." He spoke extensively on the benefits of viewing outside sources on his learning. Link Noisyboy, a third-year biotechnology major, said

> I can research, I can talk with, I can chat with my teacher and I will learn, I will read articles many times. In the first time, I maybe cannot understand what the article say when we learn what we learn when we read the article many times and we can understand and understand the word, one by one.

In essence, these participants had created their own learning strategies for a complex issue. These strategies could be boiled down to: extensive rereading of the material, using Google to look up new terms/ideas or to translate words, asking the Vietnamese instructors for a translation, listening to online courses, and more. Students at this university had not only recognized their largest challenge, but had adapted to overcome it. They had a vested interest in doing so as many of them had globalized career goals in STEM industries.

Discussion and Implications for Practice

The students in this current study have a variety of language barriers to overcome in order to have a successful educational outcome. These barriers include the traditional challenges related to learning in a second, non-native language. In addition, this study has provided the researchers with some insight into the challenges these students are facing as they must also learn and navigate the nuances of the languages of science and mathematics. Knowing that STEM terms have their own universal meanings and applications, these transnational students have expressed that STEM is like an additional language they must learn to speak and understand, which is reflected in Mazak and Herbas-Donoso's (2014) study.

Students referred to the English language as an additional learning barrier in addition to the STEM jargon, specifically as something they had to overcome in order to be successful students. This unforeseen obstacle was noted by several students and became a theme among this population of transnational students which was reflected in previous studies (Yao & Collins, 2018; Yao et al., 2019; Yao & Tuliao, 2019). Many of the students self-taught STEM terms through personal research or contextual cues. They used whatever resources they could gather to make sense of the STEM terms not just in English, but also translated into their native language to have a stronger sense of the meaning. Their go-to method was often Google, but they used images, videos, and text to help make the connections. The course materials were often read multiple times, and occasionally the instructors were directly asked for the translations to these STEM terms. Overall, students moved beyond relying on lectures for learning the nuances of course material, as demonstrated in previous studies on STEM learning (Freeman et al., 2014; Smith et al., 2014).

The challenges with learning were not viewed by the students as roadblocks, but simply as acknowledgments to their transnational system of learning. They recognized that STEM terms were universal and did their best to understand them in both languages. However, this part of their education was very much a self-taught concept, including the use of self-monitoring and motivation for academic achievement (Zimmerman, 1989). Because instructors did not appear to emphasize teaching these STEM terms as part of the classroom material, a great majority of overcoming the learning challenges was performed outside the classroom. The use of technology greatly assisted students in their self-regulated learning (Cassidy, 2011) as evidenced by the use of Google and other online resources.

STEM education has gained attention on an international level, yet rarely is the role of language discussed in student learning. More importantly, there is limited attention between the intersection of learning a new scientific language and students' non-native language of English. Thus, this study contributes to understanding how transnational universities can foster student learning and engagement in STEM courses, particularly at the intersection of navigating multiple languages and contexts. Although situated at a single site in Vietnam, this particular study may be used as a foundation for further studies on transnational STEM universities in Southeast Asia, after careful consideration of contextual and cultural differences. Thus, understanding factors that contribute to undergraduate student learning in STEM will illuminate the classroom needs of students at many transnational institutions.

This research provides valuable insights on the learning barriers that exist for undergraduate STEM students learning at a Vietnamese transnational university. In connection with self-regulated

learning (Zimmerman, 1989), potential implications for this study include engaging learning through strategies that strengthen students' proficiency in English, providing essential feedback that build students' performance, and incorporating technological savvy strategies and modes of learning into the curriculum. Despite English being a requirement for entry into transnational universities, many students struggle with aspects of English (e.g., writing, reading, and/or speaking) once in the classrooms. Although some instructors recognize the language barriers that exist, instructors need to develop tangible strategies to ensure that students are able to learn and navigate these complex barriers inside of the classroom. This should include providing students with tips and resources that can be incorporated into their study regimen at home.

Balancing learning English and STEM concepts can also be extremely difficult for students at transnational universities. Our participants described how they often had to juggle learning STEM concepts and English with little to no assistance. While students taking initiative to gain skills in English and STEM is important, due to the nature and swiftness of transnational education, faculty members should also consider how they can make learning English and STEM concepts more plausible. This can include providing students with detailed feedback on assignments, projects, and group work to ensure that they have a clear understanding of course concepts. Instructors should also consider the ways in which they can provide encouragement to students who are struggling with English and STEM concepts. This could include simple things such as encouraging and praising students who make progress throughout the course.

Technology, such as the internet, was an extremely beneficial learning tool for our participants. Several participants referenced how they found alternative lectures and videos that helped them understand course materials. Because technology was so important to many of our participants learning experience, our recommendation is that transnational universities and instructors find innovative ways to incorporate technology into classroom learning. Overall, the development of technology in the classroom by creating videos and online lectures would assist students who may have challenges grasping course materials and jargon.

Limitations and Recommendations for Future Research

There are a few limitations associated with this research that future studies of similar topics should consider and address. First, the participants were contacted and located through emails, so only those responding were able to be selected for the study. Only ten students responded and agreed to participate in face-to-face interviews, which made the sample size rather small. Accordingly, future empirical studies of self-directed learning of STEM students should employ multiple sampling techniques

in order to enlarge the sample size. In addition, researchers can select STEM students from a few more transnational universities in one country to enrich collected information and thus diversify research results. Also, comparative and international research on STEM students' self-directed learning can be conducted with data collected from transnational universities in two or three different countries in Southeast Asia.

Second, because the language used in the interviews was English, which is not interviewees' native language, some of them could not fully express their ideas due to the limitation of their foreign language proficiency. In this regard, this may adversely influence the reliability of the findings to a certain extent. Yet as a way to mitigate this limitation, we gave participants the opportunity to review their interview transcripts yet few chose to do so.

Third, the time spent on the research site was limited. Therefore, future researchers should spend more time on the field site to observe the participants' learning context and develop "trust and cooperation" (DeWalt & DeWalt, 2002, p. 40). Perhaps an ethnographic study would elicit deeper meaning making of and by the participants. In doing so, we may receive additional nuances about the students' experiences.

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Conceptualizing A Program Aimed at Empowering Beginning International Health Science Students for A Successful Transition to University

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Abstract

International health science students face many challenges at the beginning of their courses, including a lack of awareness of cultural differences, adjusting to academic expectations, communication difficulties, clinical placement challenges, financial pressures, maintaining cultural and religious practices, discrimination, and emotions such as loneliness and being homesick. This study aims to assist beginning international students enrolled in health sciences programs to adapt to university life and achieve academic success by expanding their coping abilities and self-management strategies. A survey approach was used to evaluate the pilot program named EMPOWERMENT. All first-year international students who participated in the EMPOWERMENT program were invited to complete a post-training questionnaire after the program. The results revealed that increased resilience and improved skills to manage stress were the most frequently reported outcomes of the program. In acquiring these important skills, the students valued the opportunity to share their experiences and learn from each other.

Keywords: international students, university transition, health science courses, resilience, coping, self-management strategies

Introduction and Background

International students make a substantial contribution to Australia's economy and social culture. According to International Education Association of Australia statistics (2019), the Australian international education sector has contributed 37.6 billion to the Australian economy, up by $5 billion from the previous financial year, representing a growth of 15% since the 2016-17 financial years (Australian Bureau of Statistics, 2019). International education is Australia's fourth-largest export earner after coal, iron ore, and natural gas (Australian Bureau of Statistics, 2019). In addition, the Australian

Department of Education, Skills, and Employment (2020) has reported that Australia is the third most popular education destination globally, with approximately 758,154 international students studied in Australia in 2019, up by 9.4% in growth.

Research exploring students' experiences of studying and living in Australia has shown that students face a few complex challenges in the initial stages as they adjust to living and studying in a foreign country (Australian Universities Guide, 2018). Several studies highlighting low well-being among international students have consistently raised concerns about student adjustment, academic progress, and overall quality of their university experience (Marginson, et al., 2010; Forbes-Mewett & Sawyer, 2011). For instance, an Australian scoping review by McKenna et al. (2017) has identified several factors that influence the psychological well-being of international students in the health professions, including increased levels of anxiety and stress in trying to meet family expectations, resulting in lower quality of life and unsatisfying personal relationships. The review concluded with the recommendation that universities should develop tailored interventions to support international students throughout their degree program both for academic success and overall health and well-being.

Considering that universities are essential venues for promoting mental health and well-being, many educational institutions have developed services in common and/or specifically for domestic and international students (Ong & Ramia, 2009). However, the problem for international students is that these services are often underutilized because of their help-seeking attitudes. Help-seeking refers to the behaviour of a student actively searching for and requesting academic or non-academic help through a variety of services in the university (Gorczynski, et al., 2017). A 2010 study by Martin on service utilization found that students were reluctant to use the services available to them because they did not want to disclose their mental health conditions to the university (Martin, 2010). They feared being stigmatized and discriminated in their studies and concerned about confidentiality issues.

Because of being unsupported, they became disadvantaged, resulting in their under-performance. Students preferred to seek help from family and friends rather than from university counselors or private counselors (Reavley, et al., 2012; Goodwin, et al., 2016). Thus, while it appears that students have specific reasons for not accessing university-provided counseling and other similar services, a clear need remains, as does the need for the articulation of an engagement and development strategy that is relevant and meaningful for this potentially vulnerable group of students.

Many universities have developed orientation programs that support the transition of first-year students to higher education. Heaney and Fisher (2011) report that newly enrolled students lack confidence in their ability to succeed in academic settings and need additional help in gaining the

knowledge, attitudes, and skills to help them adjust and make a smooth transition into the university community. Most Australian universities hold their orientation in the week immediately preceding each semester. During the program, students are introduced to several university services that support students in their educational and personal goals, along with several information sessions and fun social activities that are designed to set students up for success in their studies (International Education Association of Australia, 2020). It is acknowledged that orientation programs are essential in helping students persist (Manee, et al., 2015). However, in most instances, the orientation activities are organized for a short period of time, and therefore more is needed to be done for international students considering their increasing numbers in various programs.

Evidence suggests that health science degree students, in particular, experience significant transitional stress as compared to students enrolled in other disciplines (McKenna, et al., 2017; Penman & Thalluri, 2014). While experienced by domestic and international students, the main stressors for students enrolled in health science courses were language issues, adaptation to a foreign education system, and settlement, finance, and health challenges (He, et al., 2012). In addition, adjusting to a new academic structure was raised in many studies, particularly a requirement to study online, be self-directed learners, classroom interaction and largely clinical placements in health services, reported as key stressors (Malau-Aduli, 2011; McDermott-Levy, 2011).

To support health science and international students, it is argued that transition programs will be more meaningful if they are extended well beyond the initial orientation events to support students through the first semester and beyond (Krause, 2006). Moreover, it has been found that institution-level transition programs are most successful if accompanied by discipline-based initiatives designed to support students within their disciplinary subgroups (Yu, et al., 2017). This approach has been proven to be more beneficial and meaningful to international students as the programs are considered to be both authentic and relevant to their proposed course of study and future careers (Arhin & Wang'eri, 2018).

The literature on international student persistence reports that students in their first year of university are much more engaged and devoted. Balancing between academic, work, and social life, academic integration, and attaining the right skills to cope with stressors contribute to international students' academic success and mainly to their retention (Andrade, 2006-2007; Mamiseishvili, 2012). However, these results can only be achieved if students are provided with support from faculty members, peers, and other relevant staff, such as peer-pairing programs and interactions with faculty members outside of the classroom (Andrade & Evans, 2009). Deil-Amen's (2011) study recommends the

importance of connecting students with faculty, staff, and advisors who can mentor and support students early on to facilitate the process of students' integration on campus.

While much emphasis is generally placed on the transition to university, relatively little attention is given to the transition through the first year of university for health science international students. When the excitement of orientation subsides, what can be done to enhance the quality of the student experience? How can international students enrolled in health science degree courses be empowered to recognise stressors better and thus manage their challenges? Furthermore, how can such an approach be scaled up so that the discipline and potentially the university can better support international students? The above questions provided the catalyst for the rationale of the self-management program our group visualized and piloted.

Aims

This study aims to assist beginning international students enrolled in Nursing and Midwifery, Nutrition, Dietetics and Food, and Occupational Therapy Masters' programs at our university to transition and adapt to university life and achieve university success by expanding their coping abilities and self-management strategies. After providing the background for the development of a self-management program, this paper will address three objectives, namely, to describe the conceptualization of the program that was developed; report on the initial reactions of the participants on the inaugural program that was conducted, and draw on the lessons learned to inform future program offerings.

<div align="center">

The Conceptualization of the Program

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The study was conducted at a public research university based in Melbourne, Australia. The university website (2020) states that it is the second oldest university in Victoria, having several campuses, four of which are in Victoria and one in Malaysia, and has a research and teaching centre in Prato, Italy, a graduate research school in Mumbai, India and a graduate school in Suzhou, China. It is a member of Australia's prestigious Group of Eight, a coalition of Australia's eight leading research universities (Group of Eight Australia, n.d.), and is consistently ranked among the world's top 75 universities (Q.S. World University Ranking, 2020). Students at this university come from diverse backgrounds, including in health science disciplines, hence the significance of this research for the international students studying at the university.

In preparing the EMPOWERMENT program, a reference group was formed consisting of academics with extensive teaching experience from three disciplines of Nursing and Midwifery, Nutrition, Dietetics and Food, and Occupational Therapy. Other members included a lecturer from the

Student Academic Support Unit and the Director of International Student Welfare. The group determined the content of the program, the pedagogical theory supporting the initiative, and the design, format, and delivery of the workshops. Bandura's (1986, 2019) social cognitive theory was used to underpin the conceptualization of the EMPOWERMENT program for international students. This theory was specifically chosen because it conceptualizes learning that occurs in a 'social context with a dynamic and reciprocal interaction of the person, environment, and behaviour' (LaMorte, 2019). As such, it sets out a structure of human thought and behaviour, where the factors behaviour, cognition, and environment interacted and influenced each other to give the desired outcome. Figure 1 captures the principles that underpin the program, illustrating the interactions of the key factors that bring about behavioural change, for example, self-efficacy. The arrows in the figure are fluid, vibrant, continuous, and interacting lines connecting the major concepts. Both cognition and the environment influence behaviour and vice versa.

Figure 1

Social Cognitive Theory
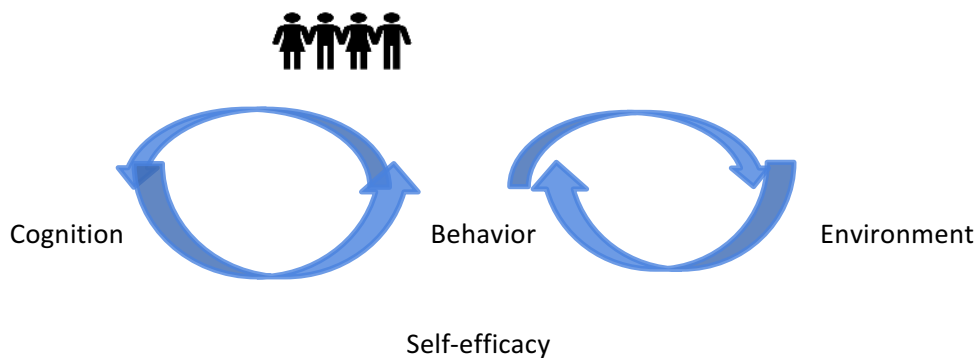
Using the social cognitive theory, the behaviour (being self-efficacious), will be strengthened following participation in the proposed program. Self-efficacy is defined as the ability to achieve what one set out to achieve, such as pass an exam, complete a course, deliver a presentation, or survive and thrive at university (Mitchie, et al., 2014). To increase the levels of self-efficacy, knowledge, skills and resources about empowerment strategies, and an environment that is supportive to raise the individual's confidence is necessary. In line with the theory, the idea is to shape the environment to provide opportunities for behavioural change, assisting with the changes, and offering resources and support, which may encourage durable behaviour change. It is also vital to recognize environmental

constraints that might deter behaviour change. Thus, during the sessions, challenges, and barriers to performing the expected change in behaviour are explored, acknowledged and strategies are presented to overcome these barriers. Figure 2 summarizes the program. The action phases are occurring sequentially, as demonstrated.

Figure 2A&B

The Conceptualization of the Empowerment Program

2A. Empowerment strategies (Cognition)

2B. Supportive mechanisms (Environment)

Cognition (2A) is a mental process that is informed by awareness, perception, understanding, thinking, and reasoning, as well as by past recollections and experiences (Braungart, et al., 2019). It is enhanced by the identification of the issues or problem (recognizing the challenges), appraising self, support available, the conceptualization of the engagement strategy, planning of the strategy, executing the plan, monitoring, and critically appraising for validity and usefulness, the reflection of areas for improvement, and working towards sustainability (Pathak, 2020).

The supportive mechanisms (2B) refer to the empowerment workshops, which included psychoeducation, peer mentoring and the Facebook page that will be maintained for and by the participants. The action phases are used to demonstrate these events in order to cause cognitive and behavioral change. The principles of empowerment and psychoeducation used in the pilot were first conceptualized from a systematic review of health and wellness literature conducted initially by some of the authors. These were also informed by personal experiences of the participating lecturers with many years of teaching experience, and the lessons learnt from past programs conducted by some lecturers to assist the smooth transition of students to the university. The resultant strategies were summarized in the acronym EMPOWERMENT: E–Engagements with others/relationships; M–Mindfulness; P–Positive thinking; O–(going) Outdoors; W–(emphasis on) Wellness; E–Entertainment/leisure/hobby; R–Resilience/rest/relaxation; M–Meditation/spirituality/belief in Higher Being; E– exercise/physical activity; N–Nutrition, Healthy eating; T–Temperance in activities such as phone/computer use, alcohol

(Baik, et al., 2016; Eat for Health: Australian Dietary Guidelines, 2013; Newstart: Health is wealth, 2019; Penman, 2015; Penman, et al., 2017; Staying well, 2018; Van Der Riet, et al., 2015). The outcome at the conclusion of the program was that the students would come up with their strategies for surviving and thriving in the university.

The theory also proposes that human functioning could be understood from basic capabilities, i.e., symbolic thought, forethought, observational learning, self-regulation, and self-reflection (Mitchie, et al., 2014). In providing certain tasks, strategies and activities that enhance those capabilities, specific deliverables may be achieved facilitating behavioural change (see Appendix 1).

Our EMPOWERMENT programs

The EMPOWERMENT program we conceptualized consisted of three components: workshops, a peer-mentoring program, and online support with resources through a closed Facebook page. There were four (4) two-hour workshops, spread across the second semester.

In the first session, students' expectations of university life were explored, along with their attributes and perceived strengths they brought with them to the university. The identification of resources students could utilize to enhance their academic success as well the demands and possible stresses they might encounter or are already encountering in their courses followed. Some tips on cultural adjustment and sampling of iconic Australian foods concluded the session.

The second session focused on maintaining good health and well-being, and self-assessment of current self-management strategies. The ways to build from one's strengths and resources were emphasized. The session introducing the students to aerobic exercise was well-received. Additionally, students were provided with strategies to adjust to an active learning environment, heavy academic workloads, and skills to manage time effectively.

Session three was dedicated to the support the university and general community provided to ensure students' success in their studies and to maintain and promote their health and wellbeing. Mindfulness and meditation were some strategies shared with students. Also, students developed action plans on balancing study, life, health, and well-being.

The final topic offered insights into resilience, and how one might foster this underpinned by various theories of coping and change. The last session also emphasised creating a successful life in university and beyond by underlining the tips to manage risks and being prepared for them. Importantly, in this session, students were given time and support to come up with their version of 'EMPOWERMENT'. The students were able to contribute their understanding of coping and thriving at

university. Finally, an evaluation of the learning that happened during the program was conducted individually and as a group.

Along with the workshops, online resources and interactive platform through a closed Facebook page were provided to students to ensure continued access to support from co-mentees, mentors, and staff. Moreover, the first-year international students were introduced to senior students/mentors. The roles of mentors were to share their experiences about the university, help mentees achieve their goals during the transition; and assist the mentees personal and professional growth. The idea was to gradually establish mental health/well-being champions who are equipped with resources to help mentees' wellbeing and resilience development as well as promote support services. Mentors were supported and trained by the researcher team. The mentees were encouraged to act as mentors for the newly commencing students in the following year.

Methodology

A survey was used to evaluate the inaugural program. All participants were invited to complete a post-training questionnaire after the program. The one-minute Harvard questionnaire (Drummond, 2007; Stead, 2005) was used to collect information from the students. This survey had high completion rates, that could be adapted to most contexts, deemed simple to prepare and administer, easy to execute, and generally well received, making it ideal for young participants who might find long questionnaires tedious to complete. The questionnaire had five open-ended statements that asked: In your view, what was/were the most important outcome/s gained from attending the program? List the best aspects of the program and why? What aspect of the program could be included or expanded for future offerings? How might this program impact on you? Other comments relating to your satisfaction/dissatisfaction of the program were also gathered. For this pilot study, a validity test to check the characteristic the test measures and how well the test measures that characteristic was not performed, however, future program evaluations will consider this test.

Data Collection

Information letters explaining the EMPOWERMENT program, its objectives, benefits, explanations of student involvement, and potential outcomes, were distributed to the students through subject and course coordinators. These students were the first-year international students from the Nursing and Midwifery, Nutrition, Dietetics and Food, and Occupational Therapy masters' program during the second semester of 2018, as well as senior international students from the disciplines who functioned as mentors. Permission from the Heads of Schools was obtained to access emails of the

potential students through university admission systems. In total, nine students participated in the program. Ethical approval was obtained from the university ethics committee.

Data Analysis

Content analysis was conducted according to the steps set out by Chambers and Chiang (2012). This type of analysis involves labelling, organizing, and interpreting data into a set of codes, concepts, themes, or categories (Krippendorff, 2004; Neville & Whitehead, 2020). Questionnaires were collected and organized into a text. During labelling, two researchers worked on the text independently and highlighted relevant passages within each of the comments. Next, labels were organized and grouped, as a process of categorizing. Researchers inductively generated the initial codes after reading the comments carefully. To place the content appropriately, the text was categorized into themes such as, the most important outcomes/gained from attending the program, the best aspects of the program, aspects of the program that could be included or expanded and impact of the program on participants.

The trustworthiness of findings was achieved in two ways (Bettini, et al., 2017, Schreier, 2012). Firstly, by peer debriefing during each stage of data analysing, as two researchers coded the same text, met to discuss their ideas about codes, and worked to reach a consensus. The researchers also continued the discussions about the recognition of the findings until developing a team consensus. Secondly, the researchers-based conclusions on data and used data to identify how various ideas worked together to support the findings. Tables were created, which revealed the frequency of each category.

<div align="center">

Results

</div>

All nine students who participated in the program completed the questionnaire. The demographic characteristics of the sample included six Master of Nursing Program students enrolled in the first semester, two Masters of Occupational Therapy students and one student from the Dietetics program. There were six mentees and three mentors. The findings are presented in themes comprised of the most important outcomes/gained from attending the program (Table 2); the best aspect of the program (Table 3); aspects of the program that could be included or expanded (Table 4); and additional comments if any. The impacts of the program on participants are also summarized. This pilot study revealed that there were many important outcomes from participating in the program. Becoming familiar with resilience and how to foster resilience was a common outcome. Participating students signified their interest expressing high satisfaction with the university's program.

The Most Important Outcomes of the Program

Analysis of Table 2 shows that three participants believed they had learnt resilience skills, which could help them improve their academic performance. By attending the program, they also believed that their coping skills had been increased. They incorporated the elements of EMPOWERMENT, such as regular exercises, mindfulness, healthy diet, and others in their daily lives, which participants anticipated to have an impact on their stress management skills relating to study and life pressures. For some participants, the program was about gaining support, positive encouragement and making new friends. They identified the various services available to them to enhance their academic skills which at times were recognized as a major source of stress. Overall, participants revealed that the program provided them with a platform to share their thoughts, challenges and at the same time exposed them to various coping skills which they could not only use to succeed in academic lives but could apply beyond the university. Additionally, the mentors cited that they learnt mentorship skills, including skills of sharing, being supportive and reflective.

Table 2

The Most Important Outcome/s Gained from Attending the Progam

Categories	Frequency*
1. Resilience skills/ coping skills	3
2. Stress management/ Self-management	3
3. Empowerment/mentorship/study tips	2
4. Gaining encouragement and support	2
5. Where to get help	1
6. New friends	1
7. Time management	1
8. Interaction/sharing	1

* Number of times the response was made

The Best Aspects of the Program

Most of the participants reported that the program provided them with an opportunity to share their experiences with other students, which made them feel that they were not alone in their university journey (See Table 3). They exchanged ideas and gained inspiration from each other. Also, a wide range of activities to foster empowerment was integrated into the program, which was appreciated by the participants. They pointed out tips to manage time effectively, various coping skills, ways to manage stressors in academic life, which they found to be practical and useful.

Table 3

The Best Aspects of the Program

Categories	Frequency*
1. Share experience and learn from others	5
2. Useful advice and information (academic, exam)	3
3. A wide range of activities to foster empowerment and relationships; Time management; Exercise and resilience session: Multiple activities to engage	3
4. Coping skills in daily life; Manage myself	2
5. Always being positive and supportive to every participant. always cheer me up	2

*Number of times the response was made

Aspects of the Program That Could Be Included or Expanded

In the evaluation of the inaugural program, participants were asked to comment if there was any aspect that could be expanded or included (See Table 4). Participants preferred to include discussion on jobs prospects when they were students as well as after graduation. Some participants stated they wanted to have more interaction with mentors and students in the senior levels to learn from their experiences and reflections. Also, participants also highlighted the resilience and coping skills could be further expanded by organizing the program earlier in the semester and continued until the end of the semester.

Table 4

Aspect of the Program That Could Be Included or Expanded

Categories	Frequency*
1. Information related to future job	2
2. More interaction with mentor/mentee	2
3. More interactive activities	2
4. More daily skills like cooking	1
5. Exercise	1
6. Resilience and time management	1

7. Start time- earlier, till the end of the semester	1

* Number of times the response was made

Impact of the Program on Participants

The impact of the program on participants' personal and academic lives could be discerned from their comments. Attendees gained the desire to improve themselves and share their knowledge and understanding with others (altruism), motivate and inspire others which would possibly help them to be more self-aware, confident, and satisfied. Two mentors shared their views as follows:

[I wish to] continue to improve myself and share more with others, become a role model. Continue to be helpful and supportive; try to motivate and inspire others instead of making suggestions only. (Mentor 1)

I learned a lot from hearing others' experiences. I will try to achieve my goals effectively, keep motivating myself, helping others, and take care of myself. (Mentor 2)

Behavioural changes were evident. Participants developed behaviours for self-caring by engaging in regular exercises and healthy lifestyle practices. Following are the remarks of two participants:

This program encourages me to be a member of the gym because I think I need to exercise and relieve pressure. Thanks a lot! (Mentee 1)

I start my exercise as a routine now. [I endeavour to] be more organized and positive for my future. (Mentor 3)

Moreover, they perceived the program had implications on their coping and resilience skills. By participating in the program, they were made aware of a variety of strategies that could be used in both personal and academic life challenges. See excerpts below:

Thinking about the challenge and difficulties which I might face, or I am facing. Having more ideas about how to cope with [the challenges and difficulties]. (Mentee 2)

I understand that it is more than academic performance; there are a lot of important things and happiness in my life. (Mentee 3)

Several participants highlighted the learning gained from listening to the experiences and narratives of others and being reflective, which were highly applicable in times of difficulties. These sentiments were expressed as follows:

It's always good to listen to other personal stories. I can always learn from others and reflect on myself. (Mentor 2)

Think widely! When I face difficulty in academic life, I will be reflective [and work on solutions]. (Mentee 5)

In the final section of the questionnaire, the participants were encouraged to provide further comments about the program. Five participants appreciated the program by expressing their enjoyment and approval; one felt well supported by others; one wanted a longer program, while another participant wished she could have contributed more to the program.

Discussion

The EMPOWERMENT program offered an integrated approach; involving student support units along with senior students who can offer mentorship, support, and help create "health-promoting environments" in the first transition year and potentially beyond. There were several positive outcomes derived from conducting this program; most important was the impact on the students participating in the EMPOWERMENT program. For students, it helped to enhance their coping skills and resilience, thus assisting their smooth transition to university life. There were concrete plans, and changes discerned from their reflections, namely, being more reflective, caring for oneself, and committing to exercise and the gym.

For the mentors, the opportunity for personal and professional growth was equally evident. They desired to be role models for others by sharing their experiences of hardships and strategies used to overcome those. The mentors also gained positive aspiration as taking care of self, improving self, and reflecting on their practices for achieving academic success.

The proposed program could also impact on the university, as it has the potential to enrich university staff's impact and morale, resulting in better performance evaluations, improve student recruitment and retention, and more importantly better develop the coping and resilience skills and abilities of the students. Another critical success of the university was offering students inter-professional learning experiences when different disciplines come together with a similar purpose of adapting to university (Phillips, 2019). This EMPOWERMENT program is consistent with the expectations of the university that its staff collaborate with the community and work together to find creative, sustainable solutions to community members' concerns.

The real and potential benefits of the program for the wider community are the preparation of future health professionals who can care for their health and well-being, as well as be equipped to care for others. This program is both transferrable to other disciplines and scalable across disciplines; and as such is efficient, effective, and sustainable.

There were several lessons from the pilot program, which will be beneficial for future program planning and implementation. In total, four sessions were offered throughout the semester; however,

participants wished it would have extended for another semester. A recommendation will be forwarded to the relevant disciplines in the final report of the program as it would require consistent funding and resources. In response to the sub-optimal intake of participants in the inaugural program, the support from the university is deemed essential in marketing the program to students. Students tend to pay more attention when such initiatives are encouraged at the university level (Kuh, Kinzie, Schuh & Whitt, 2011). Involving other disciplines and extending it across university programs may address the recruitment issue as well. With future iterations of program, it is worth inviting both international and domestic students and compare the findings of both the groups to evaluate the impact of the program. There could be similarities and differences in the challenges faced by both international and domestic students; however, future research is necessary to determine these.

Moreover, it is crucial to identify other competing programs which may have a similar purpose of assisting students to transition through the university particularly during the first academic year. Combining such programs will assist by easier scheduling of the sessions, given the difficulty in finding spots to schedule such program which is considered outside students' academic classes, and facilitating the use of collective resources for the successful implementation of the program. For future offerings, we also suggest more involvement of mentors to facilitate some sessions which may increase their capability, confidence, and ownership of the program. For a pilot study, a single university involving three disciplines is a sufficient sample size, with the view of using multiple universities in future offerings and evaluations.

Conclusion

The challenges confronting international students are well known. It is therefore essential to build and evaluate student independence and support networks as part of a better integrated academic and social transition program. Various universities have developed their support strategies for creating "health-promoting environments". The EMPOWERMENT program, with the aims of assisting international students enrolled in various health science programs to transition and adapt to university life and achieve university success by expanding their coping abilities and self-management strategies, was conceptualized and piloted in this study.

The social cognitive theory was used to direct our program, where cognition, behaviour, and environmental factors interacted. The theory underpinning the program informs the program elements, which in turn influence the outcomes and evaluation as well as the future strategies and programs.

A questionnaire with five open-ended statements querying students' perceptions about the program was used to evaluate the pilot program. Participant responses revealed that resilience and stress management skills and psychoeducation were the most important outcomes. The best aspect of the program was the opportunity to share and learn self-management skills from each other.

Future directions for research include canvassing a bigger sample of participating international students, testing hypotheses, and continuously supporting international students to achieve academic success and transition and adapt to university. The results of this study should be tested in a full study with a large sample size of international and domestic students and with validated instruments in the future. With a larger dataset, the conclusions about the program will be generalizable.

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Declaration of interest

The authors declare no conflict of interest.

Ethical Statement

This study has been approved by [a university masked for blind review]. 6920-11-40

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Appendix 1

Basic capabilities to develop to achieve behavioural change

Capabilities	Essential Tasks, Strategies and Activities	Program Deliverables
Symbolizing capability (Use symbols for transforming experiences)	Identifying interacting behaviour, cognitive and environment factors Plan an engagement strategy by outlining the anticipated outcomes Identify long-term outcomes, medium-term and short-term outcomes Clarify motivators and guidelines for action	Develop engagement strategy Set short-term outcome (knowledge about university support available), medium-term (improved knowledge and skills to cope in university), long-term (expanded coping strategies, increased knowledge and skills of coping) Set goals and aims Identify challenges and barriers to adjusting to university Clarify motivators and guidelines for action (expand networks, academic success, coping and resilience in university)
Forethought Capability (Ability to regulate behaviour based on the future)	Assess readiness and needs Outline the activities and strategies (EMPOWERMENT program) Plan courses of action to achieve an imagined future – being self-efficacious Clarify the motivation and guidance of action on the base of	Self-reflection of previous coping, self-efficacy, mental health Identify strategies to reduce stress Attend meetings and workshops and continue to learn empowerment strategies

		anticipated outcomes (adjusting/transitioning smoothly to university life)	Engage with EMPOWERMENT activities and resources
Vicarious capability (Refers to the ability to learn through observation)		Provide the peer-mentoring program Introduce the closed FB discussion page Present opportunities for mentor-mentee interactions Teach and encourage the implementation of the EMPOWERMENT strategies Modelling of other's behaviour, attitudes, provide role models	Mentees to make contacts with mentors and staff Connect and engage via Facebook Develop self-efficacy and expand coping strategies via social learning (learning through action and imitation, or learning vicariously)
Self-regulatory capabilities (Ability to motivate or regulate behavior based on personal standards and evaluation of behavior)		Identify discrepancies between action behaviour and personal standards and subsequent adjustments to behaviour Make certain modifications to the external environment through organizing environmental conditions that facilitate or reinforce the behaviour Contact key personnel from respective organizations to make time for initial discussions	Develop own self-management/empowerment toolkits Develop self-efficacy, expand coping strategies, and foster resilience Able to identify resources that could assist students including university, community, websites, and services Identify key people who can assist or support students (Counsellor, International Welfare)
Self-reflective Capability		Generate generic knowledge through reflection on personal experience and knowledge	Do presentations on developing self-efficacy, expanding coping

(Analysis of experiences, thoughts, and behaviour)	Reflect on thoughts that guide action and strive to determine truthful thought	strategies, and fostering resilience
		Share reflections and provide feedback on the impact of the program
	Assess self-efficacy, coping and resilience and impact of the program	Be involved in the next program as mentor
	Work to be change champions/purveyors	
	Evaluate the impact of the program on personal and professional growth	

(Adapted from Mitchie, et al. 2014)

Japanese Higher Education:

The Need for STEAM in Society 5.0, an Era of Societal and Technological Fusion

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Abstract

In today's information-driven society, the Japanese government envisions the next societal revolution as "Society 5.0," where advanced technologies and service platforms integrate with and empower individuals in a human-based society. While Science, Technology, Engineering, and Mathematics (STEM) education has traditionally focused on technical skills and knowledge in isolation, this paper will look at the potential role and benefits of incorporating liberal arts education into these technical studies. This concept of integrating the liberal arts into STEM education is known as STEAM. The purpose of the study is to create a foundation for clarifying the role of interdisciplinary education in overcoming the vertical division of academic disciplines and restoring the "integrated nature" of scholarship. This study seeks to show how the humanities, social sciences, and arts can be used to enhance STEM education, and, furthermore, how this STEAM approach to education is key to enabling Japan's vision for Society 5.0.

Keywords: global skills, next generation competencies, society 5.0, STEM, STEAM

Introduction

Following the industrial era of machine-made, mass-produced goods, we now find ourselves in an information-based society. Advances in computing, networking, and communications enable the collection and utilization of large amounts of data to create networks of information, virtual goods, and assets. A globalized knowledge-based economy has developed where skills and knowledge are capital that can be transferred across historically limiting geographical boundaries and distances. With the globalization of economies and knowledge, and the pervasive integration of new technologies driving modern economies, lifestyles, and cultures, societies must now confront and adapt to these changes. In order to prepare for increased technological automation and the integration of new technology throughout society, individuals must be trained for fluency in new information technologies and be prepared for the concerns and problems that will consequently arise. Given this prediction, the hope

and responsibility for future innovation has been placed on universities, and especially on their future STEM discipline graduates. In terms of education policy, many countries around the world have announced their intent to enhance and prioritize STEM education in primary, secondary, and higher education. This includes Organisation for Economic Co-operation and Development (OECD) countries such as the United States (PCAST, 2012), Australia (Office of the Chief Scientist, 2014), the United Kingdom (House of Lords, 2012). Similarly, Japan has announced a strategy to cultivate STEM-related human resources in higher education in order to support its competitiveness through innovation (Council for Science, Technology and Innovation, 2016).

Japan has a unique position in relation to this worldwide STEM demand. First, it needs to retain its competitiveness at the global scale but is a relatively small and insular country with diminished immigration and emigration patterns. Compounding this, younger generations possess "inward looking" outlooks on life, lacking internal or external forces to push them into the global economy (Morita, 2013). Second, Japan faces an aging workforce and a declining birthrate, problems which must be solved by attracting international talent and developing and integrating technologies to empower its workforce and society to remain sustainably competitive at the global level. As a result, innovation in science and technology is key to the future sustainability of Japan, and the agenda of the Cabinet Office of Japan is actively seeking to create a "human-centered" smart society made up of people with the skills to be global leaders who can develop and utilize the latest technologies for its benefit. Japan's Fifth Science and Technology Basic Plan outlines the direction of education and a societal vision for the country's future. One of the key points has been termed "Society 5.0," which is envisioned as being the next step in changing societal paradigms, aiming to leverage modern technological advances across society to increase productivity and empower individuals to reach beyond old limitations around the use of technology. This goal is stated as follows:

We aim at creating a society where we can resolve various social challenges by incorporating the innovations of the fourth industrial revolution (e.g., [the Internet of Things (IoT)], big data, artificial intelligence (AI), robots, and the sharing economy) into every industry and social life. By doing so, the society of the future will be one in which new values and services are created continuously, making people's lives more comfortable and sustainable. This is Society 5.0, a super-smart society. Japan will take the lead to realize this ahead of the rest of the world (JapanGov, 2018).

With this vision, Japan's educational institutions face the challenge of preparing future generations to have the knowledge and skills to adapt to these social changes.

The vision for Society 5.0 relies heavily on the continued integration of technology into daily life, necessitating a clear understanding of how technology will be incorporated into society and the significant downstream effects this will produce. The Science, Technology, Engineering, and Math (STEM) fields have become a top priority worldwide for nations to secure and enhance their competitiveness in an increasingly globalized and knowledge-based economy. In turn, the directions of higher education programs have sought to cope with this demand by prioritizing and retrofitting STEM field education, and for Japan, Society 5.0 brings new pedagogical challenges.

Theoretical Background and Methodology

From a research perspective, Japan's Society 5.0 vision is relatively new. There are extensive government policy papers supporting and describing its goals and paths to accomplish them, but still not much examination from a theoretical research perspective, or an analysis of concrete implementation attempts. This paper will provide a close examination of the Japanese government's new vision and policy, and it will describe how an interdisciplinary education involving the arts and humanities can play a significant role in cultivating graduates with the necessary skills to fulfill modern needs. Japanese higher education makes an excellent case study for examining these trends, given the strong government vision and policy, as well as the contrast between the country's educational traditions and the state desired to confront these issues. This research posits that interdisciplinary programs and collaboration between STEM and the humanities, social sciences, and arts are meaningful ways higher education can deliver the "next generation competencies" needed to drive innovation and successfully transition Japan into Society 5.0. These new competencies, achieved by integrating STEM, the humanities, the social sciences, and the arts in university education have been neither clearly defined nor adequately discussed. The incorporation of the arts into STEM programs have been proposed for the development of well-rounded skillsets in both artistic and technical areas, and has led to the coining of the acronym STEAM, which stands for Science, Technology, Engineering, the Arts, and Mathematics (Daniel, 2015). It is widely accepted that the addition of "Arts" in STEAM is a broad categorization of the liberal arts, including humanities, social sciences, physical arts, and music. Many STEAM programs gather participants from both art and technical backgrounds, so students can gain an interdisciplinary and holistic view of learning and problem solving, producing positive results for students regardless of background. Focusing on the contextual challenges and needs raised by the vision for Society 5.0, in which a human-based society and advanced technologies like AI will

coexist, STEAM education can develop the next generation competencies that are needed to elevate STEM education toward resolving complex social issues and societal problems.

This research will examine how a next generation educational model that supports Society 5.0 may manifest through STEAM education, including a grounded case study of one Japanese education program exemplifying this strategy. First, core elements of Society 5.0 will be discussed to provide further context into the necessity of education reform. From this understanding of Society 5.0, this paper will explain the importance of contributions from the humanities, social sciences, and arts towards social innovation. The discussion will then shift to an educational viewpoint, explaining how STEAM and interdisciplinary studies contribute towards the next generation competencies needed to fulfill this vision. The concept of STEM education has long existed in Japanese higher education with the equivalent word "Ri-kei." With rapid globalization, Japanese higher education is seeking to expand and improve upon its STEM field education. Especially in Asia, engineering and non-engineering fields have become largely siloed from one another, and interdisciplinary education is not traditionally embraced. Particularly in East Asia and Japan, there are many unique challenges to importing Western educational models as a result of certain shared traits of Confucian-based education traditions.

To clarify how Japan is adapting to new educational trends, I provide analysis of a graduate program I was involved with: the University of Tsukuba's Empowerment Informatics Program (EMP). During the period of my research this was one of Japan's Leading Graduate Programs, specially funded to represent a significant shift towards the development of interdisciplinary learning and global competencies. While the EMP still enrolls students, it no longer operates under the Leading Graduate Program framework. I will explain how the program was designed to create global knowledge skills and how students were guided through work opportunities, and their goals and outcomes. As an assistant professor, I taught and witnessed firsthand how this program functioned. A qualitative examination of accounts and perspectives from people directly involved with the program is used to support the theoretical importance of STEAM in Society 5.0. Data were gathered from in-person oral interviews conducted between 2016–2018. Participants included six enrolled graduate students, faculty, and staff involved in the EMP. My interviews sought to understand how they perceived STEAM education, including its goals and challenges from a student's perspective. Faculty interviews focused on the design of the program's unique hybrid curriculum and the challenges of teaching students from varied fields. Due to the limited scope of this paper, only a subset of that data is presented as data points for perspective. As the EMP represented the leading edge of Japanese educational reform in STEAM and

globalization, there were many benefits and challenges associated with these changes, and both pros and cons are discussed.

Defining Society 5.0: Challenges and Impact on Society

The next industrial revolution, addressed by the World Economic Forum in 2016, is expected to create an environment that integrates the digital world, the material world, and people through the use of artificial intelligence (AI) to analyze data accumulated by the Internet of Things (IoT, all networked computing devices we use on a daily basis) and the application of this information to all manners of goods and services (Mitsubishi Research Institute, 2017). The Japanese government's Fifth Science and Technology Basic Plan sets forth a policy goal of promoting Society 5.0, defined as a human-centered society that balances economic advancement with the resolution of social problems through systems that seamlessly integrate virtual and physical spaces. Society 5.0 sits atop the categorization of four previous societal orders: Hunting, Agrarian, Industrial, and Information. In Society 4.0, the Information Society, we saw a technological revolution exemplified by the spread of the internet, telecommunications, and information processing capabilities. Japan's Society 5.0 aims to realize what it means to be a super smart society, building on the Information Society to facilitate and provide widespread advanced technological service platforms and societal infrastructure. The Japan Science and Technology Agency (JST) (2016) summarizes the key points of Society 5.0:

1. Society 5.0 aims to increase the quality of human lives, not to increase the power of technology;

2. Smart services aim to increase the quality of human lives, not to increase the power of technology;

3. A service always involves an interaction among humans, and possibly non-humans;

4. We need to understand what human interaction with other humans and non-humans is to understand what smart services are;

5. Interaction is (equivalent to) the 'sharing' of information among participants / agents (p. 12).

As outlined above, Society 5.0 seeks to move forward towards a human-centered society; rather than seeing technology replace humans and jobs, it can be used to augment the capabilities and value of a human workforce.

Gladden (2019) provides a research analysis of Society 5.0 from anthropological and humanistic points of view, considering how it will result in "posthumanism." Gladden defines the "posthumanization" process as "processes or dynamics that are actually at work in a given society that

have the effect of blurring the practical barriers between human and non-human and between the natural and the artificial and that cause the society to become de-anthropocentrized" (p. 8). He argues that, throughout history and the various stages of civilization, society has been shaped and influenced by posthumanization factors ranging from the human to non-human, and from natural to artificial and technological spectrums. In earlier stages of society, hunter-gatherer, agrarian, industrial and technological, non-human entities and beliefs - ranging from spiritual entities, magic, shamanism, and religion - have shaped human civilization in profound ways. Likewise, domesticated animals used as livestock have assisted humans in the production of food and labor, and pets such as dogs and cats have provided companionship. Human interactions with animals, especially those with perceived human traits are cited as important posthumanization factors. These factors have allowed us to transcend or alter our innate limitations and social structures. Given this, Gladden posits that the new trend toward Society 5.0's uplifting of humanity through technological innovation is not entirely new, but a sudden and pronounced shift from non-technical to technological means of posthumanization: AI, androids, robots, body implants and prosthetics, genetic modification, and more. Philosophically, how will we decide which parts of humanity can be replaced and which need to be preserved?

As Society 5.0 centers on a humanistic deployment of new technologies throughout society, social sciences are key to guiding that vision and its grounded implementation. For instance, Gladden's (2019) study on Society 5.0 asks how we can draw analogues from non-technical anthropological studies of the past to figure out how technological posthumanism can be successfully carried out. From an economic perspective, Manyika et al. (2017) estimates that 30% of global work hours can be removed via automation by 2030. Frey & Osborne's (2017) study of occupations in the U.S. predicts that 47% of jobs are at risk of automation through advancing technology. A salient point of their analysis is that many fields involving the arts and humanities are likely to remain in demand as other fields diminish. They predict such fields that require perception and dexterity, creative intelligence, and social intelligence will be the hardest to replace through automation technology. The social science fields provide a humanistic point of view to societies and the people that they encompass, and these fields explain the essence of human psychology and behaviors that will be needed to seamlessly integrate new technologies. For instance, if we consider how AI and future service platforms will communicate with users, there is no doubt that we will expect such technologies to process and respond efficiently to human-based communication norms. Engineers would have to work in close collaboration with social scientists who understand facial expressions, linguistics, and the cultural nuances of communication patterns. For instance, dissatisfaction with current "chat bot" customer service type technologies stem

from a clear lack of perceived humanity and social intelligence, preventing coherent communication (Spohrer in JST, 2016). If we look at the future widespread use of "big data" and information sharing platforms, ethics and law become essential fields for determining how societies will protect user data. Clear lines must be drawn for which data can be shared amongst smart services and individuals, how the user is informed of that, and how much control they have over such personal information. These concerns are already serious issues for existing social network platforms, and they will only continue to grow as societies continue to integrate more pervasive and smarter service platforms in areas such as healthcare and finance. To provide another example of the importance of social sciences, as the development of autonomous driving technologies gets closer to practical applications, there are important philosophical and legal implications of responsibility behind autonomous decisions. If an autonomous vehicle cannot avoid a collision, should it prioritize the safety of the passengers, other vehicles, pedestrians, or even apply a heuristic to assess a value associated with the types and number of individuals impacted? These are just a few of the ways in which the social sciences will be integral to Society 5.0 and greater integration of advanced technologies in our everyday lives.

A core part of Society 5.0 represents the advancement of technology, but rather than focus on efficiency or production alone, it also includes a strong component of "social innovation." The Young Foundation (2012) provides a succinct definition for the wide variety of concerns and processes associated with this term:

> Social innovations are new solutions (products, services, models, markets, processes etc.) that simultaneously meet a social need (more effectively than existing solutions) and lead to new or improved capabilities and relationships and better use of assets and resources. In other words, social innovations are both good for society and enhance society's capacity to act (p. 18).

According to Nicholls et al. (2015), a trend is developing where governments and institutions are showing increasing interest for collaboration across diverse fields and boundaries to create innovative social change. The need for social innovation partially suggests a failure in the existing market forces and governance, and a need to redirect utilitarian forces toward utopian social outcomes. For Japan, current social innovation activities include healthcare for its aging population demographics, improved disaster relief information and response platforms, and revitalization of regional locales where population, tourism, and economic niches have been lost to urban relocations (Zhao, 2016). As advances in technology result in the integration of AI, advanced robotics, big data, and IoT (Internet of Things), Society 5.0 seeks to shift the use of technology under the framework of social innovation, emphasizing that utilitarian views of technical ability and output alone are not sufficient for achieving its goals. In this

context, new approaches to education and collaboration are required. From a more micro education standpoint, we can prepare for these changes by reintegrating aspects of the humanities in STEM education through holistic interdisciplinary and STEAM education.

Educating for Society 5.0: STEAM and Next Generation Competencies

Certainly, STEM fields are key to the development of the technology and innovation necessary for Society 5.0, but it would be an oversight to ignore potential contributions from the arts and humanities. Former Minister of the Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT), Yoshimasa Hayashi, stated:

> In the era of Google, people no longer need to memorize every single fact. Many tasks today are best carried out by computers. Therefore, the emphasis must be on human skills such as communication, leadership and endurance, as well as curiosity, comprehension, and reading skills (Foreign Policy, 2019, para. 7).

As Japan seeks to leverage technology to empower its future society, we can recognize how this creates a paradigm shift in education. If computers can reproduce rote knowledge more quickly and accurately than humans, people can focus on areas where they excel. In such a context, people will be required to obtain skills that differ from many traditional skills. The diverse and skillful use of imagination and creativity to deal with complicated multi-faceted problems becomes increasingly necessary.

In order to understand the importance of STEAM and its distinct role in Japan's future, it is important to cover some fundamental points that illustrate the current state of Japan's higher education. Japan's education system bears many commonalities with other East Asian education systems, like those of China and Korea, and is also very dissimilar to Western education. One of the biggest differences from Western education is that East Asian education places a strong focus on entrance examinations, and teaching methods accommodate this prioritization. One commonly cited theme is that East Asian countries tend to rely on memorization, rather than on open-ended answers that draw on critical thinking. Hawkins (2008) characterizes the Confucian pattern of education as being marked by "Confucian traits of self-denial, frugality, fortitude, patience, self-discipline, rote learning, memorization, and delayed gratification" (p. 53). Problems that students solve tend to be based on formulaic or accumulated knowledge with a single correct answer that must be reproduced. Amassing knowledge and the reproduction of that knowledge is key to measurements of a student's success in many test-driven East Asian educational contexts. To this point, the OECD (2015) noted that, in 2007, up to 53% of Japanese lower-secondary students attended private tutoring schools, also known as "cram"

schools, to prepare for school entrance exams. Thus, Japanese students excel in standardized tests that measure student performance; for instance, they came in second in the OECD's Programme for International Student Assessment (PISA) 2015 science rankings with a mean score of 538 points. However, Japan is far behind in progressive Western teaching methodologies like active learning, problem-based learning, and STEAM education. The oft cited downsides of Japan's strict education model are deficiencies in creativity, critical thinking, abstract problem solving, social and collaborative skills, and an educated view of individual roles in citizenship and global society (OECD, 2015).

Japan has often looked to the West for leadership and scientific innovation, but the hope is that Japan will take a leading role and that a new generation of Japanese innovators might one day create the next Apple, Google, or Facebook. To do this, Japanese education policy is aiming to prepare a workforce that can think and solve problems from different perspectives, exercise flexible skillsets, think "outside the box," and develop synergies with peers from different disciplines. In addition to technological and information literacy, these skills will be essential in the new Society 5.0 era, and education is key to preparing Japanese citizens to adapt to these needs. There are supporting studies that found that multidisciplinary collaboration increased variance in the successfulness of inventions, resulting in more "shots on goal" and potential for breakthrough innovations (Lee, 2007). Okamura (2019) found that, in the research sector, interdisciplinary research resulted in an approximate 20% increase in effectiveness measured by field-normalized citations. The potential value of interdisciplinary education is a widely accepted notion within education, but it is difficult to prove, as while STEM fields are often measured in quantitative metrics of utility, humanities and arts seek utopian outcomes that are not easily quantifiable and compared, or may yield results over longer timeframes or with wider variance (Stewart-Gambino & Rossmann, 2015).

Japan's Challenge of Adapting to Globalization

Globalization has enabled nations to become closer, broken down historical barriers, and helped people to move and operate across the world more easily than before. The increased transmission of goods, people, and ideas has resulted in a globalized workforce and interconnected economies. In the workplace and in society, it is now possible for people from diverse backgrounds to meet and collaborate. In this social and globalized context, STEM education, which has up to this point focused on the acquisition of knowledge and skills in traditional disciplines, faces the need to carry out educational reform. For example, the Association of American Colleges & Universities (AAC&U) promotes 21st century competencies including multicultural understanding and the ability to identify and resolve problems through discussion and cooperation with a variety of people as necessary skills in STEM

education. Downey et al. (2006) notes that global competency in engineering is not just about culture or language, it is also the way the problems themselves are defined, approached, and solved. Studies must be relevant towards post-graduation work, such as producing the global citizenship and leadership needed to succeed in an increasingly globalized economy. Furthermore, international collaboration in engineering education helps students understand and refine the non-technical communication and leadership skills they will need in real workplace scenarios. Prior to Japan's Society 5.0 vision, similar efforts to reform higher education were sought since 2010 under the umbrella MEXT projects to develop "Global Human Resources" (Yonezawa, 2014). These efforts were not as focused on STEM, but more broadly based on the notion that the modern globalized economy and workplaces requires leadership, creativity, and communication skills that were not being prioritized through traditional education. Since then, a wide number of MEXT policy papers, projects, and programs have sought to introduce more holistic learning, such as integrating active learning pedagogy into Japanese higher education (Yamada & Yamada, 2019).

One way that Japan is tackling these challenges is its "Program for Leading Graduate Schools," an umbrella program covering multiple graduate schools that focuses primarily on STEM disciplines while promoting the adoption of interdisciplinary approaches that cut across disciplinary boundaries and incorporate humanistic perspectives. JSPS (2018) describes the goals of the Program for Leading Graduate Schools:

> The Program for Leading Graduate Schools works to advance the establishment of university graduate schools of the highest caliber by supporting the dramatic reform of their education programs in such a way that they will institute degree programs recognized as top quality around the world. To foster excellent students who are both highly creative and internationally attuned and who will play leading roles in the academic, industrial and governmental sectors across the globe, the program brings top-ranking faculty and students together from both in and outside Japan and enlists participation from other sectors in its planning and execution, while creating continuity between master's and doctoral programs and implementing curricula that overarches fields of specialization (p. 2).

> The JSPS further identifies the following as goals of STEM education:

> (1) Ability to collaborate with others while possessing a solid set of values, and to act globally with firm resolve; (2) Ability to identify issues and independently challenge them by developing hypotheses and applying knowledge in testing them; and (3) Ability to ascertain the essence of

matters by applying a wide range of knowledge buoyed by high levels of specialization and an international perspective (p. 3).

For Japan, another benefit of mixing technical and non-technical education is that both education and workplace initiatives seek to maintain Japanese competitiveness at the international level, and at the same time attract international students, researchers, and workers to Japan. Thus, it follows that encouraging international activities and collaboration with international scholars and students can help develop an outward-oriented perspective. Given Japan's dwindling birthrate and aging society, its policy must be inclusive in order to attract foreign talent, as outlined in CSTI (2017). To cite one example, Japan's Program for Leading Graduate schools started down this path, where in 2015, 24% of the enrollees in Leading Graduate universities were made up of foreign students, compared to 17% across all the graduate schools in Japan (JSPS, 2018, p. 7). Keidanren, Japan's business federation, also recognizes the need for a workforce capable of working and leading at the global level through the development of global competencies (See Keidanren, 2016). Japan's higher education is currently facing the challenge of overcoming an educational structure that is vertically compartmentalized by discipline. Responding to a report issued by Japan's Central Council for Education in 2018, a decision was made to undertake partial reform of the standards for establishing a university starting in 2019 with the aim of creating flexible education curricula that cut across multiple fields of study, including engineering. Such a reform will be challenging, but increasing interdisciplinary study and taking a STEAM approach to re-integrating aspects of the arts and sciences can help overcome divisions between academic disciplines and restore the integrated nature of scholarship. By removing rigid boundaries between fields of study, it is believed that new value can be created through interdisciplinary study and the provision of a practical education that is developed in conjunction with businesses to reflect modern needs. This desire to overcome the compartmentalized structure of STEM discipline education reflects a change from the former focus on the acquisition of knowledge and skills in specialty fields to a recognition that next-generation competencies require the acquisition of knowledge and skills in both technical and non-technical fields.

The University of Tsukuba's Empowerment and Informatics Program: A Case Study of STEAM in Japanese Higher Education

While exploring the necessity and emergence of STEAM education for Japanese society, we can examine a concrete case study of a graduate program evidencing the STEAM approach in Japan. The University of Tsukuba's Empowerment and Informatics Program (EMP) was founded in 2014 and selected as one of 62 in the Program for Leading Graduate Schools in Japan. Being a relatively new

program, the EMP represents one of the newest STEAM education style programs in Japan. The EMP is a five-year Ph.D. program, allowing enrollees to receive degrees in human informatics, the study of technological integration with human culture, where topics range from creating wearable devices, to empowering human abilities resulting from disabilities or impairments, to how the arts and technology can be harmonized to extend creative endeavors, and beyond. The EMP is categorized as information studies, concerning as it does the fields of information technology and engineering, but it also views these fields through the lens of the humanities, the social sciences, and the arts, as well as how technology will integrate with people.

Considering the issues of globalization and technological advancement in the vision for Japan's Society 5.0, the EMP recognizes that technical skills are a foundation that must be built upon by soft skills that are traditionally lacking in Japan's STEM higher education. Beyond technical ability, the program takes a three-pronged approach to well-rounded student development, aiming to foster interdisciplinary, frontline skills, and presentation abilities. First, students take courses in interdisciplinary studies in order to be able to approach problems and solutions from multiple perspectives. Human Informatics falls in the intersection between technology and humanity, so the envisioned human-centered Society 5.0 requires an interdisciplinary aptitude. Second, frontline skills concern the desire for a practical education, where academic excellence can be translated to the workplace immediately after graduation. EMP courses seek to prepare students not just with technical ability and knowledge, but also with context so that they can apply what they have learnt to solve real-world problems. Third, training in presentation skills aims to foster what is needed to propose and present research and outcomes. To foster true leadership ability and create strong human resources capable of engaging in a competitive global economy it is important to be able to communicate plans and results with stakeholders from a variety of backgrounds. These goals are manifested structurally throughout the EMP's courses and requirements, using many aspects of the STEAM education model.

Following this model, the program is comprised of students from both engineering and art backgrounds. This is achieved by covering human-centered topics, with a range in interdisciplinary studies that includes psychology, cognitive science, media art, engineering, social science, and medical science. The program actively recruits international students, and many courses are conducted in English and involve domestic Japanese students learning and working side by side with international students. Considering the Japanese need for greater participation in globalization, the program both attracts foreign talent and helps domestic students gain the experience of working in a globalized context. This diverse student body is encouraged to study together and collaborate on projects designed

to develop real-world problem-solving skills and experiences that cross-cut fields of specialization and ethnic and language barriers. The EMP seeks to develop more than strong technical ability alone; it also wishes to nurture soft skills in leadership, teamwork, and interdisciplinary understanding in order to produce students as capable, global, human resources. By choosing the incorporative STEAM approach, students develop interdisciplinary skills through the structural design of the program (Yamada, 2018). Additionally, by creating strong linkages to advisors and partners from industry, students can gain an understanding of industry's practices and learn how to transfer and apply their academic studies to real-world problem solving.

Figure 1

Fields That Are Involved in the EMP Program
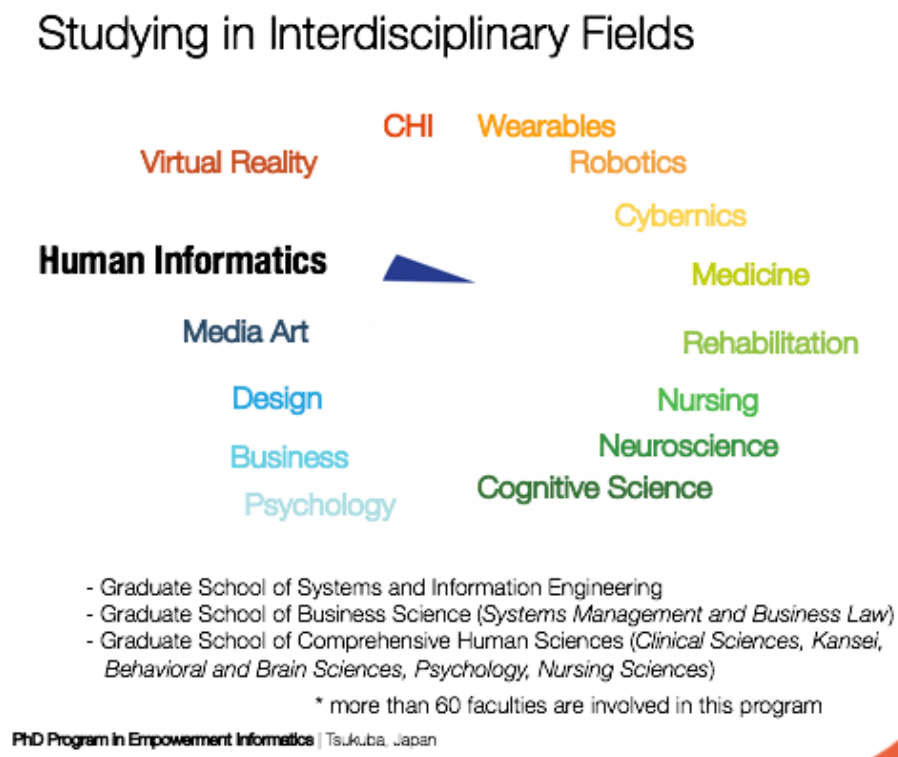
The EMP requires students to take several mandatory courses that are indicative of the diverse and practical student development it seeks:

1. Interdisciplinary coursework: Engineering, methodology courses in psychology and sociology, ethics, medical and neuroscience, and project-based learning in art and design.

2. An advanced tutorial practicum class: Students prepare arguments and engage in active-learning style debates and discussions.

3. A research design practicum class: Provides students with experience in writing proposals, doing elevator style pitch presentations, and presenting research to professional evaluators for real-world problem-solving feedback.

4. An engineering residence practicum: A mandatory internship course where students pursue their research area and are exposed to real corporate/industry working environments and practices beyond academia.

5. Collaboratory practicum: A course for students to work in groups creating a project from proposal to completion.

In the first year of entering the EMP program, students are required to take a project-based research course, where students work in groups composed of different academic backgrounds, such as engineering, art, and design. Together, they work on proposing and producing a project for an actual device that is to be presented in Linz, Austria, at one of the top media arts festivals in the world, Ars Electronica. From an integrated STEAM perspective, the most important aspect of this course is the collaboration with team members who are trained in different methodologies and academic philosophies, use different languages and terminology, learn from each other, and gain an understanding of different values and problem-solving perspectives. Observing and doing qualitative research around the STEAM aspects of EMP, I had the opportunity to interview faculty and students of the program. Many students mentioned the challenging nature of working in teams with others who come from different specializations and cultural and linguistic backgrounds. One graduate student with an art undergraduate background commented:

> After entering this program, it was my first experience in non-art studies, which are important in order to understand the function of art in a device and are related to media art. It was important for me to learn not only the artistic aspects, but also the functional engineering aspects, since it gave me the chance to understand how we can actually develop and run a device. In [the Problem Based Learning] class, I was grouped with an art major and engineer, and our goal was to exhibit the device we made at a media art festival. It was my first experience of us being in a group and pairing with non-art background individuals, and they were not Japanese. In the beginning, it was a challenge for me to speak with them first in English, and then secondly, to communicate using the terminologies of our fields. Despite the challenges that we mostly faced in the first few days, we started to learn and understand different fields' perspectives, values and ways of thinking, and we were able to communicate, and learn from each other, and finally we were able to make a device that we eventually

exhibited in the media arts festival. Looking back, this experience was very rewarding, and it was the first time I've had this type of experience (Transcribed interview, 2018).

Presenting a view from another perspective, an engineering graduate student working in a group with a student specializing in art commented on their media arts exhibition project:

The EMP provided my first experience of thinking how important it is to collaborate and work with art majors, since my point of view was very focused only on the engineering side, and not enough on the artistic side. By having the chance to work and talk with students from other backgrounds I learned many things. It is important to listen to different kinds of people in order to get different ideas and reconsider my own values after hearing their opinions. This was my first experience of this kind and I had never had this moment before entering this graduate program. My process toward creation has changed drastically after working together in pairs with non-engineering students. At first it was a very big challenge, and I wasn't sure it would be beneficial; however, the more time we spent together, the more I learned how to listen to them, and also how to express and share my own thoughts and engineering knowledge (Transcribed interview, 2018).

These two students provide the contrasting views of the STEM and Arts students in the program. Not only do these testimonies evidence just how rare meaningful interdisciplinary work can be in traditional higher education, but they also show how important it is for students from diverse backgrounds to work together and consider how their respective studies are interrelated in practical scenarios. Another international student who studied at EMP elaborated on the differences between the academic backgrounds of Japanese and European students:

On entering the EMP, I've faced many challenges since studying in a different country where English was not spoken outside the campus. First it was very challenging for me to talk about what art and humanities mean to STEM students and for Japanese STEM students who never had any background in my field. Since I had to be in a group paired with a Japanese student, I had to learn about their cultural background, but also, they had to learn how to communicate with me and we both needed to learn about each other and how to share our thoughts in order to make a product. Coming from a European country with different ways of educating and training, through this pairing, I learned what the Japanese way of thinking means, and I believe my partner also had to learn about who I am, and why my values and way of thinking are different (Transcribed interview, 2018).

STEAM's educational approach values the evaluation of problems from multiple perspectives and then defining and solving complex problems. The projects these students prepare and demonstrate at the Ars Electronica media arts festival are a prime example of how the arts and engineering fields can collaborate in practical scenarios. Additionally, by presenting completed projects to diverse audiences beyond academia, students can see firsthand how their work may be evaluated from a variety of opinions and metrics, both functionally and aesthetically.

STEAM education utilizes an approach to learning where collaboration from component fields can enhance student engagement, discussion, and critical thinking by moving the subject matter from abstract field-specific inquiries to real-world scenarios and applications. Working between disciplines like this helps foster holistic and innovative solutions to problems that may not otherwise be considered. Students in the EMP program obtain skills that are applicable for real industry positions and acquire global knowledge and competency skills by studying in the intersection between the humanities and information fields while working with and receiving feedback from industry professionals. The EMP program stands out in Japan for its integration of the arts and social sciences with engineering studies. The introduction of soft skills and new perspectives through interdisciplinary education and the integration of STEAM pedagogy are ways programs like the EMP seek to meet the needs of a modern society characterized by globalization and fast-paced social change and driven by technological advancement.

Critical Points for Introducing STEAM Education

STEAM education has only gained more significant attention in recent years, so there are still many challenges to introducing this interdisciplinary style of education in practice. Not only does STEAM present challenges for students who are used to studies in a singular field of expertise, education programs and faculty must learn how to bring STEAM to the classroom and effectively use it. Similar to earlier efforts to introduce active learning within Japanese higher education, both faculty and students experienced friction due to Japanese education traditions which vary widely from the Western systems they seek to borrow from (Yamada & Yamada, 2019). Thus, effective STEAM education in Japan poses its own additional challenges. One graduate student in EMP explained this situation during their studies:

> STEAM education and collaboration with people from different fields in interdisciplinary studies are very important now, but this is still very new. Not many faculty are even trained for interdisciplinary literacy. Some faculty do understand the importance of STEAM and interdisciplinary studies, however they themselves are not educated and trained in the field of education or other fields, but they have to learn since it is the current trend. I felt the challenge

was not only for students' learning, but also for the faculty trained in one field but having to learn beyond that for interdisciplinary work and collaboration among different fields (Transcribed interview, 2017).

This sentiment evidences a critical and challenging aspect of STEAM education that applies not only to Japan, but to other countries as well. Advocating and utilizing STEAM requires changes for students, but it is crucially important that involved programs, faculty, and staff contribute toward the STEAM education model. Interdisciplinary project-based learning has great potential, but requires extra time and effort from the involved parties for meaningful cross-field collaboration (Stewart-Gambino & Rossmann, 2015). The aforementioned interviewee was an art student, whereas the majority of EMP faculty came from engineering backgrounds, so it is likely that such students perceive additional structural difficulties. Additionally, despite the EMP welcoming and advocating for both art and engineering, as well as international and domestic Japanese students, it is difficult to overcome disparities among such divisions. As Japan seeks to globalize and introduce international students into its education, there are inherent challenges of language and culture for students and faculty. Additionally, a challenging aspect to successful STEAM outcomes concerns bringing together fields and educational departments that have traditionally been isolated. Gladden (2019) points out that "[each domain] possesses its own specialized conceptual frameworks, methodologies, vocabularies, best practices, and workplace cultures that may be inscrutable even to intelligent and well-trained personnel in the other spheres" (p. 27). Especially in Japan, STEAM is a new concept, and it is unlikely that the earlier generations that make up faculty and administrators have prior experience of learning or teaching within this model. In these regards, there need to be strong incentives for a program to share and understand the common core educational aspects of STEAM. It is important to recognize the significant role of faculty and program resources to assist student learning and create a shared understanding of educational goals and aspirations. If the various components of an educational program can work with the core parts of STEAM education, in addition to its values, perspective, and a recognition of the shared and connected aspects of different academic backgrounds, STEAM can broaden knowledge and provide new ways to evaluate and approach problems.

Conclusion

Today, Japanese society is on the verge of dramatic changes brought about by the development of - and advances in - technologies such as AI. For example, advanced computing and AI will soon be capable of replacing fixed tasks and tasks that rely on numerical expression, drastically altering the structure of industry and eventually leading to a loss of many occupations and a transformation of

existing economic systems. Japan's Society 5.0 presents an overarching challenge of integrating science and technology in a balanced manner for the benefit of a human-based society. Japan continues on a path of increasing globalization, while confronting the challenges of a declining birthrate and aging workforce. Japanese society will need to integrate with advanced technologies and address the need for technological literacy, raising societal concerns over where new technology can and should be used while understanding areas where a human workforce is required. These issues are the driving forces in Japan's Society 5.0, which is a vision for a super smart human-centered society. Higher education is being challenged to prepare individuals who are ready to work in a world where advanced technology is heavily integrated into a human-based society. Society 5.0 will need individuals who can connect technological innovation to social issues, skillfully use technology to solve societal problems, and possess the critical thinking and problem-solving ability to create new value and innovation. In a journal article espousing the need for liberal arts education in technical fields, former Lockheed Martin President and CEO Norman Augustine (2013) wrote:

> So what does business need from our educational system? One answer is that it needs more employees who excel in science and engineering and, more generally, a workforce that is exposed to enough science and mathematics to function in the rapidly evolving, high-tech world. But that is only the beginning; one cannot live by equations alone. The need is increasing for workers with greater foreign-language skills and an expanded knowledge of economics, history, and geography. And who wants a technology-driven economy if those who drive it are not grounded in such fields as ethics?

STEAM programs that utilize the humanities, the social sciences, and the arts constitute one method higher education can use to infuse soft skills and develop next generation competencies into traditional STEM education. These non-technical fields can provide the guidance and perspective needed to holistically integrate technology into a human-based society. As earlier student testimony evidenced, STEAM learning can be highly rewarding, but also very challenging in terms of communication and collaboration when working between divisions of knowledge, expertise, language, and culture. Additional divisions exist at the academic program structure level, while more macro considerations - such as the collaboration between academia, workforce, government, and members of society - will be required by the vision for Society 5.0.

At a high level, there are questions as to whether the Japanese-centric vision and implementation for Society 5.0 can be easily shared at a global scale, as its intercultural translation may not necessarily provide a good fit in other locales (Gladden, 2019). Still, while this paper focuses on the

Japanese view of technology and its integration in future society, these same challenges and educational responses have the potential to apply to other societies and nations seeking to enhance and utilize STEM workforces. As worldwide demand for STEM field graduates grows, we must seek to address areas where traditional STEM education is falling out of sync with modern economic and societal needs. STEAM education fosters greater awareness, allowing students to see how fields are interrelated and can supplement each other to produce effective and innovative results. The Japanese workforce will need people with a broad educational background, including STEM majors who are familiar with the humanities and social sciences, and vice versa (Keidanren, 2016). From an educational perspective, STEAM and interdisciplinary studies will be essential to developing the next generation competencies needed to fulfill the vision for Society 5.0.

Author Note

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Value and Use of English as a Global Language in a Bulgarian Higher Education Internationalization Context

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Abstract

Both internationalization of higher education and use of English as a global language (EGL) coexist, for the latter is a vital tool to attain the former and vice versa. Although the former came into existence in non-native English-speaking countries in Europe, and the latter became the major medium of instruction at universities with the de facto 'extraterritorial' lingua franca, research into international students' issues has mainly been conducted in English-speaking countries. This paper, therefore, aims to explore such value and use of EGL in a higher education internationalization context in Bulgaria. With the qualitative research approach, two themes emerge, answering two research questions. The results collected from 13 students from European and former Soviet backgrounds offer insights into linguistic, cultural, and psychological challenges international students tend to encounter as well as determinants that impact their adjustment.

Keywords: use of English as a global language, non-native English students, higher education internationalization, World Englishes

Introduction

The twenty-first century has witnessed substantial human mobility, both legal and illegal, plus temporary and permanent. This mobility derives from poverty, political conflicts, civil war, the pursuit of education, international collaborations, and marriage across cultures; people seeking better pay, better work, better lives. In recent years, the pursuit of higher education abroad has attracted more than five million students to study in different destinations, which not only indicates campus diversity and internationalization (Bista et al., 2018) but also changes the global higher education landscape (Wells, 2014). By 2025, the number of international students worldwide is predicted to reach 15 million (Altbach, 2016). This phenomenon is considered as internationalization of higher education.

Inescapably, internationalization of higher education coexists with use of English as a global language (EGL). While the former helps to drive the attainment of EGL for international communication, knowing English advances a person or a system's ability to become internationalized. Although the former came into existence in non-native English-speaking (NNES) countries in Europe (Altbach, 2015), and the latter became the major medium of instruction at universities (Yano, 2018) with the de facto 'extraterritorial' lingua franca (Seidlhofer, 2012), research in relation to international students' issues have mainly been conducted in English-speaking countries (Khanal & Gaulee, 2019). Within this debate, it is worth exploring the value and use of EGL in a higher education internationalization context in Bulgaria, in which American educational systems and English as media of instruction and communication are adopted. It attempts to answer these two research questions: (a) the way in which NNES students value English at the exclusion of other languages; and (b) the way in which they experience the use of EGL in this context.

The Premise

Tertiary institutions in Europe are seen to highly focus on internationalizing their programs, followed by North America, the Middle East, Latin America, and the Caribbean (Kreber, 2009), and this accords with the Organization for Economic Cooperation and Development's (2013) report that the top two continents with a great share of hosting university students from other nations were Europe (48 percent) and North America (21 percent). While this internationalization particularly came into existence in Europe through the advent of the European Union and the recognized need to use a higher education system to promote the flows of international students (Altbach, 2015), the target university was uniquely founded under collaborations with the U.S., and Bulgarian government. Through its policies, practices, and academic systems, the target university has enjoyed not only the flow of student mobility from over 40 different countries but also student development for global citizenship by international faculty members.

One of the key components of global education is English. Approximately, 1.8 billion people speak English, making it the world's third most spoken language because it is highly valued as a necessity for better opportunities in employment, access to knowledge, higher education and international communication (Corradi, 2017). As such, English attains its global status of a commodity that has an effect on school curricular and cultures (Spring, 2009) in many NNES countries in which English becomes a compulsory subject learned as a foreign language at school. In Europe, English as a foreign language (EFL) is most taught at all levels of school, and the number of children who learn English is still growing, especially in Bulgaria, the Czech Republic, Hungary, and Slovakia (Seidlhofer, 2012).

The use of EGL also enables NNES people with the ability to communicate with others in the language to have a global share in power of collaboration and competition (Tananuraksakul, 2010). In parallel, Manakul (2007, p. 161) concluded in her research that "for a country whose language is used only within its boundaries, using English in higher education has certain internationalization effects" in attracting excellent students from other countries. It can be said that English is deemed essential and valuable, especially in contexts where people learn EFL or use it as a non-native speaker. Countries (e.g., Bulgaria, Croatia, Georgia, Kazakhstan, and Ukraine, to name but a few, which are the participants' countries of origin in this study) are not excluded. It can imply that NNES students obtain extrinsic and/or intrinsic motivation in learning English.

The aforementioned proposition is substantiated in Europe as Seidlhofer (2012) points out that English rather than other languages has been part of all European citizens' lives. Their daily activities are influenced by American popular culture, such as watching MTV and CNN and listening to English pop lyrics. Take Bulgaria an example. New generations of this country are fully aware of advancements of use of EGL in their future career, life-long learning, and mobility (Vasileva, 2008), and they tend to learn the language through watching cartoons, movies, and BBC and CNN news, playing online games and singing with lyrics and even use English as a part of their daily lives (Slavova, 2018, p. 89). As a result, "Euro-English" has come into being (Yano, 2018, p.100), a type of "pidgin English" mostly used in the European Union. The implication is that European students from NNES backgrounds are contextually confident in using English and possess positive attitudes toward and intrinsic motivation in learning the language.

Khanal and Gaulee (2019, pp. 569-570) proposed that all NNES students in English speaking countries must experience: culture shock, feelings of discomfort, frustration, and confusion; issues relating to finance, psychology, living, and socio-culture; and obstacles to use English for social and academic purposes. These challenges derive from unfamiliarity with sociocultural and linguistic differences, which in turn negatively impact their psychological well-being (Tananuraksakul, 2009b); for instance, they may experience academic culture shock once they find the learning environment at university, education system, lecture styles and relationships between students and lecturers difficult to adjust to (Li et al., 2010), which can be understood through Hofstede's (2019) cultural dimensions, namely, individualism, collectivism, and power distance. For example, in order to show social harmony and respect to teachers, Bulgarian students have collectivistic and high power distance backgrounds, so they culturally value group relations, passive learning behaviors in the class, and face negotiation. These

values are opposed to Americans whose cultural backgrounds are more of individualism and low power distance.

Furthermore, in intergroup communication among native and non-native English speakers (students and lecturers), it is common for them to communicate in "World Englishes", the term Kachru (1992) coined in the 1970s to describe English varieties socio-linguistically used by speakers of native, near-native and non-native English. Almost one-third of speakers from the 13 NNES countries of the European Union think they can converse with confidence in English with culturally different others (Anderman & Rogers, 2005, p. 24). Intergroup communication via World Englishes can break down if there are different levels of English competence as well as pronunciation-based misunderstanding as Jenkins (2002) found that "certain pronunciation deviations, particularly in consonant sounds, vowel length and the placing of tonic stress" (p. 91), caused an NNES person's pronunciation to lack mutual intelligibility to an NNES interlocutor. In addition, unfamiliarity with certain varieties of English and ignorance of speech and cultural accommodation can result in lack of mutual intelligibility (Tananuraksakul, 2009b, 2012), which can cause World Englishes shock and repetition shock, which refers to emotional impacts by exposure to alien varieties of English and repetition when expressing something (Tananuraksakul, 2009b, p. 49).

This study is based on the premise that apart from the globally recognized status of English, NNES students with collectivist and hierarchical cultures (collectivism and 'high power distance') likely value English language learning because of parental, social, or personal aspirations and negotiate face in group interactions. Face intersects with identity in the conversation since the former represents how individuals want to present the latter (Goffman, 1967), which is something individuals construct and negotiate all of their lives through their interactions with others. Identity is hence multifaceted (Thornborrow, 2004; Ting-Toomey, 2005) in that people often moderate their identity in accordance with the social situation they engage in and their goal for interactions. NNES students' social and academic journeys in the present context share similarities with previous research mainly conducted in English-speaking countries where individualism and 'low power distance' are culturally exercised.

Methods

The present study is considered phenomenological since it explores NNES students' personal experiences (Johnson & Christensen, 2012) in value and use of EGL in the present context. Unstructured in-depth interview was opted for data collection, as it allowed them to provide insightful information (Creswell, 2015) about their experiences. The target group was undergraduate students from NNES

backgrounds studying at a recognized Western university in Bulgaria employing American educational systems and English as media of instruction and communication.

Participant recruitment started after the University Ethics Review Committee (Human Research) had approved the ethical aspects of this study. Invitations to voluntarily participate in this study were posted on student boards in the main buildings where the target group could easily notice. Thirteen students from European countries and former Soviet Republics signed up for face-to-face interviews, and each interview took about 30 minutes. Examples of unstructured questions are:

(a) why are you studying English?

(b) have you experienced any linguistic and/or cultural barriers?

(c) can you share those experiences?

(d) how did you feel about those experiences?

During the interviews, the researcher ensured all the participants of confidentiality and took notes instead of tape recording so that they felt at ease to share their experiences. The interview data were then transcribed and validated by each participant who was requested to check, correct and approve the transcripts through email. After that, the transcripts were analytically segmented and coded so as to identify themes (Creswell, 2003; Johnson & Christensen, 2012) in relation to the research questions. Through this process, the researcher first highlighted the segments of data into meaningful units with different colors, coded them with category names, and identified all related categories. Finally, two themes emerged, which answered the research questions.

One of the participants was male while 12 were female. Seven were from Bulgaria while the rest were from Georgia, Ukraine, Croatia, and Kazakhstan. They all had to pass a standardized English test for university admission. The duration of their English study ranged from 6 years to 16 years, and all of them indicated in Table 1 are adequately competent in English.

Table 1

Participants' Demographic Information

Student	National	Duration of study of English (years)	English Proficiency Level
1	Bulgarian	11-12	IELTS score band = 8.0
2	Georgian	Since first grade	TOEFL = 100+
3	Bulgarian	14-15	IELTS score band = 8.0
4	Croatian	12	IELTS score band = 8.0

5	Bulgarian	10	IELTS score band = 7.5
6	Bulgarian	Since 2-3 years old	Cambridge – C1
7	Bulgarian	9	CAE
8	Ukrainian	16	TOEFL = 102
9	Bulgarian	14	CAE = B
10	Kazakhstani	5	IELTS score band = 6.5
11	Ukrainian	8	TOEFL = 575
12	Bulgarian	Over 10	Preparation for IELTS
13	Georgian	6	TOEFL – unindicated result

Findings

Data qualitatively collected from 13 undergraduate students from NNES backgrounds were grouped into two themes that answered the research questions.

Key Research Theme One: Value of English at the Exclusion of Other Languages

It appears that in Bulgaria and Georgia, English is a compulsory subject to study at school, but it does not mean that all students can be fluent in the language. Students from these two countries particularly raised this issue. Students 2, 5, 6, 9, and 12 expressed their voice in a similar manner to say that everyone in their country was required to study English, but not everyone could speak it. Student 5 additionally explained this dichotomy by saying, "the learning environment is not competitive enough and teachers don't have time to pay attention to every student…so going to a private lesson helps us learn better…" Students 6 and 9 shared another insight into their homelands as the former mentioned that "my friends and I talked and came to a conclusion that it would be strange not to know Bulgarian and English…everything on the Internet is in English so we have to learn…it is part of us to speak English…" The latter says "here in Bulgaria, English is the most studied foreign language…without English it creates barriers…"

Parents also have a great impact on some students' motive in learning English, which reflect the collectivistic culture embedded in them. Students 1, 6 and 9 were encouraged to learn English by their parents when they were young. Student 1 says "my mother made me study it. I think she knew the importance of the language," while Student 9 stated "I started watching English cartoons from Fox's kids channel and my parents noticed that I could pick up English words quickly, so they supported me to study English with a private tutor." Student 6 elaborated that "my mother was proud of me when seeing me answering the phone in English at 2-3 years old and wanted me to learn English to open the world."

Student 4, meanwhile, studies English due to the parents' work as diplomats, moving around from Italy to Australia to Egypt to Croatia and now to Bulgaria.

Culturally and socially speaking, students may be motivated to learn English, but it actually requires personal aspiration or intrinsic motivation to learn the language successfully. Students 1, 3 and 9 always want to study English, so in their free time, the first two learn the language from American television shows, and the last practices English through video games. Student 1 loves England and has "passion for English." Student 3 has spent summers in America through a work and travel program since 2016, for five months each time, saying that "knowing English opens other doors for me…to meet new people, explore the world, go and live in a new country." Student 12 "likes English…it is like music to me. The perception of English being music motivates me to learn the language."

Key Research Theme Two: Linguistic, Cultural and Psychological Challenges

The participants experience cultural and linguistic barriers. Student 2 was not confident in writing and speaking skills in the first year of study, saying:

> I preferred not to say something to senior students because I was afraid to make a mistake or sound stupid to them…I was unconfident in my own English…Once I engaged with more people and the club [I belong to], I began to interact with everyone…I also had a problem with academic writing and I blamed it on English itself…English was stupid or silly…there were not enough words in English to express myself. Actually, there's not enough practice but I could overcome the problem by reading a lot…readjust to American writing styles through professors' comments about how to choose the right words for my ideas.

Students 10 and 12 shared something in common as they had problems in writing. The former emphasized that "my writing skill is not good enough as I still translate from Russian to English and receive a professor's comment about the needs to improve my writing…" The latter said:

> I have no problem with communication with others but if I make a mistake, I feel down and try to control it. Sometimes, I feel stressed, but practicing a lot helps me feel better. I have a weakness in my writing, and it's hard for me to write even in my own language because it's like a document. I feel that I may make a mistake on the document and I feel insecure…it's like taking a test.

Unlike Students 10 and 12, Students 11 and 13 experienced barriers in English speaking, but not in their writing skills. The former thought "speaking was problematic due to lack of self-esteem," but writing was "good enough. I compensate it with my speaking problem, so I feel ashamed and stupid, lowering my confidence and self-esteem when I read something and don't understand it…" The latter

was not confident because close friends kept correcting this person's English but having "a little more confidence" when a professor commended on the paper that "it was written well with good content although grammar was incorrect."

Students 5, 7, 9, and 13 encountered a similar situation. Both Students 5 and 13 in particular mentioned that professors from Italian, Spanish, Bulgarian and French speaking backgrounds spoke English with "a heavy accent", and it took time to be used to it for Student 5. It only took "a few days" for Students 7 and 9 to be familiar with the heavy accent. However, for Student 13, it was a challenge to overcome the barrier because:

> it was hard to understand a fellow countryperson's unclear spoken English and what the professor from [a] French-speaking background said and concentrate on the lecture…once I was ashamed of my answer to the question…it was not the answer…my mind was somewhere else…lost…so when I was asked for the answer, it was wrong…I lacked confidence but not self-worth.

Student 13 explicitly added that students and professors were also from NNES backgrounds, and everyone came here to learn, so "I tried to get used to the English varieties."

Different styles of teaching and learning that Student 7 was previously used to appear to impede the adjustment to a new environment at the university because "I experience culture shock, which makes me feel insecure…I am used to formality in almost [all] situations…it's less formal here…it's hard for me to adjust…students are highly encouraged to participate in the classroom but not in Bulgarian culture."

Students 5, 7, and 13 did not enjoy being asked to repeat what they said and negatively impacted them. Student 5 "felt a little ashamed and frustrated," while Student 7 felt "ashamed" when being asked by native or near-native English speakers at a part-time job to say something again. Student 13 lacked "confidence and felt excluded when two close friends laughed at my English and I was asked to repeat what I said." However, Student 7 would feel fine "if non-native English speakers ask me to say something again, because I can relate to them, how we have to go through the same process of learning English."

Both Students 5 and 7 experienced awkward moments in approaching their professors. When it came to discussing something with a professor from native English-speaking backgrounds both appeared to feel apprehensive and in turn lost confidence and risk-taking in communication. The former would feel "nervous, worried and stressed which affect my confidence and self-worth" whereas the latter would "lack confidence and slightly lose dignity, for they both thought the same way about their

English – that they were being "judged." Student 6 "would feel relaxed to express myself if I feel close to them like the American professors…it's a matter of a relationship or whom I'm talking to." There was nothing else worrying Student 5 except saying something in the classroom that "would make me look stupid." When this person had such a feeling, consultations with the professor after class would be the choice due to the "feeling of shyness to ask and avoidance to disturb the lecture time…feeling annoyed when some students ask many questions just to receive attention or favors from professors."

In the classroom, Student 4 feels confident and secure in using English because "people speak English…there's always someone who speaks well or better than me…in this situation, I am brave to express myself in English and feel more accepted by classmates and professors." Outside the classroom, however, Student 4 does not feel so confident and lacks dignity because:

> everyone treats me like a stranger…people at the restaurant would give me an English menu instead of Bulgarian menu…speak English not Bulgarian to me…charge me a double price…I feel unconfident in my English outside the classroom because people don't speak English to me.

Student 5 encapsulates the willingness to interact with culturally different others because "I am motivated to speak more clearly and would try to explain my expressions better or say 'whatever' or stay silent."

Discussion

Since English is an attractive instrument specifically empowering non-native students (Tananuraksakul, 2015, p. 149), learning it as a foreign language can be a pleasure or a pressure depending on one's situation. Theme one answers the first research question because it marks the participants' value of English at the exclusion of other languages, which manifests in their positive affect, namely extrinsic and intrinsic motivation in learning the language with a good attitude. Arnold and Brown (1999, p. 1) regard affect as "aspects of emotion, feeling, mood or attitude which condition [language learners'] behaviors" in learning English in the present context. Positive affect strengthens them to value and study the language and vice-versa.

Both social context of learning and using EFL in the participants' homelands and the status of English as a language of globalization and internationalization appear to be the initial reasons why the participants have studied English. Five participants from Bulgaria and Georgia witness this proposition and find themselves to be motivated to learn English. As English provides a medium for understanding ideas and innovation around the world on the Internet (British Council, 2013), two of those five from Bulgaria, strongly assert that evidently young generations like them view English highly as a vehicle of advancement and globally shared power in their home country.

The assertion firstly aligns with Seidlhofer's (2012, p. 359) analogy that "having English in Europe has become a bit like having a driving license: nothing special, something that most people have, and without which you do not get very far." Secondly, Slavova's (2018, p. 88) research outcomes show that 28 out of all 62 Bulgarian students consider English as a tool for global business, travelling and sharing information. Thirdly, a report by EF Education First says that from an online survey by 1.3 million, out of 88 NNES countries, Bulgaria has made its way to reach the country ranked twenty fifth in the world for its high level of English skill (The Sophia Globe, 2018). The analysis also suggests that students from Bulgaria and Georgia tend to value English and socially aspire to study English due to its global status.

There is no doubt that parents' advice and career in diplomacy could make a great impact on their children's motivation, reflecting a collectivistic culture embedded in their being and thinking. Three participants from Bulgaria were encouraged to learn English by their parents when they were young. These findings appear to resonate with 28 Bulgarian participants in Slavova's (2018) research into attitudes toward English as a lingua franca. Several of them were attracted by English cartoons during childhood and gradually started to comprehend the language, for example, one said "…[my interest toward English] all began [before 4 years old] with my love for cartoons and through watching them exclusively I began to acquire the basics of the language (p. 89)". Another learned to count in English "before counting in Bulgarian…by regularly watching Cindy Crawford's fitness videos with the mother (Slavova)."

Having parents who were diplomats gave opportunities to one person from Croatia to study English in different settings. According to Hofstede (2019), Bulgaria and Croatia have low scores in cultural dimension of individualism ranking 30 and 33, respectively, and are considered collectivistic, so a close long-term commitment to group and family members are highly valued. This finding is parallel with Tananuraksakul's (2009a) report on Asian students' personal insights into rich experiences gained when learning English in their homelands, that parents collectively play a vital role in their children's decision-making or future. The analysis suggests that students from the collectivist culture would be parentally aspired to value and study English.

Since attitude and motivation are intertwined concepts in learning a foreign language, three Bulgarian students reveal their intrinsic motivation in and positive attitudes toward learning English, which are strikingly similar to Slavova's (2018) study that Bulgarian students' "life revolves around the use of English through books, song lyrics, Internet articles, movies, international news broadcasts such as the BBC and CNN, multiplayer online games and communication with friends abroad" (p. 89). Others

encompass "English is…my passion…I love various English accents, rich lexicology and…it is very pleasant to listen to (p. 88)…" Speaking English well "gives me the unique opportunity to communicate with people from all over the world as well as to become familiar with different cultures (p. 88)…" The analysis suggests that students in the present context also personally value English and learn it with intrinsic motivation and positive attitudes.

Theme two, which answers the second key research question, delves into the participants' social and academic journey in the present context. Despite the high levels of their standardized English proficiency, they experienced cultural and linguistic barriers which to an extent impacted on their psychological well-being. Five participants from Georgia, Kazakhstan, Bulgaria and Ukraine had academic culture shock (Li et al., 2010), possibly due to socio-linguistics they learned locally in their homeland and globally used in the present context.

Four participants from Bulgaria and Georgia faced an issue of unintelligibility in relation to words they used that were not recognized immediately (Smith & Nelson, 2006). They had difficulty in understanding some professors and classmates whose pronunciation of English was different due to "a heavy accent." Unclear pronunciation even by someone from the same nation caused one student to be unfamiliar with the English accent. One student from Georgia encountered World Englishes shock, "a mental state of disorientation and frustration due to an exposure to alien varieties of English, which extended [a feeling of] insecurity" (Tananuraksakul, 2009, p. 49). Only two students from Bulgaria were able to overcome the barrier in a short period of time, yet none of those four expected their professors to accommodate their speech. Perhaps, it was because of 'high power distance' that those students culturally acquired and accepted a hierarchical order between them and their professors (Hofstede, 2019), further causing one participant from Bulgaria to feel uncomfortable, insecure and confused due to unfamiliarity with 'low power distance' the university practices. The emotional impacts lead to academic culture shock (Li et al., 2010). These outcomes reflected internal cultural aspects externally unobservable and embedded in the students' consciousness.

Like NNES students in Australian contexts, three participants from Bulgaria and Georgia appeared to encounter repetition shock because they were affected emotionally by being asked to repeat something they said (Tananuraksakul, 2009b, p. 49). However, empathy for intergroup members from NNES backgrounds prevented one Bulgarian participant from feeling repetition shock. The analysis firstly suggests that intergroup communication in this context marks a boundary between NNES speakers, near-native English speakers and native English speakers, and it mirrors their symbolic relations of power and identities (Norton, 2000). Secondly, the encounters of World Englishes shock and

repetition shock may result from sociolinguistics the participants learned locally at home and used globally in the present context.

Two Bulgarian students were reluctant to talk to their professors during an appointment, while one person avoided speaking in the classroom. Across all cultures and social situations, individuals universally have "face" and a desire to maintain or attain it (Ting-Toomey, 1994). Ting-Toomey (2005) refers to 'competence' face as a desire to appear intelligent, accomplished and skillful whereas 'moral' face is the desire to appear dignified and honored. These two 'face' outlooks appeared to influence those participants' perceptions. However, a good rapport between professor and student helped one student achieve 'face'. These outcomes reflect internal cultural aspects not always easy to observe and embedded in some students' consciousness.

One Croatian participant particularly experienced a sense of social and academic exclusion and found it difficult to negotiate with multiple identities and lost confidence and dignity. However, this person's sense of academic inclusion was boosted during classroom discussion, which generated the desired linguistic and psychological identities. One Bulgarian participant attempted to exercise the skills of intercultural identity negotiation (Kim, 2001) when interacting with culturally different others with speech accommodation (Gile, 2008), trying to "say it better" or saying "whatever" or staying "silent."

Conclusion, Implication, and Limitation

This study qualitatively explores how NNES students value and experience the use of EGL in a Bulgarian higher education internationalization context where American educational systems and English as the media of instruction and communication are adopted. Two themes arise, which answer the research questions. The first theme discloses the participants' value of English at the exclusion of other languages, influenced by socio-cultural factors, such as parental, social and personal aspirations, since they were young in their homelands. The second theme indicates individual challenges of EGL use as well as social, academic and psychological adjustment in the present context.

Although the participants had adequate English proficiency, they tended to experience academic culture shock, World Englishes shock, and repetition shock, perhaps because sociolinguistics they learned locally at home and used globally in the present context. The high degree of 'power distance' they subconsciously brought with them and a sense of power relations and identity between them and native speakers additionally affected their adjustment. Despite these challenges, it appeared that they constructed and negotiated their multiple identities with mindfulness because they carried the positive achievement of learning the language (intrinsic and extrinsic motivation, attitudes, self-confidence, and empathy) with them once stepping into new social and academic settings.

It can firstly imply that students from NNES backgrounds in the present context can expect to experience academic culture shock, World Englishes shock, and repetition shock. Secondly, the positive effect in language learning can lead them to intercultural communication competence since Chang's (2013) research findings imply that mindfulness is the key of intercultural communication, and that knowledge or skills in language and culture can be "subsumed under mindfulness".

The small number of participants may limit this study, yet it offers insights into linguistic, cultural, and psychological challenges that students in the present context tend to encounter as well as determinants that impact their adjustment.

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On Motivations for Mobility of International Students Studying at Japanese Research-Intensive Universities

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Abstract

The reasons why foreign graduate students studied or study at Japanese research-intensive universities were investigated, based on a questionnaire survey and interviews. According to the questionnaire survey, the main three reasons were that the research or education level of Japanese universities was high, that they liked Japan, and that they got scholarships. Supervisors' recommendations, positive willingness, Japanese culture, and advantage in promotion also seem to be incentives for acquiring doctorates. These reasons were also mentioned by three Thai interviewees. This study showed that exchange of culture and supervisors was important in addition to factors known in previous studies. This study also implied international students across borders of more than three nations with strong willingness. It is important for Japanese policymakers to arrange environments so that exchange of culture and supervisors is activated, and international students can move freely.

Keywords: international student mobility, doctoral students, Southeast Asia, questionnaire survey, interviews

Introduction

Many top ranked higher education institutions are found in the Asia-Pacific region, where there is a large young population (Richardson, 2015). International student mobility refers to migration of international students across national borders. International students are those who received their prior education in another country and are not residents of their current country of study (OECD, 2020). International student mobility is important for sustainable economic growth and prosperity of the Asia-

Pacific region. The Japanese government also emphasized importance of international student mobility for strengthening ties with other Asian countries in the Asian Gateway Initiative (Kuroda et al., 2018).

In 2008, the Japanese government launched a new policy "300,000 International Students Plan," which aimed to increase the number of international students studying in Japan to three hundred thousand by 2020. The number has been approximately increasing since 2008 and reached 312,000 in 2019 (Japan Student Services Organization, 2020). Foreign students, familiar with artificial intelligence for example, are expected to stay in Japan after graduation and to contribute to improvement in global competitiveness of Japanese enterprises and improvement in research activities of Japanese universities, in the decreasing Japanese work force **(**Ministry of Education, Culture, Sports, Science and Technology, 2018). Research-intensive universities play an important role to educate such excellent students. The Japanese government launched the top global university project in 2014. It designated thirteen universities as "top type" universities, which conducted world-leading education and research.

In this study, I address the research question: What implications can be given for Japanese policymakers on attracting more excellent foreign students to Japan? It investigates why foreign students studied or study at Japanese research-intensive universities. First, I administered a questionnaire survey for foreign recipients who acquired doctoral degrees of engineering or related fields or economics or management at seven Japanese national universities (Hokkaido University, Tohoku University, the University of Tokyo, Nagoya University, Kyoto University, Osaka University, and Kyushu University) of thirteen research-intensive "top type" universities. Second, I conducted interviews for three Thai doctoral students majoring in engineering at the University of Tokyo.

According to the 2019 Academic Ranking of World Universities (ShanghaiRanking Consultancy, 2019), the University of Tokyo, Kyoto University, Nagoya University, Tohoku University, Hokkaido University, Osaka University, and Kyushu University were ranked first, second, third, fourth, sixth, sixth, and eighth among Japanese universities, respectively. As these seven universities can be considered as top research-intensive universities in Japan, this study focused on these seven universities.

There are some studies on motivations for graduate student mobility (Mazzarol et al., 1997; Mazzarol et al., 2001; Li & Bray, 2007; Chen, 2008). However, they are much less than studies on motivations for undergraduate students (e.g., Funatsu & Hotta, 2004; Sato & Horie, 2015; Kobayashi, 2018). Then this study focused on doctoral students.

Southeast Asians occupied about 31 percent of international students studying in Japan in 2019 (Japan Student Services Organization, 2020). The rapid economic growth of the Southeast Asian region is primarily attributed to the rise of the manufacturing industry (PwC Singapore, 2017). Then this study

focused mainly on Southeast Asian doctoral students majoring in engineering. Economics or management was also selected as a major of subjects because it is often researched with a mathematical method, as is similar to engineering.

According to the email message from Japan Student Services Organization to the author on February 19, 2020, the number of Thai doctoral students studying at Japanese higher education institutions in 2018 was 319 and the second highest after Indonesia among seven Southeast Asian countries (Cambodia, Indonesia, Malaysia, Myanmar, Philippines, Thailand, and Vietnam). As Thai and Indonesian doctoral students would be representative of Southeast Asian doctoral students in Japan, I interviewed Thai doctoral students. Selection bias of interviewees would be caused by not including Indonesian doctoral students in interviewees. Bias among experiment participants was noted in previous studies (e.g., Yanamoto, 2015).

Literature Review

International student mobility was classified into three categories (Sugimura, 2011): In the first case, international students move only between source countries and destination countries. Trends in international student mobility have changed over the period 1999-2020 (Choudaha, 2017). Traditional source countries like China, Korea, and Japan attract many international students now, from Asian countries in particular (Asian Development Bank Institute, 2014). However, mobility between two countries has been typical of international student mobility. In the second case, international students move within universities tied up between different countries. Erasmus+ and AUN/SEED-Net are examples of such tie-up. In the third case, international students move within more than three countries, based on their own willingness and interest. She called this third mobility "transit-type" mobility.

In this study, the questionnaire survey was conducted for foreign recipients who studied in bachelor's or master's courses in countries different from their countries of origin and then acquired doctoral degrees at Japanese universities, and for foreign recipients who came from their countries of origin to Japan directly and then acquired doctoral degrees at Japanese universities. The complementary purpose of this study is to investigate whether or not foreign recipients who moved via other countries to Japan had characteristic of "transit-type" mobility by comparison of the both.

Both students and institutions benefit from international student mobility. International student mobility experienced graduates enjoyed a steeper wage growth after graduation (Kratz & Netz, 2018). International students can contribute to quality improvements of educational practices and study conditions by comparing their home and host institutions (Klemenčič et al., 2017). From international students, host institutions can receive tuition fees which are often higher than from national students (OECD, 2010).

International student mobility is also relevant to immigration: International students are attractive as prospective skilled immigrants for some destination countries (Caruso & de Wit, 2015). Also, one motivation for students' studying abroad is to immigrate permanently to a destination country (Levatino, 2017).

Motivations for international student mobility are often analyzed, based on push-pull model (Mazzarol & Soutar, 2001; Furukawa et al., 2013; Caruso & de Wit 2015; Levatino, 2017): Factors promoting international student mobility are divided into push factors in source countries and pull factors in destination countries.

Theoretical Framework

The quantitative method such as questionnaire surveys and the qualitative method such as interviews can be used simultaneously or sequentially to solve the same research problem (Morse, 1991). This approach is utilized not only in fields of education, psychology, nursing, sociology, and law, but also in studies on European student mobility (McKinley, 2019). The simultaneous approach of quantitative and qualitative methods means that two methods are used at the same time. One method is complemented by the other. The sequential approach of quantitative and qualitative methods means that planning one method follows completion of the other. The purpose of the sequential approach in which the quantitative method precedes the qualitative method is to examine unexpected results from the quantitative method by the qualitative method. This study was methodologically designed, based on this approach: First, why doctorate recipients studied in Japan was investigated by the questionnaire survey. Subsequently, interviews for doctoral students were conducted in order to investigate unexpected results from the questionnaire survey further.

Extraction was conducted from recipients who acquired doctorates in 2006-2014, so as to satisfy requirements described in Procedure of the Questionnaire Survey. Full inspection was carried out for the extracted recipients in the questionnaire survey.

Most of international students, who acquired doctorates at seven Japanese universities, graduated from foreign universities and were enrolled at Japanese graduate schools from the master's or doctoral course. A small portion of international students graduated from foreign high schools and were enrolled at Japanese universities and subsequently at Japanese graduate schools.

Creation of Options in the Questionnaire Survey

Options in the questionnaire survey were created referring to Mazzarol and Soutar (2001), because many factors influencing student mobility from four source countries to Australia were ranked. The decision process through which a student studies abroad proceeds via at least three stages: First, a student decides to study internationally rather than locally. Second, a student selects a host country.

Third, a student selects an institution. Option creation in this questionnaire survey is discussed referring first to the third stage, subsequently to the second stage, and finally to the first stage. I decided seven options on why international students came to Japan. Having a reputation for quality influences selection of the host institution at the third stage most strongly. Other studies also pointed out that the world university ranking was a significant pull factor in institutional selection (González et al., 2011; Furukawa et al., 2013; Li, 2016). Then I selected the high research or education level of the host institution as the first option.

Six factors were found to influence student selection of the host country at the second stage (Mazzarol & Soutar, 2001): (a) knowledge and awareness of the host country in the home country, (b) personal recommendations from student's parents, relatives, friends, and others, (c) cost issues, including the cost of fees, living expenses, travel costs, and social costs such as safety, (d) environment such as climate and quietness in the host country, (e) geographical proximity of the host country to the home country, and (f) social links which relate to whether a student has family or friends living in the host country.

Knowledge and awareness of the host country in the home country includes high quality and good reputation of education of the host country. Then it is relevant to the first option, high research or education level of the host institution. I did not select knowledge and awareness of the host country in the home country as an option. As to recommendations, parents' agreement was important for Chinese undergraduate students' decision to study abroad (Matsubara et al., 2008). Recommendations from professors were one of important factors for graduate students to select Canada as the host country (Chen, 2008). As graduate students were the subject of this study, I selected personal recommendations from supervisors in the home and host countries as the second and third options, respectively. As to cost issues, previous studies also noted that low tuition fees and low costs of living were attractive (Hawthorne, 2010; OECD, 2010; Asian Development Bank Institute, 2014). Then I selected scholarships as the fourth option. Good environment would lead to favourable impression of the host country. According to the questionnaire survey on 1,001 Japanese who experienced studying abroad, the second most popular reason why Japanese selected host countries was because they liked host countries (28.9 percent) (Japan Student Services Organization, 2018). Then I selected liking the host country as the fifth option. Geographical proximity of the host country to the home country was unimportant for Taiwanese students studying in Australia (Mazzarol et al., 1997). I did not select geographical proximity as an option, because Japan was not very close to countries except China, Korea, and Taiwan. Social links were unimportant, compared with other factors (Mazzarol et al., 1997). Then I did not select social links as an

option. This study showed 244 recipients (9 percent) who moved within more than three countries including Japan among 2,700 doctorate recipients of engineering or related fields. Considering that such recipients would have strong positiveness, I selected wanting to build students' careers abroad positively as the sixth option. Finally, I selected "other" as the seventh option.

The most important factor influencing students' decision to study internationally rather than locally at the first stage was that an oversea course was better than a local one (Mazzarol & Soutar, 2001). This factor is relevant to the first option "the high research or education level of the host institution" mentioned above. The second most important factor at first stage was that a student could gain a better understanding of a foreign culture. This factor is relevant to the fifth option "liking the host country" because understanding of culture of a country would lead to good impression of it. Then new options were not created, referring to the first stage by Mazzarol and Soutar (2001).

Procedure of the Questionnaire Survey

Names of doctorate recipients were obtained from doctoral degree theses database of seven universities. I regarded recipients having foreigner-specific names as foreign recipients, and information on them was retrieved. This process has a limitation: Foreign recipients having Japanese-specific names were excluded. Foreign doctorate recipients having Japanese-specific names could not be distinguished from Japanese doctorate recipients on the doctoral degree theses database. Giving names of doctorate recipients having foreigner-specific names and universities which awarded doctorates to them as search words, information retrieval was performed by Google search engine. By changing settings in LinkedIn or Facebook, links to profiles are not displayed on information retrieval by Google search engine. This would be one reason why links to profiles of all doctorate recipients were not displayed on retrieval. However, in most cases, links were displayed to pages of social networking services such as LinkedIn or Facebook, homepages of current affiliated institutions or universities which awarded doctorates to them or personal homepages. Acknowledgements and curricula vitae in doctoral degree theses were referred to in case that helpful information was not retrieved in the above method. Information on nationalities, that is, countries of origin of foreign doctorate recipients was published on doctoral degree theses database (fiscal years: 2010-2012) by Kyushu University. Curricula vitae often gave such information. When information on countries of origin of recipients was not obtained, I inferred them: In case that recipients' careers were obtained from social networking services, I inferred their countries of origin from locations of universities where they obtained bachelor's degrees, or where they lived at present, although it was not always guaranteed that inference was correct. Countries of origin were also inferred from descriptions of acknowledgment in doctoral degree theses. When countries of origin could not be

inferred in the above method and names of nations were included in titles of their doctoral degree theses, I regarded them as countries of origin. Then proportion of recipients whose countries of origin were unknown was 12.7 percent for doctorate recipients of engineering or related fields (N=2,700) and 7.2 percent for doctorate recipients of economics or management (N=83). Many people have country-specific names, as seen in Thailand and Vietnam typically. In most cases, countries of origin of recipients judged or inferred in the above method were consistent with countries or regions inferred from names, although inference of countries of origin only from names was problematic. Information on careers of recipients was obtained from descriptions on homepages of current affiliated institutions, social networking services, curricula vitae, and so on.

Three groups of foreign doctorate recipients were extracted from doctoral degree theses database of seven universities as a result of information retrieval. First, forty-eight foreign recipients, who proved to study in their bachelor's or master's courses in countries different from their countries of origin and then acquired doctoral degrees at Japanese universities, were extracted from two data sources (N=2,123), as shown in Table 1(a) in Appendix. Their present addresses were known. One data source consisted of foreign recipients who acquired doctorates of engineering or related fields in fiscal years 2011-2013 at seven universities. The number of these foreign recipients increased in the order of Nagoya University, Hokkaido University, Osaka University, Tohoku University, Kyoto University, Kyushu University, and the University of Tokyo. The other data source consisted of foreign recipients who acquired engineering doctorates in earlier fiscal years 2006-2010. Recipients over a longer period from the second data source were added to recipients from the first data source for universities such as Nagoya University and Hokkaido University, where the number of recipients from the first data source was less. On the other hand, none from the second data source were added for universities, such as the University of Tokyo and Kyoto University, where the number of recipients from the first data source was more. Questionnaire sheets were distributed to these forty-eight recipients by postal mail, and 21 responded. Nine of 21 respondents studied in their bachelor's or master's courses in the United States or European countries. Seven studied in Southeast Asian countries. Five studied in China, Korea or Taiwan.

Subsequently, 36 foreign recipients were extracted from 83 foreign recipients who acquired economics or management doctorates at seven universities in fiscal years 2011-2013, as shown in Table 1(b). Questionnaire sheets were distributed to these thirty-six foreign recipients who did not prove to move from their countries of origin via other countries to Japan and whose present addresses were

known. They were classified as recipients who moved from their countries of origin to Japan directly. Ten recipients responded.

Finally, 116 Southeast Asian recipients were extracted from recipients who acquired doctorates of engineering or related fields at seven universities in fiscal years 2013-2014, as shown in Table 1(c). These Southeast Asian recipients did not prove to move from their countries of origin via other countries to Japan, and their present addresses were known. They were classified as recipients who moved from their countries of origin to Japan directly. Seven recipients who moved to countries different from their countries of origin after acquiring doctorates in a fiscal year 2013, were excluded from this group (N=116), because a sufficient number of responses were obtained from recipients who got jobs at their countries of origin or Japan. One Singaporean, who acquired a doctorate in a fiscal year 2014, was excluded from this group, because no questionnaire sheets were distributed to Singaporeans in this survey. Eight Vietnamese, who acquired doctorates in a fiscal year 2014, were excluded from this group because retrieval rate from Vietnamese, who acquired doctorates of engineering or related fields, was 22 percent and not very high in this survey. Questionnaire sheets were distributed to sixty-nine recipients except females, because retrieval rate from females was not very high in this survey. Thirty-five recipients responded.

The number of extracted doctorate recipients was relatively small, as shown above. In two cases seen in Table 2(a) and 2(c), the number (N=2,123 or N=1,143) of original doctorate recipients was relatively large, but extraction procedures decreased recipients drastically. In the other case in Table 2(b), the number (N=83) of original doctorate recipients was relatively small.

Most of questionnaire respondents were male. The number of distributed and retrieved questionnaires is shown in Table 2 in Appendix for each country or region. The total retrieved number was sixty-six and retrieval rate was 43 percent. Forty-nine of 66 respondents had jobs in their countries of origin after acquiring doctorates. Eleven had jobs in Japan after acquiring doctorates. Six moved to countries different from their countries of origin after acquiring doctorates.

All doctorate recipients, to whom questionnaire sheets were distributed, were asked why they studied at Japanese universities. They selected the appropriate from seven options as shown in Question 1 in Appendix. Subsequently, engineering or related fields doctorate recipients, who proved to move from their countries of origin via other countries to Japan, were asked why they studied in bachelor's or master's courses in countries different from their countries of origin, for comparison with reasons why they came to Japan. They selected the appropriate from seven options as shown in Question 2 in Appendix. Finally, the last question was prepared, as many respondents selected "because

they liked Japan" in Question 1. A part (7) of engineering or related fields doctorate recipients, who proved to move from their countries of origin via other countries to Japan, and all engineering or related fields doctorate recipients (35), who moved from their countries of origin to Japan directly, were sent questionnaire sheets with Question 3 and asked why they liked Japan if they chose "because they liked Japan" in Question 1. They selected the appropriate from eight options as shown in Question 3 in Appendix. Multiple answers were allowed in the above three questions. When respondents selected the seventh or eighth option "other", I had them write comments.

Procedure of Interviews

Two of three Thai interviewees were male. The other one was female. All three are enrolled at the graduate school of engineering of the University of Tokyo now. I searched for faculty members involving in international exchange on the official homepage introducing faculty members of the school of engineering of the University of Tokyo. I wrote a letter to one professor, requesting him to introduce a Southeast Asian graduate student. One male interviewee was a doctoral student introduced by the professor. The others were his Thai friends. Each interview was conducted as a semi-structured interview for about thirty minutes (e.g., Kallio et al., 2016). Conversations were recorded in a voice recorder. Three interviewees were enough for checking unexpected results from the questionnaire survey.

Results of the Questionnaire Survey

As seen in Figure 1, the most popular reason why international students studied at Japanese universities was that the research or education level at Japanese universities where they studied was high. Fifty (76 percent) of 66 questionnaire respondents selected this answer. This implies that research-intensive "top type" universities where they studied were attractive for them focusing on research. The second and third most popular reasons were that they liked Japan and that they got scholarships, respectively. These three reasons were the most popular three for each of three groups of respondents. The fourth most popular reason was that they wanted to build their careers abroad positively for recipients who moved from their countries of origin via other countries to Japan and then acquired doctorates of engineering or related fields at Japanese universities. The fourth most popular reason was that supervisors in countries of origin recommended the study in Japan for recipients who moved from countries of origin to Japan directly and then acquired doctorates of engineering or related fields or economics or management. Eighteen to 26 percent of all respondents selected that they wanted to build their careers abroad positively, that supervisors in countries of origin recommended the study in Japan and that supervisors in Japan recommended the study in Japan.

Figure 1

Why Did International Students Study at Japanese Universities?

(N=66)

- ⊠ Movement from countries of origin via other countries to Japan (engineering) (n=21)
- □ Movement from countries of origin to Japan directly (engineering) (n=35)
- ⊠ Movement from countries of origin to Japan directly (economics or management) (n=10)
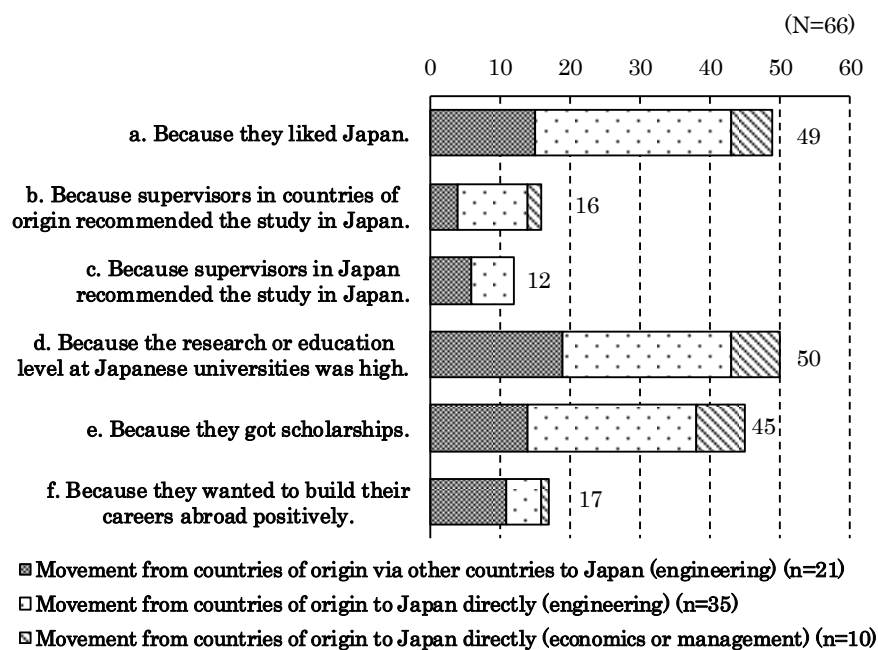
As other reasons why international students studied in Japan, five mentioned Japanese culture: One mentioned that he wanted to learn Japanese culture. One mentioned that he wanted to learn Japanese language. One mentioned that he had learned Japanese language for many years. One mentioned that he was fascinated by Japanese culture in his childhood.

As other reasons, two mentioned the importance of doctoral degrees in their careers: One mentioned that holding a doctorate degree would give a higher opportunity of career development and promotion in his country of origin. The other mentioned that the government of his country of origin asked him to acquire a doctoral degree. As other reasons, three mentioned high-level technology of Japan.

As the reasons why international students liked Japan, "c. Because Japan was safe and secure", "d. Because public infrastructure such as transport was developed in Japan.", "b. Because they liked Japanese culture", "f. Because Japanese nature was beautiful", and "a. Because Japanese people were kind." were popular, as shown in Figure 2.

As other reasons why international students liked Japan, three mentioned warmness of Japanese supervisors: Two mentioned that relationship with Japanese supervisors or support from them would last long. The other one mentioned having warm treatment from his supervisor when he left Japan. As other reasons, one mentioned usefulness of Japanese seminars. As other reasons, one mentioned that he liked Japanese cartoons.

Figure 2

Why Did International Students Like Japan?

(n=35)

a. Because Japanese people were kind.	19
b. Because they liked Japanese culture.	21
c. Because Japan was safe and secure.	24
d. Because public infrastructure such as transport was developed in Japan.	22
e. Because Japanese economics was good.	10
f. Because Japanese nature was beautiful.	21
g. Because Japanese food was delicious.	14
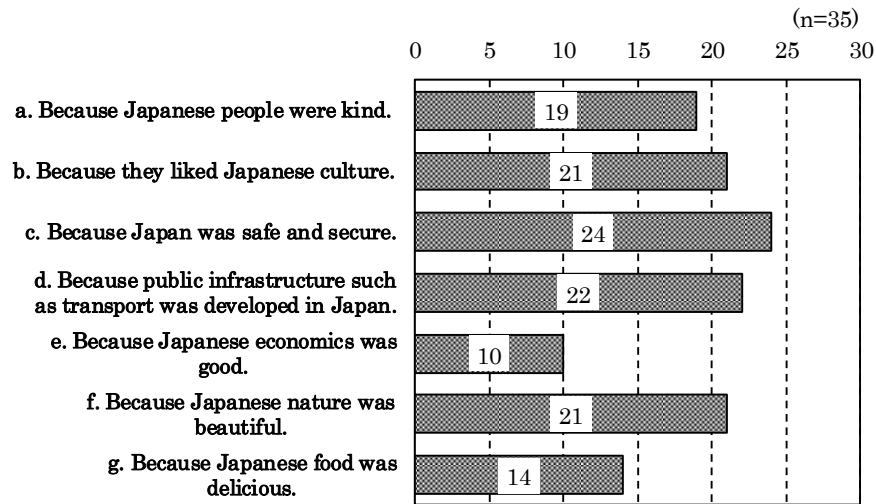
The reasons why engineering or related fields doctorate recipients, who moved from their countries of origin via other countries to Japan, studied in bachelor's or master's courses abroad were shown in Figure 3. The number (2) of recipients, who selected the reason that they liked countries where they studied in bachelor's or master's courses, was much less than the number (15) of recipients who selected the reason that they liked Japan. Difference in proportion between the both was statistically significant ($p<0.001$) according to the McNemar test. This implies that Japan was more attractive for various reasons as shown in Figure 2.

Figure 3

Why Did International Students Study in Bachelor's or Master's Courses Abroad?

(n=21)

a. Because they liked countries where they studied in bachelor's or master's courses.	2
b. Because supervisors in countries of origin recommended studying abroad.	5
c. Because supervisors in bachelor's or master's courses recommended the study in their home countries.	0
d. Because the research or education level at universities where they studied in bachelor's or master's courses was high.	11
e. Because they got scholarships.	13
f. Because they wanted to build their careers abroad positively.	12

Statistical Analysis

Pearson's correlation coefficients between six options (a-f) on the vertical axis of Figure 1 were calculated. Only two options "b. Because supervisors in countries of origin recommended the study in Japan." and "c. Because supervisors in Japan recommended the study in Japan." correlated significantly ($p<0.01$) and positively. This implies that doctoral students tended to be recommended simultaneously by two supervisors. In fact, one questionnaire respondent mentioned that his supervisors of his country of origin and Japan had known each other, and his supervisor of Japan had visited his country of origin for selecting a field research location, before he started the study in Japan. Pearson's correlation coefficients between five options (a, b, d, e, f) on the vertical axis of Figure 3 were calculated, where the option (c) was excluded in calculation because its frequency was zero. There were no significant correlations between the five options ($p<0.01$).

Proportion of recipients who selected the option "f. Because they wanted to build their careers abroad positively." in Figure 1 was 52 percent among recipients who moved from their countries of origin via other countries to Japan and then acquired doctorates of engineering or related fields at Japanese universities. Proportion was 14 percent among recipients who moved from countries of origin to Japan directly and then acquired doctorates of engineering or related fields. Difference in proportion between the both was statistically significant (p<0.01) according to the two-proportion z-test. This implies a possibility that more international students, who moved from their countries of origin via other countries to Japan, had strong motivations to build their careers abroad positively. "Transit-type" researchers would be expected to select this option preferentially to other options, because this option would reflect their own willingness. Then it is implied that respondents, who moved from their countries of origin via other countries to Japan, tended to have characteristic of "transit-type" mobility.

Interviews

From Figure 1, questionnaire respondents who selected that they liked Japan were as many as those who selected that the research or education level at Japanese universities was high or that they got scholarships. This was surprising to me because the first option had not been previously reported as frequently as the second and third options. Then it was verified if interviewees knew or liked Japan before they came to the University of Tokyo. Additionally, why they came to the University of Tokyo was asked to investigate whether or not they mentioned popular reasons seen in the questionnaire survey. They were also asked why they chose their research subjects and what advantages they would have in their careers by studying in Japan, because they were expected to be relevant to their motivations for

coming to Japan. These questions were sent to interviewees by e-mail prior to interviews and answered in interviews. In interviews, additional questions were asked to obtain more useful information.

One of two male interviewees said in English as follows: The first reason why he came to the University of Tokyo was that his present supervisor of the University of Tokyo was an expert in an academic field in which he was engaged in his master course in Thailand. The second reason was that he got a scholarship. The third reason was that it did not require background on the field he studies now at the University of Tokyo to join the doctoral course of the University of Tokyo. When he was asked if he liked Japan before he came to Japan, he answered, "I liked Japanese food, Japanese culture, and also Japanese anime, but I did not have any knowledge about Japanese language and also Japanese styles." While he was engaged in his research subject from a viewpoint of social science in his master course, he is so now from a viewpoint of engineering in his doctoral course. Interdisciplinary approach, which he learns at the University of Tokyo, would be important in his career in future. Critical, logical, and systematic thinking skills, which he learns at the University of Tokyo, would also constitute the important part in his career. He dreams having a laboratory in Thailand in future. Then such thinking skills would be useful. Japanese culture and working styles, which he learns, would be also important for his career.

The other of two male interviewees was interviewed in Japanese. He read Japanese cartoons in his childhood. He came to Japan on a trip with his family when he was a high school student. He said he liked Japan because it was clean and secure and Japanese people disciplined themselves. He wanted to visit Japan again. So, he learned Japanese language for four years before he entered a master's program at the University of Tokyo. His supervisor in Thailand is a graduate from a laboratory he joins at the University of Tokyo now. The main reason why he entered the University of Tokyo was that his supervisor in Thailand recommended him to his present supervisor at the University of Tokyo and he earned a scholarship to study at the University of Tokyo before coming to Japan. He does not know the advantages to his career by studying in Japan at present. But he agreed that having a foreign doctoral degree gave a better chance in employment or promotion in Thailand. He also pointed out that having a doctoral degree restricted the kind of jobs, and that some Thai students gave up acquiring a doctoral degree.

A female interviewee came to Japan for three weeks on an internship, when she was an undergraduate student in Thailand. She was inspired by all Japanese culture and very good Japanese high technologies during visiting the construction site in Japan. She said, "I liked to have more time, to stay here, and to study more. Actually, Thailand is a developing country. If I get some new high

technologies from Japan to help Thailand, it would be nice. After graduating from a bachelor's degree, I tried to find a scholarship to study here in Japan for a master's degree. So I started to learn Japanese a little bit." She received a scholarship to acquire her master's degree and applied to the University of Tokyo. After she graduated, she went back to Thailand and started her carrier as the government officer in order to use her knowledge from Japan and develop Thailand. Recently she received a scholarship to study in a doctoral program of the University of Tokyo. Japan has accumulated know-how on her major field for fifteen years. The first reason why she selected the University of Tokyo was that the University of Tokyo was one of top universities among Japanese universities. The second reason was that she found a professor who was an expert in her major field. The advantages that she studied at the University of Tokyo were to get more knowledge and to build up a human network. In future, she would be able to collaborate with professors, friends, company employees, and government officials all over the world who she knew during her study at the University of Tokyo. She agreed that having a foreign doctoral degree would open up her to higher and wider views. This means that she can use her knowledge that she learns from Japan to develop her country and help collaborative working with the other countries to solve the world's problem in the sustainable future.

Discussion

The world university ranking and costs were major incentives for international student mobility in previous studies (e.g., OECD, 2010; Hawthorne, 2010; González et al., 2011; Furukawa et al., 2013). It is noteworthy that liking Japan was one of major reasons in this study, although foreign students who did not like Japan might leave Japan without acquiring doctorates. Social costs such as safety, and environment such as transport and nature were important factors, as was similar to previous studies. Culture was also an important factor. Culture was popular among reasons mentioned as "other" in Question 1 in Appendix. Three interviewees were familiar with Japanese food, culture, and anime or had been to Japan before they came to the University of Tokyo. This implies a possibility that many of questionnaire respondents who liked Japan had advance knowledge on Japan, before they studied in Japan. According to the questionnaire survey on 108 international students studying in Japanese language institutes, interest in Japanese culture was the most popular (34.8 percent) among the reasons why they came to Japan (ACCESS LEAD Co. Ltd., 2018). One Vietnamese undergraduate student came to Japan for interest in Japanese culture (Sato & Horie, 2015). One incentive for international student mobility is cultural aspirations (OECD, 2010). Factors influencing decision to study abroad were investigated by questionnaire surveys for international graduate students enrolled at Canadian research-intensive universities (Chen, 2008). The score for the opportunity to experience a Western

culture was 3.86 on a Likert scale of 1-5, where the score 1 meant unimportant and the score 5 meant very important. It was the fourth highest among twenty-three items. This study is similar to Chen's study, in showing that interest in culture was important for international graduate students enrolled at research-intensive universities.

Recommendation of supervisors was minor, compared with three major reasons seen in Figure 1, but was important. Also, exchange of supervisors of international students in their countries of origin and Japan gave them an opportunity to come to Japan, as seen in one comment in the questionnaire survey and one interviewee. It was reported that international graduate students enrolled in Canadian research programs were strongly influenced by encouragement of professors on decision to study abroad (Chen, 2008). This study is similar to Chen's paper in showing importance of recommendations from supervisors or professors for international graduate students.

There were little previous studies showing importance of interest in Japanese culture or recommendations from supervisors or professors as reasons why international graduate students studied at Japanese research-intensive universities.

Summary

This study showed that exchange of culture and supervisors was also important in addition to known factors. From this, I can give Japanese policymakers implications: Exchange of culture or researchers between nations as well as the world university ranking and costs is important for attracting more excellent international students to Japan. This study also implies international students across borders of more than three nations with strong willingness. It is important for Japanese policymakers to arrange environments so that they can move freely.

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Author Note

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Appendix

Table 1

Subjects for the questionnaire survey and their data sources

Extracted foreign recipients	Data sources		
	University	Size	Kind of doctorates
(a) Forty-eight foreign recipients who studied in their bachelor's or master's courses in countries different from their countries of origin and then acquired doctoral degrees at Japanese universities, and whose present addresses were known.	Hokkaido University	n=232	Doctorates of engineering or related fields (2011-2013), Engineering doctorates (2007-2010)
	Tohoku University	n=331	Doctorates of engineering or related fields (2011-2013), Engineering doctorates (2008-2010)
	University of Tokyo	n=469	Doctorates of engineering or related fields (2011-2013)
	Nagoya University	n=251	Doctorates of engineering or related fields (2011-2013), Engineering doctorates (2006-2010)
	Kyoto University	n=237	Doctorates of engineering or related fields (2011-2013)
	Osaka University	n=305	Doctorates of engineering or related fields (2011-2013), Engineering doctorates (2008-2010)
	Kyushu University	n=298	Doctorates of engineering or related fields (2011-2013), Engineering doctorates (2010)
	Seven universities	N=2,123	
(b) Thirty-six foreign recipients who moved from their countries of origin to Japan directly and whose present addresses were known.	Hokkaido University	n=6	Economics or management doctorates (2011-2013)
	Tohoku University	n=17	Economics or management doctorates (2011-2013)
	University of Tokyo	n=3	Economics or management doctorates (2011-2013)
	Nagoya University	n=12	Economics or management doctorates (2011-2013)
	Kyoto University	n=15	Economics or management doctorates (2011-2013)
	Osaka University	n=14	Economics or management doctorates (2011-2013)
	Kyushu University	n=16	Economics or management doctorates (2011-2013)
	Seven universities	N=83	
(c) One hundred and sixteen Southeast Asian recipients who moved from their countries of origin to Japan directly and whose present addresses were known.	Hokkaido University	n=110	Doctorates of engineering or related fields (2013-2014)
	Tohoku University	n=119	Doctorates of engineering or related fields (2013-2014)
	University of Tokyo	n=342	Doctorates of engineering or related fields (2013-2014)
	Nagoya University	n=91	Doctorates of engineering or related fields (2013-2014)
	Kyoto University	n=188	Doctorates of engineering or related fields (2013-2014)
	Osaka University	n=124	Doctorates of engineering or related fields (2013-2014)
	Kyushu University	n=169	Doctorates of engineering or related fields (2013-2014)
	Seven universities	N=1,143	

Table 2

Number of distributed and retrieved questionnaires

	China	Korea	Taiwan	Southeast Asia	Other Asia, Africa, Central and South America	Europe	Total
Engineering or related fields doctorate recipients who moved from their countries of origin via other countries to Japan.	0 (4)	0 (0)	1 (2)	13 (26)	6 (14)	1 (2)	21 (48)
Engineering or related fields doctorate recipients who moved from their countries of origin to Japan directly.	0 (0)	0 (0)	0 (0)	35 (69)	0 (0)	0 (0)	35 (69)
Economics or management doctorate recipients who moved from their countries of origin to Japan directly.	1 (12)	1 (4)	1 (1)	2 (9)	4 (9)	1 (1)	10 (36)
Total	1 (16)	1 (4)	2 (3)	50 (104)	10 (23)	2 (3)	66 (153)

Upper figures in columns: retrieved number.   Retrieval rate 43%
Lower figures in columns: distributed number.

Question 1: Why did you study at a Japanese university?

a. Because you liked Japan.

b. Because your supervisor in your country of origin recommended the study at a Japanese university.

c. Because your supervisor in Japan recommended the study at a Japanese university.

d. Because the research or education level at a Japanese university where you studied was high.

e. Because you got a scholarship.

f. Because you wanted to build your career abroad positively.

g. Other.

Question 2: Why did you study in a bachelor's or master's course in a country different from your country
of origin?

a. Because you liked a country where you studied in a bachelor's or master's course.

b. Because your supervisor in your country of origin recommended studying abroad.

c. Because your supervisor in a bachelor's or master's course recommended the study in his/her home country.

d. Because the research or education level at a university where you studied in a bachelor's or master's course was high.

e. Because you got a scholarship.

f. Because you wanted to build your career abroad positively.

g. Other.

Question 3: If you chose the answer (a) in Question 1, could you please tell me why you liked Japan?

a. Because Japanese people were kind.

b. Because you liked Japanese culture.

c. Because Japan was safe and secure.

d. Because public infrastructure such as transport was developed in Japan.

e. Because Japanese economics was good.

f. Because Japanese nature was beautiful.

g. Because Japanese food was delicious.

h. Other.

School District Administrator Perceptions and Hiring Practices of Teachers Who Participated in International Student Teaching Placements

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Abstract

This study investigated school district administrators' perceptions and hiring practices of teachers who participated in international student teaching experiences. Thirty central office administrators from 12 states across the United States were interviewed. The responses and practices of these administrators and the districts that they represent were compared with the perceptions of student teachers and teachers from previous studies who had student taught abroad. Findings reveal that both teachers and administrators believe that there are a multitude of benefits to international student teaching and that this experience ultimately impacts student learning. While they also believe that such experience should be accounted for in the hiring process, very few districts have a formal way of accounting for international student teaching experiences. Recommendations include how districts might adjust their hiring process to account more specifically for the various of experience that teachers bring to their positions.

Keywords: student teaching, teacher recruitment, hiring, diversity

Introduction

This study was designed to investigate school district administrators' perceptions and hiring practices of teachers who participated in international student teaching experiences. International student teaching takes place for a minimum of eight weeks outside of the United States. Thirty central office administrators from 12 states across the United States were interviewed. Administrators included superintendents, assistant superintendents and human resource directors who were directly involved in the hiring process and ultimate decision to hire teachers. The responses and practices of these administrators and the districts that they represent were compared with the perceptions of student teachers and teachers from previous studies who had student taught abroad.

Analysis of the participant administrator narratives provide a holistic picture of ways in which they reflect on the impact of international and diverse student teaching experience. Furthermore, administrator

participants concurred that international student teaching experience specifically helps teachers to develop increased personal confidence, cultural awareness, ability to self-reflect on their professional practice and implement change, and ability to differentiate instruction for diverse learners. They also believed that teachers who student taught abroad possess these skills at a greater level than teachers who only student taught in the United States even if those placements were in areas with diversity.

While the student teachers and teachers in previous studies opined that their international student teaching experience was a distinct advantage for them in the hiring process (Bradley, et al., 2009; Kissock & Richardson, 2009), 29 of the 30 administrators interviewed in this study indicated that their districts have no formal way of accounting for international student teaching experience any differently than student teaching experience in the United States. When asked why their districts do not account specifically for international student teaching experience in the hiring process, all but two struggled to answer the question. However, all indicated that their hiring practices do account for diverse student teaching or diverse teaching experiences that are similar to the diversity currently existing in their districts, but not in a way that differentiates for international placements.

Theoretical Framework and Perspective

This study is grounded in the framework of ethnocentrism and ethnorelativism as presented in Bennett's (2004) Developmental Model of Intercultural Sensitivity (DMIS) (M. Bennett, 1986, 1993; J. Bennett, 2003, 2004). DMIS was developed with a Grounded Theory approach (Glaser & Strauss, 1967; Strauss & Corbin, 1990) using theoretical concepts to explain patterns that emerge from systematic observation (M. Bennett, 2004). M. Bennett (2004) described ethnocentrism and ethnorelativisim as existing on a spectrum of six developmental stages of cultural difference experience through which one may progress. Individuals who are ethnocentric rely on their own culture as central to their reality whereas individuals who achieve ethnorelativism experience their "own beliefs and behaviors as just one organization of reality among many viable possibilities" (M. Bennett, 2004, p. 1). The DMIS purports that interaction with cultural difference generates pressure for change in one's worldview because the individual's ethnocentric worldview is inadequate for developing and maintaining new, necessary cross-cultural social relations (M. Bennett, 2004). The need for such cross-cultural relations creates a kind of pressure within the person's thinking that urges the person to develop greater competence in intercultural matters. Therefore, experiences, such as international student teaching and teaching with diverse populations, can create this type of pressure and serve as the impetus to expand teachers' worldviews. Moving towards ethnorelativism can then have a long-term effect on professional practice of teachers and the way in which they interact with students and their families.

The perceptions of student teachers demonstrate that they anticipate benefits to student teaching abroad including developing greater global vision and competence (Kissock & Richardson, 2009; Gaudino, et al., 2012); personal awareness and self-confidence (Bradly, et al., 2009; Kissock & Richardson, 2009; Martin, 2012; Marx & Moss, 2011; Stachowski & Brantmeier, 2002; Wilson, 2009; Wilson & Flournay, 2007); job opportunities (Bradley, et al., 2009; Kissock & Richardson, 2009); and increased ability to self-reflect on their professional practice and implement change (Gaudino, et al., 2012).

These student teacher perceptions align with the perceptions of teachers who previously student taught abroad. Bryan and Sprague (1997) were among the first to describe how teachers who had previously student taught abroad perceived the effect of that experience. They concluded that the abroad student teaching experience had positive effects for teachers in hiring, retention in teaching, attitudes towards students, attitudes towards a second language, and teaching strategies. Teachers gained respect for individual differences of students and cultural differences and they learned to be flexible in teaching in varied places and with diverse students. Similarly, DeVillar and Jiang (2012) and Gaudino and Wilson (2019) concluded that teachers who previously student taught abroad developed: greater cultural awareness, understanding and ability to differentiate instruction for diverse learners; self-confidence and classroom management skills; ability to self-reflect on professional practice to implement change; and job opportunities.

Teachers in these studies cited specific examples of how each of these gains presented itself in their teaching, except for hiring. As the findings of these studies expressed the perceptions of student teachers and teachers, the question remained about whether administrators actually valued international student teaching in the same way and how, if at all, they formally accounted for it in the hiring process.

Shively and Misco (2012) conducted a mixed methods study with 18 respondent administrators from the 38 largest school districts in one quadrant of a large Midwestern state and concluded that student teaching abroad is a benefit in the hiring process. However, there were several caveats. Specifically, "the burden of proof to demonstrate transferability of this experience to the interviewing school rests with the interviewee" (p. 58). Furthermore, "to a small extent, the country in which the experience was gained matters" (p. 58) and administrators also concurred that a portion of the experience had to be in the United States or "be in a transferable setting to the interviewer's school" (p. 58). Therefore, while Shively and Misco (2012) concluded that international student teaching was a benefit in the hiring process, it was only a benefit under certain circumstances and if the teacher portrayed his or her experience in certain ways. As the participants in this study were from a quadrant of a single state, the question remained whether administrators from other parts of the United States would respond similarly.

This study was undertaken with central office administrators from a broader array of states in order to answer the research question, "How, if at all, is student teaching abroad accounted for in the hiring process?"

Methods

Participants

Members of the American Association of School Personnel Administrators were invited by the author to participate in a survey surrounding district hiring practices. One hundred nine superintendents, assistant superintendents, and human resource directors responded. Several prompts included an option for respondents to participate in follow-up interviews specific to various aspects of hiring. Thirty administrators expressed interest in participating in a follow-up interview about their hiring practices with candidates who have international student teaching and teaching and all 30 completed the interview process. Participant central office administrators were located in the following states: California (4), Florida (3), Michigan (3), New York (3), Pennsylvania (3), Texas (3), Arizona (2), Georgia (2), Iowa (2), Massachusetts (2), Illinois (2), and Colorado (1). These interviews provided a broad range of narratives that expressed perspectives of central office administrators who have responsibility for hiring teachers in their districts.

Procedures

Systematic steps were followed in each interview. The researcher posed the question and, when the participant finished responding to each question, a member check was performed by repeating back to the participant the key points that he or she had raised and requesting his or her suggestions and confirmations (Creswell, 2014; Morse, et al., 2002). In particular, these interviews brought forth a similarity in narratives that expressed the perspectives of the various central office administrators participating in the study. The questions posed to the administrator participants were:

1. How, if at all, does your district account for international student teaching experiences in the hiring process?

2. Why does or does not your district account for international student teaching experiences in the hiring process?

3. Does your district account for other types of diverse teaching experiences? If so, how and why? What types of experiences are counted?

4. How, if at all, do you and your district value international student teaching and diverse teaching experiences?

5. Are there any other topics surrounding hiring teachers, diverse teaching experiences, or international student teaching that you would like to discuss?

Data were collected via recording and hand-written notes by the researcher then transferred to a Tape-Based Abridged Transcript (Kruger & Casey, 2000) by the researcher. Data from the abridged transcript were organized and analyzed using both NVivo software and a Long-Table Approach (Krueger & Casey, 2000). Trends and patterns were coded and analyzed both within role alike groups representing each type of participate (superintendent, assistant superintendent, and human resource director), and across the role alike groups representing the participants collectively.

Findings

Findings from this study demonstrated that all participant administrators believed that student teaching abroad is a valuable experience that has an effect on the lives of teachers and ultimately the students whom they teach. The most common words participant administrators used to express this value were "transformative" and "life changing experience." Furthermore, all participant administrators self-identified as having had a teaching or academic experience abroad and valued that experience. Although such experience was not a requirement for participating in the study interviews, it is noteworthy that administrators who had the abroad experience responded. When asked why they chose to participate, all answered that their abroad experience had been meaningful to their professional development as educators and, because of this, they wanted to contribute to this study. There were minimal and inconsequential differences in the opinions of participants both within role alike groups and across all roles.

Increased Cultural Awareness

Participant administrators also indicated that student teaching abroad increases cultural awareness and understanding as well as ability to differentiate instruction for diverse learners more so than student teaching in the United States. One participant summarized that, "From student teaching abroad, teachers develop the skill to respond to diversity in students better than teachers who have only taught in America…they understand and can better meet the needs of our students". Words most frequently mentioned by participants included "empathy", "understanding", and "student-centered".

Increased Confidence

Participant administrators noted that teachers who have student taught abroad are "more confident in their ability to differentiate instruction than teachers who have not had abroad experience". They opined that this confidence developed because teachers had to "develop new perspectives and adjust to a new culture" in order to "meet the needs of the students whom they taught in very different places".

Increased Ability to Self-Reflect and Improve Professional Practice

Participant administrators indicated that teachers who have student taught abroad "seem to be better equipped than teachers who have taught in the United States to self-reflect and make change to their professional practice." All participants agreed that teachers brought this skill into their subsequent teaching positions and that this practice has helped them to "have greater success as they transitioned into the district" and "deliver better instruction". Long term, participants noted that teachers who student taught abroad tended to "have consistently high evaluations".

Lack of Means to Account for International Experience in the Hiring Process

While participant administrator comments reflected their beliefs that international student teaching is valuable to the lives of teachers and the education of their students, they had much less to say about how such experience is accounted for in the hiring practices in their districts. When asked whether international student teaching is accounted for differently than American student teaching in the hiring practices in their districts, 29 of the 30 participants indicated that it was not although all 30 participants expressed that "international student teaching experience should be accounted for differently in hiring". When asked why their districts did not account for such international experience, participants struggled to come up with answers. Some said they "didn't know" while others claimed that their districts "had never done it that way" and others stated they didn't know how they "would account for international student teaching experience any differently than other diverse teaching experiences". One administrator had a firmer answer and responded that it "would be against state code to count international experience any differently than any other type of teaching experience".

The one administrator who indicated that his district accounts for student teaching abroad noted that his district also accounts for teaching abroad and the length of time a teacher taught abroad. All of these experiences are accounted for through points on the hiring rubric. This international experience is accounted for separately, and in addition to, teaching experience in the United States. The location of the administrator's district, on the west coast, has "a significant population of teachers who apply having taught abroad" and "our district had to develop a way to account for it". The administrator believed that this location "makes [them] especially aware and appreciative of teachers with international experience because [they] have an international student and family population".

Means of Accounting for Diverse Student Teaching Experience Relational to the District

While most of the administrators had no formal way for accounting for international student teaching experience, all did have a way to account for diverse student teaching or teaching experience. When asked why, responses suggested that their districts value student teaching and teaching

experiences in areas with diverse populations; but primarily if that diversity mirrored the diversity in their own districts.

Administrators in urban areas indicated that their district accounted for student teaching and teaching experience in urban areas. One administrator's comments were reflective of others' comments as he stated, "When a student teacher or teacher has experience in an urban setting that is similar to ours, and they are successful in that setting, then I'm more confident that they will be successful in my district as well." The same was true for administrators in rural areas. Socioeconomically, districts that had a higher instance of poverty (greater than 50% of students on free and reduced lunch) sought student teachers or teachers with experience in areas with poverty. Likewise, administrators also indicated that their districts accounted for student teaching and teaching experience with populations that were racially and ethnically similar to those in their districts. Administrators cited that successful experiences with similar populations were indicative of potential success in their districts. They came from districts with a range of poverty from moderate to acute and in areas with racial diversity in terms of higher populations of African American, Latin, and Asian students. One stated, "When a teacher has already taught students and worked with parents who are Asian, they have a better understanding of the culture." Another indicated that through experience with a Latinix population, teachers could "come to understand family expectations" while others in areas with African American families indicated that teacher would "better engage" these minority families.

Discussion

Findings from this study add to the limited body of knowledge on this subject and align with some findings of Bryan and Sprague (1997), DeVillar and Jiang (2012), and Gaudino and Wilson (2019) in that both teachers and administrators felt that international student teaching experience helps teachers to gain: personal confidence; cultural awareness; and ability to differentiate instruction for diverse learners. This study, along with the study by Gaudino, Moss, and Wilson (2011) and Gaudino and Wilson (2019), also found that administrators concur with teachers and student teachers that student teaching abroad helps teachers to improve the ability to self-reflect on professional practice and implement change. This skill is important in the lives of teachers as many states have moved towards a teacher evaluation system based on rubrics by Danielson (2007), Stronge (2009), or Marzano (2012), which place value on teacher reflection to improve practice. Also, it is noteworthy that no administrators in this study, no teachers, and no student teachers in previous studies indicated any drawbacks or negative effects to the teaching and professional practice of teachers as a result of student teaching abroad.

This study also reaffirmed literature surrounding administrators' positive perceptions of the value of teaching in diverse settings (Shively & Misco, 2012) and student teaching abroad (Shively & Misco, 2012). Through experience with diverse populations, teachers become more astute about cultural differences and how to serve various groups of students (Darling-Hammond & Bransford, 2005; Darling-Hammond, 2006; Mule, 2010). This finding expanded on Shiveyly and Misco's (2012) finding with administrators in one state who desired to hire teachers whose experience aligns with unique aspects of their district and population served.

Finally, this study suggests that teachers with international student teaching experience do not have a unique advantage in the hiring process despite their feelings that they do. Administrators do not account for international student teaching experience any differently than any other type of teaching experience, even though they value it more and differently. Teachers with international experience can certainly bring forth that experience in the hiring process but may be more successful if they present it in terms of how the diversity in their international experience relates to the district in which they are applying and how they would use their diverse teaching experience to serve local students (just as was found by Shively & Misco, 2012). As all administrators who participated in interviews for this study had some sort of abroad learning experience, they may have had a different, and perhaps more positive, perception of international teaching than other administrators who do not have an abroad experience. Further study could be aimed at investigating how administrators who do not have international teaching or academic experience perceive and hire teachers with international student teaching experience.

Recommendations

Universities that offer student teaching abroad programs should continue to do so as such experiences appear to be beneficial to student teachers, however, they need to be realistic about what those benefits are and are not. Student teaching abroad, in and of itself, does not appear to be a helpful factor for teachers in the hiring process unless they are able to discuss such experience in terms of how it makes them a stronger candidate because they can better relate to and teach the unique body of students in that district. Universities should work with their student teachers on job application and interview skills and how those students can best bring forth their abroad student teaching experience as well as other experiences in diverse settings.

Based on accounts from student teachers, university faculty, and school administrators, student teaching abroad improves teachers' abilities to self-reflect on and improve their professional practice. Yet, not every student teacher will have an abroad placement where they are more apt to acquire this skill. Universities should examine how their policies and practice can better assist education majors with

developing reflective skills which are important to their professional practice. University supervisors and cooperating teachers are in a key position to assist teacher candidates with developing the skill of self-reflecting to improve professional practice.

Conclusion

International student teaching placements make a difference in the lives of teachers and the students and schools that they serve. This experience brings with it a necessity for the student teacher to embody ethnorelativism; for, after all, when one is immersed in another land, one must participate in that culture if for no other reason than simple survival. If having such ethnorelativism was important only in the foreign land, it would remain there when the student teacher came home to the United States. However, by a multitude of accounts of student teachers who have student taught abroad, their abroad experience was a life changing experience in which they learned how to self-reflect deeply on their professional practice to improve their teaching, interact and be comfortable and confident with those from other cultures, and in doing so developed a level of self-confidence never before felt from their American-based placements even if those placements were with diverse populations. These student teachers brought these attributes home because they had become woven into the fabric of their being and professionalism.

As districts seek to prepare their students for an increasingly global society, future research could investigate how districts can account uniquely for global teaching experiences. Through such experiences, teachers become more global citizens with demonstrated conviction to bring this experience to their classrooms. Such role modeling does not bring reform to teaching; for to reform is to change what exists. Instead, teachers with global vision bring new forms to their students to prepare them to adapt and lead their future world.

Author Note

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Difficulties and Expectations of Foreign Nursing Students in the Clinic

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Abstract

The purpose of this study was to determine the difficulties and expectations of foreign nursing students during their nursing practice in the clinic. This qualitative study was conducted with six foreign students studying in the department of nursing at a university in Turkey. The data were collected by using a focus group interview method, and two focus group interviews were held. Two main themes, namely, difficulties during the nursing practices in the clinic and expectations, and related subthemes were determined. All the students described the difficulties they experienced regarding nursing practices in the hospital. The foreign and migrant students participating in this study experienced difficulties regarding communication, applying treatments, providing training to patients, and applying care interventions to patients during nursing practice in the clinic; they also had expectations from nursing educators to spend sufficient time with them and be present with them in the clinic, and from nurses to assist them for adaptation to the clinic.

Keywords: difficulties, expectations, nursing, foreign students, clinic

Introduction

Rapid change and development are occurring in almost every area, and the areas of technology, education, and transportation are among the foremost areas worldwide. The world is becoming more and more multidimensional, both culturally and linguistically as people move from one country to another across borders (Narouz, 2018). Due to globalization and impacts from the common market, rapid changes have been observed in the field of education. A significant portion of this education market comprises foreign student exchanges (Kıroğlu, Kesten, & Elma 2010). International student mobility has a positive effect on the quality of education by increasing the cooperation and solidarity between countries and cultures, contributing to the promotion of the countries where they are

educated, and securing accreditation and standards to attract international students (OECD, 2016). Looking across the world, the number of international students, which was around 800,000 in 1975, reached six million in 2014, and eight million by 2020 (Kocabıyık, Donat, & Güvendir, 2019).

According to the data of the Higher Education Council, foreign nationals studying in academic universities in Turkey in 2017-2018 was 125,138. The leading countries sending international students are Syrian (20,701 students), Azerbaijan (17,088 students), and Turkmenistan (12,247 students). Based on the '2016 Turkey Migration Report' prepared by the Directorate General of Migration Management, Ministry of Internal Affairs, the total number of foreign students in universities in Turkey was 103,727 (Turkish Migration Report, 2017; Doğru, 2020).

Literature Review

Students of foreign nationalities who study in Turkey or study as migrants and reside in Turkey encounter difficulties as a result of living in a different country. Most of these are based on difficulties caused by the adaptation process to a new and different culture (Tuzcu & Bademli, 2014). International students in Turkey face many challenges such as culture diversity, education system, language, environment customs and traditions (Narouz, 2018). Foreign students must adapt to the culture and way of life of a host country to succeed in their academic and social life (Rienties & Tempelaar, 2013; Tuzcu, 2014). In a study by Alagöz and Geçkil, (2017), they found that students reported difficulties related to language, communication, adaptation to a foreign environment, conflicts in social and moral values, feeling alienated, and adapting to a new education system. Having a different educational system, living in a different culture, not being able to speak Turkish sufficiently, and economic problems make adaptation for foreign students coming to Turkey for higher education difficult in terms of adaptation to the university and their circle and affect their academic success (Özçetin, 2013). According to the research results of Şahin and Demirtaş (2014) and Enterieva and Sezgin (2016), foreign students continue to have several types of academic, social and educational support service problems (Enterieva and Sezgin 2016). As internationalization is an important concept in higher education, faculty and administration department should play an important role to assess the international students' needs, challenges and culture shock in order to be able to plan for a supportive environment to provide different means of encounter and support of the international students and to include a social integration program in the curriculum (Narouz, 2018).

Foreign Student Nurses and Clinical Teaching

Clinical teaching is the means by which student nurses learn to apply the theory of nursing and to facilitate integration of theoretical knowledge and practical skills in the clinical setting which becomes

the art and science of nursing (Tiwaken et al. 2015). Care is the principle topic for nurses with a significant role in the health team. The purpose of nursing care is to aid and accompany individuals unable to carry out special functions regarding their physical, psychological, and psychosocial needs. The health problems of individuals from different cultures, their perceptions of these problems, and their aid expectations may differ (Seviğ & Tanrıverdi, 2012). Quality individual care may be provided by considering factors related to the culture, beliefs, customs, and values of patients and their families. Nurses play crucial roles in patient care and must respect cultural values of the patients while providing care and provide the required nursing care in that sense to enhance care quality (Foronda, 2008; Maier-Lorentz, 2008; Stimpson & Martin, 2005).

Another element that enhances nursing care quality is the adaptation of foreign nurses into their clinical setting or the nursing education of the nursing students. Clinical education is the main part of education for nursing and other health programs. Learning in clinical practice provides up to half of the educational experience for students taking in Nursing (Tiwaken et al., 2015). Students in the clinic practice are expected to achieve proficiency in expressing the values, attitudes, knowledge, and skills related to nursing education. This education also aims to increase critical thinking, analysis, psychomotor, communication, and management skills and confidence while implementing nursing. However, the success of clinic education is affected by many factors (Shawwa et al., 2015). One factor is when a student changes to a new educational environment. A limited number of studies have investigated both the language and education problems of foreign nursing students coming to Turkey to study. Based on these data, considered that determining the difficulties experienced by foreign and migrant students studying in the department of nursing regarding speaking a different language, experiencing cultural differences, being obliged to provide care in the hospital, and being the nurses of the future during clinic practice and their expectations and who will be the nurses of the future responsible for providing care in the hospital shall be a predictor for all patients receiving care in Turkey and other foreign patients continuing to receive the care to plan the nursing management. These data would be a guide for curriculum of foreign nursing students. Thus, the curricula should be organized by being aware of the difficulties and expectations of these students during their education and estimated to increase their motivation and sustain their education in a healthy and peaceful sense because of reasons such as positive nursing care and practices of the students. Therefore, this study, aimed to determine the difficulties of foreign students studying in the department of nursing in nursing practices in the clinic and their expectations.

The purpose of this study was to reveal the difficulties of foreign students studying in nursing departments in Turkey during their clinic practice, and their expectations.

Methodology

Design and Sample

Qualitative studies are a research method that have been used frequently in the fields of health and nursing. Qualitative research is helpful in determining the needs, preferences and motivations of healthcare professionals, students and patients (Başkale, 2016). The data collection method of the research was shaped based on the relevant literature (Erdoğan et al., 2014). The descriptive design of the study was based on qualitative content analysis using an inductive approach and involved discovery and description (Arlı, 2013; Karataş, 2015). Qualitative research is a flexible design that does not have a rule set for the sample size, and the sample size is decided in line with the research question and purpose (Erdoğan, Nahcivan, & Esin 2014). This approach emphasizes the use of meaning and the understanding of experiences of students. This study was conducted with six foreign students who were studying in the department of nursing at a university in the education year 2016/2017 and who met research inclusion criteria. In the study, a balanced number of male and female students and students from different countries was used to determine the difficulties and expectations of the students while conducting nursing practices in the clinic. There was a total of thirteen foreign students studying in the nursing department. The inclusion criteria for the participants in the study were as follows: 1) student in the department of nursing; 2) a foreign student; 3) a student participating in clinical practice in the hospital (therefore, first-year students were not included); 4) able to understand and speak Turkish; and 5) volunteered to participate in the study. All other students were excluded (three first-year students not participating in clinical practice; two students not able to understand and speak Turkish; two students did not volunteer to participate in the study).

Data Collection

The data were collected by using a focus group interview method, and two focus group interviews were held. The focus group is defined as a group of individuals with specific characteristics that focus on discussions on a particular topic or topic. A focus group interview provides a setting for the relatively homogeneous group to reflect on the questions asked by the interviewer. (Dilshad & Latif, 2013). Focus group interviews enable a limited number of participants (six to eight) to discuss their feelings, ideas, impressions, expectations, and attitudes in an interactive manner regarding a particular topic and allow thorough data collection (Akıncı, 2015; Arlı, 2013). The focus group interviews were conducted in the schools of these students. Students were invited by the researchers to be informed

about the research. The seating order in the room was arranged so the participants and researchers could see each other. Preliminary interviews are a part of the focus group interview process. In the preliminary interviews held before the focus group interviews, the students were informed about 'what a focus group was', 'that voice recorder would be used during the interviews', and the 'study', and their consent was requested. At the preliminary interviews, students received forms on which they wrote down their sociodemographic information. Next, in-depth interview questions were asked. Because the students might have difficulties in understanding and speaking Turkish, an attempt was made to ask the questions at the simple and clearest, and sufficient time was provided to prevent them from providing superficial responses. One of the researchers asked the interview questions and acted as the moderator during the interview, another researcher recorded the interview uninterrupted with the voice recording device, and a third researcher took short notes on the responses of the students. The duration of the interviews was on average 35 to 45 minutes, and therapeutic communication techniques were used. It was stated that the names of the participants would be kept confidential and interviews were conducted by giving a code name to each.

Research Questions for the Interview

The focus group interviews were used as a data collection tool and questions asked to the participants. A questionnaire was developed by the researchers to elicit the sociodemographic data of the students (age, gender, nationality, grade), and a semi-structured interview form comprising open-ended questions including the difficulties they experienced (seven questions) and their expectations (five questions) concerning the nursing practices in the clinic were used to collect the data (Table 1).

Table 1

Questions to Be Answered in the Study

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1. Difficulties the students experienced during nurses' practices in the clinic:

      What are difficulties you have experienced in nursing practices due to cultural differences?

      What are difficulties you have experienced in nursing practices regarding communication

            or due to the language difference?

      What are difficulties you have experienced regarding the communication within the team?

      What are difficulties you have experienced regarding the care giving?

      What are difficulties you have experienced regarding the application of treatments?

      What are difficulties you have experienced regarding the providing of patient training to

            patients?

What are difficulties you have experienced while exchanging information with your

classmates and during the process of practice?

2. Expectations of the students concerning the difficulties they experienced during the nursing

practices in the clinic:

What are your expectations from nursing educators?

What are your expectations from the nurses working in the hospitals?

What are your expectations due to cultural differences? (Have you ever had any problem

with any of the nurses or educators due to cultural differences or if so, how have

you resolved this problem?)

What are your expectations regarding communication or due to language problem? (Have

you had a communication problem among your nurses and educators due to

language problem or how have you resolved this communication problem?)

What are your expectations concerning psychological support?

Data Analysis

To analyse the data obtained from the focus group interviews, the voice-recorded data were recorded as raw data by the researcher without making changes on the computer directly after the interview. The demographic characteristics of the students were analysed through descriptive statistics, and the qualitative data were assessed by using inductive content analysis. Content analysis was implemented in six steps. In the first phase, the voice recording was deciphered by the researcher on the same day as the interviews, and they were recorded by assigning them a code number. In the second phase, after providing the written documentation of the recorded data, they were evaluated independently by three researchers, and the codes likely to be interpreted from each sentence were created. In the third phase, the important sections of the participant statements were chosen to generate the first codes and to assess the reliability of the results during the coding process. In the fourth phase, the researchers noticed themes among the codes. The subcategories were analysed based on the dimensions of both the similarities and the differences before the division (of data/texts) into categories (Kocabıyık, 2016). In the fifth phase, the themes were determined and named during the course of analysing the responses of the students to every question from the semi-structured interview in the fourth and fifth phases (Clarke & Braun, 2013; Tong et al. 2007). A software program was not used to code qualitative data (Tong et al. 2007). In the sixth and last phase, all the obtained data were analysed through thematic analysis and put into a report after their interpretation.

Ethical Considerations

Approval from the Non-invasive Trials Ethics Committee of a University (04.05.2017/195384) and written permission from Dean's Office of Faculty of Health Sciences a University was obtained. The students were informed about the purpose and the content of the study, and they provided verbal consent for their participation.

Results

Sample Characteristics

The average age of the participants was 21.5 y (SD 1.87, range: 19 to 23 y). Notably, of all the students 50 percent were female, 16.7 percent were fourth-year students, 50 percent were third-year students, and 33.3 percent were second-year students. Although 33.3 percent of the students resided in the dormitory, 66.7 percent resided off-campus with a housemate. Two students were Nigerian, two were Syrian, one was from Azerbaijan, and another student was from Tajikistan. All students received Turkish language education for a certain period of time at their university before they began their education in the nursing department.

Themes and Subthemes

In this study, two main themes and subthemes were created. Table 2 shows the themes and the subthemes created by using the data of the students.

Table 2

Themes and Subthemes created based on the students' statements

Themes	Subthemes
Difficulties	• Difficulties regarding cultural differences
	• Difficulties regarding communication
	• Difficulties regarding treatment application
	• Difficulties regarding providing training to the patients in the clinic
	• Difficulties regarding the application of care interventions for the patients
Expectations	• Expectations regarding cultural differences
	• Expectations regarding communication
	• Expectations regarding nursing educators

	• Expectations regarding clinic nurses

Theme 1: Difficulties

All the students described the difficulties they experienced regarding nursing practices in the hospital. The majority of difficulties experienced by the students was in regards to communication, and the other most-mentioned difficulties were cultural differences, application of treatments, training patients, and application of care interventions for patients.

Difficulties Regarding Cultural Differences

Most of the students who were foreigners and migrants, did not experience problems regarding cultural differences. The majority of students stated that they were welcomed, and especially by patients. However, some students did not want to provide care for patients of the opposite sex because of cultural reasons. Student views regarding this topic were as follows: "I did not experience difficulty because our cultures are not very different. Our cultures are similar (Because the patient was Azerbaijani)" (Student 1).

> While implementing the course of delivery, I could not ask the patients questions I felt hesitant about asking. This is how I am. The situation would have been better if I had been there with a female friend. Whenever I went to see a female patient, my female friend would ask the questions I felt embarrassed about. She would ask, but I would not be able to. I used to feel disturbed when I thought that the patient would hesitate. (Student 2)

Difficulties Regarding Communication

The analysis of the opinions of the students demonstrated that they could not articulate exactly what they wanted to express and could not establish sufficient communication because they thought that the nurses and patients would not understand what they said. Concerning this topic, the students' views were as follows: "I formulate my ideas while communicating. However, while speaking, I put these ideas into words but I have trouble because I am unable to express the exact meaning…" (Student 1).

> The nurses in the clinic sometimes assign me patients for blood draws, but some patients say demotivating things like 'this is a foreigner, he does not even speak Turkish, how will he take blood from me?' as I am about to leave, and this makes me sad. (Student 2)
> Nurses speak too fast during treatments. We do not understand when they pronounce the names of the drugs quickly. My friends understand immediately because they are Turkish.

However, we find have to request several repetitions to understand. Notably, we do not execute the treatment without understanding fully. (Student 5)

Some patients in Elazığ city do not speak Turkish. They speak languages such as Kurdish or Zazaki. Hence, we do not understand these patients, and they do not understand us. Therefore, miscommunication occurs. (Student 6)

Difficulties Regarding Treatment Application

The views of foreign and migrant students on treatment applications varied. Most of the students stated that they experienced difficulty in applying treatments, and other students apparently received assistance during the application of treatment because they were foreigners. The students' related views were as follows:

During the treatment, the nurses shout out the name of the medications and say "take this and apply this on the patient besides the window", sending me by the patient. They are unable to explain. Therefore, I feel compelled to say "let me ask the nurse." (Student 3)

Some patients and nurses said 'these students came from other countries, we should ensure they do not leave the country without learning' during the treatment, and we carried out the treatment for this reason. This was nice. Sometimes there would be things we did not know about. Our Turkish friends or other friends would assist us. (Student 4)

Difficulties Regarding Providing Training to the Patients in the Clinic

The majority of the foreign and migrant students did not mention significant difficulties in providing training to patients. The views of students stating that they experienced difficulties were as follows: "We speak slower than our other friends while speaking Turkish because we are foreigners. This causes problems for us" (Student 3).

I have problems when our lecturers are angry during the course. My lecturer would always look at and inspect me whenever there was a problem, thinking that I may not have understood some of the rules (e.g. putting my telephone into silent mode during the course), even though I did not do anything. This disturbs me. This prevented me from understanding the subject and providing training to patients. (Student 6)

Difficulties in the Application of Care Interventions for Patients

Although a very small number of foreign and migrant students stated that they did not experience problems regarding the application of care interventions for the patients, most of the students stated that they experienced difficulties in providing care to the opposite sex. The views of a student regarding these concerns were as follows:

Some male patients did not want me to provide care for them. For instance, whenever I wanted to change the urine drainage bag, some patients did not accept me because I was female and asked for another person. They felt shy. This is why I provided care to only female patients. (Student 6)

Theme 2: Expectations

The students identified their expectations regarding the difficulties they experienced during the nursing practices in the clinic, the clinic nurses, and the nursing educators.

Expectations Regarding Cultural Differences

The foreign and migrant students expressed their views regarding their expectations of cultural differences as follows:

For instance, nurses provide us a list and ask us to read the names aloud to patients if we would provide nutrition training to the patients. In this case, no problem occurs. However, when patients ask us questions, we are unable to tell them anything concerning nutrition because our culture is different. Then, I generally receive support from friends who know about the issue. In other words, especially when we are performing a procedure on a patient or providing training to the patient, one of our masters or someone being with us encourages us. (Student 4)

During clinic practices, foreigners are misunderstood culturally because they think we may not know some things. Of course, that situation changes over time. However, individuals should still raise awareness on this issue part by the profession. (Student 6)

Expectations Regarding Communication

The foreign and migrant students asserted their expectations on communication as follows: "I asked my friends rather than my lecturers about the language I did not understand because I feel closer to my friends. This is better" (Student 5). "There may be meetings organized at school. They may talk to us. Moreover, language instructors may participate in such meetings and may contribute to our language knowledge" (Student 6).

Expectations from Nursing Educators

The foreign and migrant students reported expectations of nursing educators spending sufficient time for themselves and more frequently accompanying them in the clinic thinking that they may not have understood. Regarding this topic, the student views were as follows:

For patient visits, our professors may spend more time with the foreign students. In the lecture, that is not a big problem, but in the clinic, it may be bad for the patient to carry out a wrong procedure without understanding when we perform a procedure during the clinical practice. (Student 3)

Before starting in the hospital, we usually must have many practices in advance of each lecture. The nursing skill lab should be used more. Our motivation should be increased. Instead of being left alone during the practices, it would be better to have our teachers or friends who understand the topic with us. (Student 4)

Expectations of Clinic Nurses

The foreign and migrant students revealed that they did not have many expectations from clinic nurses, and their expectations were more oriented toward their adaptation to the clinic. Regarding this topic, the student views were as follows: Nurses may care with us more in subjects such as adaptation to the clinic and psychological support …" (Student 2). "Nurses in charge of the clinic may assist us as well. They should train us regarding several topics. In other words, we would understand better if she said, for example, 'this is how you should give this medicine'" (Student 5).

Discussion

The analysis of the study revealed two subthemes. (1) Students' difficulties regarding cultural differences, communication, treatment application, providing training to patients, and care intervention application to patients; and (2) students' expectations regarding adaptation in terms of communication, cultural differences, and from nurse educators and clinic nurses.

Effective communication with patients and health care workers is a key process in safe and quality health care. Patient and clinician relationships rely on good communication, resulting in improved patient satisfaction, adherence to medical recommendations, and better healthcare outcomes (Almutairi, 2015). Students' most frequently experienced problems were related to understanding the language and adapting to the culture and educational environment of the host society (Malekisanimaleki & Altay, 2017). The majority of students experienced difficulties in communication during clinic practice. Language and communication problems were some of the most significant factors affecting foreigners requesting the provision of health services (Moyce et al., 2016). Speaking the same language while communicating is crucial during the treatment and care process. Communication problems are likely to occur based on the gaps in the use of common language and may influence and change the treatment and care approach. Problems occurred between speakers of the same language and would be more likely to occur in the process evaluation between individuals with different native languages (Taşcı, 2012). In the literature, the most notable barrier to nurses' and student nurses' provision of health care has been communication (Jirwe et al., 2010; Polat & Akçan, 2016; Tuzcu & Bademli, 2014;). In the studies conducted on midwifery and/or nursing students in Turkey, the most frequent problem experienced by students while providing care for patients during clinical practice was

communication (Tanrıverdi et al. 2010; Tortumluoglu et al. 2007). Similarly, Tortumluoğlu et al. (2006) determined that students who experienced cultural diversity in patient care experienced these diversities while communicating with patients (44. 2 percent). In the study conducted by Lundberg et al. (2005) with fourth-year nursing students, most nursing students indicated that language and communication were the greatest problems when providing care to patients who were culturally diverse. A different study by Enterieva and Sezgin (2016) indicated problems regarding instruction language, and the most frequently encountered problem by the students was language. In studies conducted with foreign nurses, they had difficulties understanding medical terminology (Xu et al. 2008), speaking (Sherman & Eggen-berger, 2008; Xu et al. 2008), interpreting the body language (Okougha & Tilki, 2010), and establishing communication with patients and colleagues from different cultural backgrounds (Ma et al., 2010). Kesten et al. (2010) attempted to determine the problems regarding education and language of 15 foreign students studying at a university in Turkey and found that if students had a sufficient command of Turkish, this affected their reading comprehension skills negatively. Additionally, the students had problems expressing themselves, and the problems they experienced during their courses were associated with their insufficient level of Turkish.

This study observed that only students with a similar culture to theirs (Azerbaijani) had few problems in communication. It is reported that the most determining factor on this issue is the cultural and geographical distance-proximity of the country they went for the purpose of education (Kıroğlu et al., 2010). This occurred because students from Turkic Republics have historical and cultural connections and similarities with Turkey (Ertürk et al., 2004).

Communication difficulties led to distress and discomfort for the students. Language and communication barriers may have caused problems of emotional stress, disappointment and, embarrassment for foreign nurses (Moyce et al., 2016). Another study concluded that fear of communication caused foreign nurses to be shy about defending themselves and the patients (Allan & Larsen, 2003). In study Small and Pretorius, (2010) demonstrated that nursing roles were observational rather than invasive because of the hesitation of the students.

This study determined that the student nurses experienced problems because of cultural differences and experienced difficulties in providing care due to gender differences. Lundberg et al. (2005) found that student nurses had problems related to gender while providing care to patients who were culturally different. Özçetin (2013) concluded that within the time the foreign students stayed in Turkey, the biggest challenge was cultural differences. Insufficient cultural awareness and difficulty with

communication create barriers to understanding between nurses and patients from different cultures (Stimpson & Martin, 2005).

One of the teachers' major responsibilities is to treat nursing students properly in the clinic, causing higher enthusiasm and motivation for learning as well as increasing their self-confidence (Jamshidi et al., 2016). In Turkey, clinical teaching in nursing education is generally performed by instructors in nursing schools, and clinical nurses working in hospitals (Dağ et al., 2019). The students expect their nursing educators to spend sufficient time with them, to be more present with them in the clinic because they might have problems understanding, and to have more frequent communication with them. Students must receive support and positive feedback from their educators because the role of motivation in learning is significant and the educator has a significant role in positively or negatively influencing the motivation of the students and their adaptation to the clinic (Günüşen & Üstün, 2012). Especially notable is that the instructor as a role model and means of support for the student either in theoretical courses or fields of application positively strengthen the students learning of care behaviour and respect for their profession (Bahçecioğlu Turan et al., 2017). In Narouz's (2018) study, almost half of foreign students' difficulties to communicate with clinical instructors. Weaver (2006) stated that providing positive feedback to students increased their confidence and was encouraging. One means to create a positive learning environment for students is to have them comfortably express themselves. Educators are responsible for providing this opportunity to students (Günüşen & Üstün, 2012). For this reason, educators must support students, particularly students who are foreign, and be present with them during nursing practices in the clinic as much as possible to increase their adaptation into the clinic and provide self-confidence.

This study also revealed that the students had expectations of the nurses in terms of their adaptation to the clinic and receiving support. In the clinics where practice occurs, nurses must be in charge to be a positive role model, be aware, be experienced and qualified in terms of occupational skills, and able to achieve the goals of the practice (Polat et al., 2018). The student must be guided, supported, and feel this support during the practices (Killam & Carter, 2010). In study by Adamson (2018), the relationship with their mentor or preceptor was also important and students looked to them for reassurance and spoke of the value they placed on this support. Students from foreign countries experiencing difficulties in many factors such as cultural factors and communication may require this type of support a lot more.

Conclusion

It was observed that the foreign and migrant students participating in this study experienced difficulties regarding communication, applying treatments, providing training to patients, and applying care interventions to patients during nursing practice in the clinic; they also had expectations from nursing educators to spend sufficient time with them and be present with them in the clinic, and from nurses to assist them for adaptation to the clinic. The advisors have, of course, more tasks in particular to overcome such difficulties. The advisors and the nursing educators should provide academic guidance, orientation, and the required support to students from foreign countries in subjects such as adaptation, amalgamation, and establishing communication, especially during their first year.

In order to identify the difficulties experienced by foreign students in clinical practice, a broader sample of studies may be recommended. In addition, in this sense, it may be suggested conducting comprehensive quantitative studies with samples from other universities in Turkey, by considering variables such as their country, university, department, class, and gender.

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Academic Culture and Talent Cultivation: The Chinese Experience

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Abstract

This study aims at introducing and discussing the concept of 'academic culture,' the Chinese concept of 'talent cultivation', and the influence of 'academic culture' in the process of 'talent cultivation'in the Chinese context. It uses the analysis of some observation notes and relevant literature that examines the issue of 'academic culture'. The Chinese 'talent cultivation'is fascinating and seems useful due to the significant development of the higher education system with the increasing internationalization and the innovation of scholars. However, some challenges such as academic scandals and academic corruption, the falsification and plagiarism of academic achievements, the phenomenon of money-worshipping, the vulgar pragmatism, the utilitarianism, the academic creation of falsehood, the culture of *guanxi,* the lack of talent competition, and the lack of competition with consciousness remain actual. It appears that the cultivation of creative talent and innovative research involves the enhancement of the whole academic organization and environment.

Keywords: academic culture, talent cultivation, Chinese higher education, academic outlooks, academic spirit, academic ethics, academic environments

Introduction

As noted by Burton Clark (1980), all social entities have a symbolic side, cultural and social structure, with various forms and degrees. The university, which is a social institution, also constitutes "an existing form of culture" (Shen & Tian, 2012, p. 62). As an educational and academic organization, universities should not only cultivate talent, conduct scientific research and provide social services but also have a role in inheriting and innovating culture (Sui et al., 2016).

Some authors noted that the transmission of culture constitutes one of the fundamental missions of the university. Thus, the focus of the university must be the apprenticeship to culture by the transformation of an ordinary man into a cultured person (Ortega y Gasset & Nostrand, 2007). From the same perspective, Sui (2017) noticed that the primary roles of university culture are value-

oriented, emotional healing**,** psychological construction, behavior restriction, collective cohesion. Therefore, academic institutions can be apprehended as "value-rational organizations grounded in strong cultures described as ideologies and belief systems" (Dill, 1982, p. 303). In reality, the academic system is "ideologically loaded," and each academic system has a distinctive culture (Clark, 1980).

The academic culture, which refers to the "external manifest of the common values, spirits, behavior norms of people on campus who are pursuing and developing their study and research" (Shen & Tian, 2012, p. 61), has crucial importance and influence in the development of higher education institutions.

The Meaning of the Concept of Academic Culture

The concept of 'academic culture' designates the attitudes, beliefs, and values held by academics about all aspects of their activities (Yang, 2015). It comprises academic outlooks (the basic point of view of people about academic activities), academic spirits (the thoughts and spiritual power of academic practices and activities), academic ethics (the norms and regulations of academic activities), and academic environments (the material conditions and the human environment that support academic activities) (Shen & Tian, 2012).

The concept of 'academic culture' is closely related to the concept of 'campus culture.' Indeed, campus culture is the combination of different cultures on the campus, accumulated with a long practice (Shen & Tian, 2012). The university campus culture constitutes "a comprehensive reflection of people ideology, behavior rules, norms and spiritual pursuance" (Gonondo, 2016, p. 36). Studies reveal that academic culture improves the construction of campus culture, although campus culture shapes and restricts the development of academic culture. Academic culture is an integral part of campus culture (Shen & Tian, 2012).

Burton Clark (1980) enumerated four types of academic cultures, namely, the culture of discipline, the culture of profession, the culture of enterprise, and the culture of system. The culture of discipline refers to academic disciplines, professional specialties and fields, while the culture of profession provides "a general identity" and intends the personal autonomy of professors. The culture of enterprise is related to institutional beliefs and organizational symbols, while the culture of the system refers to features of academic beliefs and related styles of behavior that are relevant to the national context or the traditional organizational system (Clark, 1980). Academic culture has a significant influence on teachers' and students' blossoming and development and on the development of society as a whole.

The Significance of Academic Culture

The academic culture has a significant influence on "what is done, how it is done, and who is involved in doing it, concerning decisions, actions, and communication on both instrumental and symbolic levels" (Yang, 2016, p. 15). It has the functions of integrating and mediating, controlling, conducting, and restricting individual behavior in the academic organization (Xu, 2001). Likewise, it enables us to understand the activities of higher education institutions and the whole system of higher education. University organization is, to some extent, similar to enterprise, industry, or government organizations, with a specific culture.

Additionally, academic culture is fundamental to the success of higher education institutions and systems (Yang, 2015). It has a significant influence on training and education. Therefore, it is essential to "integrate culture into the process of talent cultivation" (Shen & Tian, 2012, p. 61). First of all, for Sui et al. (2016), the university culture is, the indispensable rationality for the university. Second, university culture is the most indispensable educational element for the university. Third, university culture is an essential foundation for the university to establish a suitable governance structure.

Literature Review

The current study focuses on the analysis of some documents and the observation of one Chinese university functioning. The documents are 'stable' materials, "objective' sources of data, 'unobtrusive", easily accessible for the researcher, and constitute the 'best source of data' for some subjects (Merriam & Tisdell, 2016, p. 182). For this purpose, some relevant literature about "academic culture" in general and "Chinese academic culture" such as (Bush & Haiyan, 2000; Chen & Uttal, 1988; Chen & Macfarlane, 2015; Ingleby & Chung, 2009; Li, 2010; Mattisson Ekstam, 2015; Price et al., 2011; Shen & Tian, 2012; Sit, 2013; Sui, 2013; Sui et al., 2016; Sui, 2017; Tian et al., 2016; Q. Wang & Han, 2005; Wu & Jia, 2007; Xu, 2001; Yang, 2015, 2016; Yi, 2011; C. Yu & Jia, 2009; Zhao, 2010) have been used.

Additionally, observation was a significant tool in the data collection process. It enabled us to see with our own eyes and to perceive with our senses without filters and intermediaries the research scope (Yin, 2011). The observation involved the watching of "physical setting, participants, activities, interactions, conversations" (Creswell, 2013). As former scholars in a Chinese university, authors took the necessary time (respectively four years and five years) to observe the organization of a Chinese university, including the campus culture and the structure of the higher education system.

The Meaning and Challenges of "Academic Culture" and "Talent Cultivation" in Chinese Higher

Education Institutions

Since the adoption of the "open door" policy in 1978, Chinese higher education has witnessed impressive development. It is the world's largest higher education system with regard to the number of teachers and students (Yang, 2015). This progress is the result of different higher learning traditions, economic growth, and the possession of numerous talents (Yang, 2015). Presently, the authorities who are working on developing world-class universities and first-class disciplines are faced with some challenges.

The Meaning of "Academic Culture" and "Talent Cultivation" in Chinese Higher Education Institutions

The Chinese higher education system is shaped by the influence of the Confucius philosophy of "gaining wisdom and complying with morality" (Jiang, 2011, p. 96). Additionally, the traditional culture of "respect for authority, collectivism, and harmony in schools" is perpetuated (Bush & Haiyan, 2000, p. 58). The trend is for the cultivation of innovative talent through the spirit of innovation, creativity, and innovative personality. Indeed, the value of higher education is perceptible through the cultivation of innovative talents (Yu & Jia, 2009). However, the examination-oriented system made students "lost the opportunity to develop their creative personality," and to a "relatively low quality of innovation" (Yu & Jia, 2009, p. 165).

In China, more and more scholars are paying attention to the educational concept of "talent cultivation." According to Yu and Jia (2009), most of the existing publications focused on the analysis of talent cultivation in the professional area or from the teachers' side or students' side; nonetheless, the talent cultivation remains a "complex system", which involves all aspects of education. The cultivation of innovative talent plays a supporting role for the economic and social development, the development of human-being and the development of colleges and universities (Yu & Jia, 2009).

The Chinese higher education law (1998) highlighted that the institutions of higher learning should focus on cultivating talents. For Xie, Cheng, and Fan (2014), the university should "cultivate the innovation consciousness and pioneering spirit of students who are practical talents equipped with an international vision and an international competition capacity" (p.39). The talent-training is closely related to the cultural construction; and for this purpose, the cultural construction is integrated into the whole process of talent cultivation (Shen & Tian, 2012).

In the recent decade, Chinese higher education has undergone significant development and succeeded in creating and establishing several world-class universities through two key programs, namely, the "211" and "985" projects, which had the goal of "subsidizing a certain number of selected universities or

disciplines to make them globally competitive" (Yi, 2011, p. 501). During this process of development of world-class universities, it appears that the focus was on the hard index, while little attention was given to the cultivation of the university spirit (Wang & Han, 2005).

The country witnessed a remarkable achievement in the area of scientific publication and the high number of graduate students (Yang, 2015). Financial and other resources and innovation strategies have permitted the rapid development of Chinese higher education institutions (Yang, 2015). Presently, universities are pursuing talent cultivation to improve economic growth, social development, and personal development (Yu & Jia, 2009). The culture of world-class universities has placed increasing pressure on the university community.

In the area of institutional management, the influence of communism ideology is perceptible in Chinese higher education institutions because each of them has a Committee of the Communist Party that is responsible for the respect of the party's direction and provides political education to faculty, staff and students (National People's Congress, 1998, Chapter IV, Article 39). In addition, school leadership is ensured by the university president under the authority of the secretary of the Communist Party (National People's Congress, 1998, Chapter IV, Article 39).

The culture of enterprise is visible in the Chinese higher education system through the marketing of universities, with the decreasing role of the State in allocating resources to higher education institutions and profound changes in the funding structure (Qiping & White, 1994). Indeed, the central government has established a policy of decentralization to enable local governments to multiply the sources of funding for their educational services (Zhao, 2010). This marketing has introduced fee-paying for students, partnership with industries, market influence on the curriculum, and market influence on the management system (Qiping & White, 1994). In fact, before the 1980s, higher education was free of charge and the state covered almost all the expenditures of higher education institutions. However, from 1997, the payment of tuition fees has been obligatory for all students (Zhao, 2010). Additionally, the state has adopted a circular pattern in 1980, which aimed to expand the capacity of higher education institutions and create new sources of funding (Zhao, 2010). For this purpose, the State promotes collaboration in various ways with enterprises, institutions, public organizations or groups, and higher education institutions are entitled to use "the property provided by sponsors, the fiscal fund allocated by the State and the contributions and donations" (National People's Congress, 1998, Chapter IV, articles 35 & 38). For this purpose, many institutions start with a business activity (Bush & Haiyan, 2000). Furthermore, the marketing of the Chinese higher education system introduces "competition" between higher education institutions to improve the efficiency and

effectiveness of these institutions (Zhao, 2010, p. 68). It appears that China has succeeded in establishing its system of "market socialism" through the mixture of communism and enterprise (Bush & Haiyan, 2000, p. 63).

Additionally, we should note that all Chinese universities use the communist ideology. Most of the university staff and the students are members of the Communist Party and are profoundly engaged in the achievement of the party purpose. Moreover, the party representatives are present at all levels of university management. The university also has a representative of the communist party, who gathers the students who want to adhere.

The Challenges of "Academic Culture" in Chinese Higher Education Institutions

It is usual to see some tendencies of non-standard, immoral, unhealthy and lack of self-discipline within some higher education institutions. Currently, universities are weakened by snobbery, the phenomenon of money worshipping, "afford trade", vulgar pragmatism, utilitarianism, the growth of corruption, the academic creation of falsehood, plagiarism, shoddy academic evaluation, academic inbreeding, and so on (Sui, 2017).

Academic culture sometimes constitutes a barrier to Chinese higher education to reach a leading status in the world (Yang, 2016). Indeed, the Chinese higher education system is faced with a "corrupt academic culture", *guanxi,* which limits the freedom of movement of staff and students and confines the resources and the career advancement of faculties (Yang, 2015, p. 532). Personal relationships and preferential treatment sometimes influence the decision-making process. The challenges of Chinese academic culture also include the falsification and plagiarism of academic achievements, obtaining of scientific research and reward through illegal means, academic scandals and academic corruption (Yang, 2015). Even Chinese world class universities such as Peking and Tsinghua universities are affected by this "toxic culture" (Yang, 2015, 2016).

The current problems in Chinese universities also comprise a few number of world-class universities, the lack of talent competition, and the lack of competition with consciousness (Sui, 2013). Academic misconduct is severe and is perceptible within regional as well as national flagship universities. This problem, which concerns students, professors, scholars, and institutional leaders, has affected every feature of university activities. An increased number of Chinese scholars choose to "becoming trapped in the pursuit of administrative standing, rather than devoting their time to legitimate academic research" (Yang, 2016, p. 15). This prevalence of regretful behaviors in university culture spoils the Chinese academic international image and status (Sui, 2017).

For this purpose, it is necessary, as proposed by Yang (2016), to establish an academic culture based on meritocratic values, free inquiry and competition. If cultural means are not used to positively affect student training, a negative culture will inhibit the university's expected training and education (Sui, 2017). Accordingly, academic leaders should pay attention to the combination of the university spirit culture, system culture and environmental culture to strengthen mutual transformation. They should also pay attention to the combination of shared culture and individual culture, which can reflect the generality of university culture (Sui, 2017).

The Purpose of the Study

This study aims to introduce and discuss the concept of "academic culture" and to analyze the specificity of Chinese academic culture and its influence on the process of talent cultivation. To this end, it tends to answer the following questions:

1.   How well does the Chinese academic culture operate into the process of talent cultivation?

2.   Moreover, which best practices can result from the Chinese academic culture?

Method

This study employed a qualitative research method with the use of observation and document review techniques. The qualitative research enabled the production of descriptive data from people's writing or speech and observable behavior (Taylor et al., 2016). It aimed to "describe, understand, and interpret" the research (Lichtman, 2013, p. 174). Additionally, it emphasized meaning, understanding, and processing (Merriam, 2009)

In this research, we used document analysis as a qualitative research method. It involved the systematic review and evaluation of the relevant documents (Bowen, 2009). As noted by Bowen (2009), the main documents for this study provided some data about the research context and supplementary data and contributed to the validation of the observation notes. In fact, the data that result from the document analysis enabled us to confirm the features observed in Chinese university functioning (the profound respect toward the teachers, the close relationship between the students and the teachers, the students' rote learning method, the culture of "face and face-saving", the culture of intensive promotion of scientific publication…).

Thematic analysis was used as categorizing. The data obtained from document analysis and observation notes were categorized and reorganized around the focus of the research questions (the role of academic culture in the process of talent cultivation and the best practices resulting from the Chinese academic culture) and the most salient identified themes. We proceeded through a descriptive and critical

analysis of documents and observation notes using themes such as "academic outlooks and talent cultivation", "academic environments and talent cultivation", "academic ethic and talent cultivation", and "academic spirit and talent cultivation."

<div align="center">**Findings**</div>

The Influence of "Academic Culture" into the Process of Talent Cultivation

Talent cultivation can be considered the highest goal of higher education institutions (Yu & Jia, 2009). For that reason, it is essential to analyze the influence of each component of academic culture on the process of talent cultivation.

Academic Outlooks and Talent Cultivation

Academic outlook refers to the primary point of view of people about academic activities. It is subdivided into "outlook on academic ontology, the academic attitude, the academic purpose, the academic development and the academic evaluation" (Shen & Tian, 2012, p. 61).

Regarding academic attitudes, we may note that Chinese academic beliefs have some particularities. For example, Chinese students are considered to some extent passive learners because the interaction between teachers and students is restricted in the classroom, even if these relationships are casual beyond the classroom (Sit, 2013). This situation seems curious because relationships between teachers and students are similar to the parent-child relationship. Moreover, the "family-like interaction pattern" between teachers and students is not restricted to the academic context. Also, students are encouraged to approach their teachers outside the classroom to ask for help (Sit, 2013). Likewise, the relationship between the supervisor and the student is particularly intimate. Students meet their supervisors often and even during the night and the weekends (Mattisson Ekstam, 2015). Supervisors are closely implicated in the training and initiation of their students, even in non-academic areas.

Chinese students need guidance in "planning their time, making the best use of the library, identifying and annotating useful sources, and constructing new and interesting arguments and studies", while Western supervisors just have to "ensure that students fulfill the relevant criteria as stipulated in the syllabus" (Mattisson Ekstam, 2015, p. 243). Supervisors usually associate students with the realization of their research projects. Additionally, Chinese students have a deep respect for their supervisors and do not disagree with them, even if they have different opinions (Ingleby & Chung, 2009).

In the area of academic development, the Chinese higher education system has a particularity: promotion of publishing scientific papers by students, even undergraduate students. Publications are used as a means to measure university performance (Tian et al., 2016). Indeed, many universities have instituted the publishing of one or several articles or scientific research by the students as a condition for

graduation. This practice presents some advantages, such as the early initiation of students to research attitudes, but it has also creates the multiplication of the publishing of mediocre papers and the growth of approximate publishing houses. In reality, students were rushed to publish, and for this purpose, they cared less on producing papers of better quality or research with novel and original discoveries (Tian et al., 2016).

The other initiative that contributes to the development of students is the organization of recruitment within universities. It is perceptible that Chinese universities work for the professional insertion of their students through cooperation with public and private enterprises. For this purpose, universities organize several recruitment sessions for graduating students during which they could have job interviews with many enterprises.

Concerning academic evaluation, it is important to note that Chinese traditional education was examination-oriented, and memorization constituted an essential strategy of learning, particularly in the Confucian tradition (Sit, 2013). The examination oriented system constitutes a significant measure for the quality of education in the Chinese system (Yu & Jia, 2009). Currently, the Chinese educational system still emphasizes rote learning, memorization, and the production of the correct and complete answer, contrary to the Western system, which focuses on critical thinking through discussion and interpretation of the problem (Mattisson Ekstam, 2015). In this system, class attendance plays a non-negligible role in student evaluation. The Chinese learning styles are not as cynical as noted by some Western scholars, but it is essential to "explore student's learning perceptions and experience from diverse cultural and educational backgrounds" (Sit, 2013, p. 38).

Academic Spirit and Talent Cultivation

Shen & Tian (2012) defined the concept of "academic spirit" as "the thoughts and spiritual power developed and condensed from the long term practice and activities" (p. 61). Academic spirit is shaped by time and constitutes the shared values and group consciousness possessed by faculties and students (Wang & Han, 2005). Academic spirit comprises "the down-to-earth spirit, the explorative spirits, the innovative spirits, the critical spirits, the co-operative spirits, the tolerant spirits, the free-and-open spirits, and the spirits of integrating science and humanities" (Shen & Tian, 2012, p. 61). The universities are encouraged to develop the spiritual culture with university characteristic (Shen & Tian, 2012).

The Chinese educational system is profoundly rooted in Confucian philosophy and educational ideology. Indeed, the Chinese way of learning is grounded in the philosophy of Confucius, which is characterized but not limited by the following: filial piety, the acceptance of distinct social ranking, the emphasis on personal discipline, patience and the respect of authority, the notion of "knowledge being

masculine", and the intrinsic value of knowledge. Confucian philosophy also emphasizes the concept of a "complete person" raised through education, the conservative approach of solving problems, the doctrine of the mean, and the significant literary tradition (as cited in Price et al., 2011, p. 160). Additionally, the high value given to education and the profound respect towards elders characterise Chinese society. Because of these, deep respect is accorded to teachers *laoshi* who is considered the "fountain of all knowledge" (Mattisson Ekstam, 2015, p. 248). Indeed, Confucianism considers that teachers must have deep knowledge, be able to answer questions, and be good models of morality (Sit, 2013). In China, all university staff are called *laoshi*, even administrative staff.

To improve talent cultivation, Chinese university leaders are working to encourage and enhance student entrepreneurship through the organization of entrepreneurship training and project funding. Entrepreneurship is growing within each level of higher education institutions (Li, 2010). Moreover, some activities are organized during the academic year to promote useful entertainment, the spirit of innovation, and cooperation between students. Some of these activities gather professors and students to strengthen their relationship.

Additionally, Chinese cultural values help teachers and students persevere in working hard. These values include human malleability, the potential for change, self-improvement, collectivism and group identification (Chen & Uttal, 1988).

Academic Ethics and Talent Cultivation

Academic ethics principally involve "the norms of academic research, the norm of academic evaluation, and the norm of academic criticism" (Shen & Tian, 2012, p. 62). In China, the traditional culture emphasizes "person's self-cultivation for ethical and moral perfection" (Bush & Haiyan, 2000, p. 62). As for academic ethics, since the 2000s, the Chinese government has built academic norms and research integrity by means of establishing standards and regulations, the establishment of particular agencies, the issue of policy papers, the organization of national forums, seminars, and the enhancement of international cooperation (Yang, 2016).

The Chinese government has also established the "Draft Regulation of Higher Education Institution Evaluation" to evaluate higher education institutions through four steps, namely, "qualified examination, excellence evaluation, randomized evaluation, and general evaluation" (Li, 2010, p. 63). This regulation has reformed over time, and the government adopted in 2003 a "Project for Quality Assurance and Further Reform in Higher Education Institutions." This project introduced some interesting criteria, such as the selection of excellent teachers, the establishment of high-quality

courses, the further promotion of the reform of teaching English to students of non-English majors, the regulation and the improvement of the higher education evaluation system (Li, 2010).

China has also established an external quality assurance system. The system explores government policies, the evaluation organized by government agencies, the evaluation and ranking activities organized by non-governmental agencies and media, and an internal quality assurance system that includes the establishment of institutional teaching evaluation centres, the formation of teaching supervision or steering groups, peer review, student feedback, annual reports, and teacher training (Li, 2010).

In addition, the norms of academic research are not strictly respected in the Chinese higher education system due to the cultural context, which emphasizes the "building of relationship and courtesy towards and respect for authority" (Chen & Macfarlane, 2015). Much academic misconduct is apparent in Chinese higher education institutions. These are mainly the "adding of a well-known professor to the list of authors" to increase the chance of the publishing of a paper, authorship order generally based on the hierarchical structure, the use of incentive pay system to reward publicly in high-impact journals and the academic promotion overemphasizes the quantity of publishing rather than the quality (Chen & Macfarlane, 2015).

Referring to the mechanisms of academic research evaluation, it consists of the administrative department and their specific mode of operations, which include the evaluation standards (Wu & Jia, 2007). The transfer of academic evaluation to administrative departments raises some questions because administrative departments are external actors who handle matters with regulations and balance the distribution between various interests and without specialised knowledge (Wu & Jia, 2007). Therefore, these conditions led to the growth of "academic opportunism and corruption" (Wu & Jia, 2007, p. 70). This system, which is "too formalistic, places excessive emphasis on the number of research items conducted and relies too much on partial evaluations for quality control" (Wu & Jia, 2007, p. 68). The administrative departments' criteria for academic research evaluation and confirmation focus on the form of research activities and their results. Some include the quantity and number of academic activities and their results, the ranking of the publications, the submission for approval, the assessment, instead of focusing on the intrinsic quality and the achievement of academic research (Wu & Jia, 2007).

Regarding academic criticism, the "Chinese academic criticism" is different from Western culture. The Confucian tradition promotes respect for hierarchical relationships in society, and for this purpose, scholars and teachers are considerably respected, and students must listen thoughtfully (Sit,

2013). Thus, some Western scholars consider Chinese students as "passive-obedient-learners who never question the knowledge transmitted during lectures," although they are hard workers and assiduous (Sit, 2013, p. 37). Chinese students do not have the habit of asking questions because asking questions means that the teachers have not explained well in Chinese academic culture (Mattisson Ekstam, 2015). Nevertheless, it is important to note that the misconceptions of "obedient, passive Chinese students and non-participative rote-learners" do not mean that they are not "actively engaged in thinking or class activities" (Sit, 2013, p. 38).

Academic Environments and Talent Cultivation

The academic environments consist of "hardware environments and software environments." The hardware environments refer to the material conditions that support academic activities, while the software environments refer to the human environments, respectively, the 'academic aura and academic atmosphere" (Shen & Tian, 2012, p. 62). Various authors demonstrate the role of the environment in the education process. John Dewey (1922), for instance, noticed that education is a continuous process of adaptation to the environment. It is through the mechanism of formation and the improvement of the educational environment that university culture is influential and affects the education system (Sui, 2017).

As noted by Shen and Tian (2012), the construction of a high-quality academic culture involves the possession of some material conditions. Indeed, the construction of an academic culture needs sufficient funds for research, some instruments and equipment, plentiful data resources and research sites (Shen & Tian, 2012). The environment of the Chinese university is built to facilitate the training of the students. The central and provincial governments and university leaders take much effort to develop innovative infrastructures and work to provide a suitable environment endowed with the necessary materials and equipment. For this purpose, libraries are well equipped, and up to date, laboratories and equipment are renewed permanently, and gymnasium and sports infrastructures are multiplied to promote physical health and the blossoming of students. Additionally, the university leadership put in efforts to create a beautiful campus to stimulate student creativity, innovation, and performance.

Some features of Chinese culture that characterize the human environment of the university include power distance, harmony and collectivism, face and face savings, and educational backgrounds (Ingleby & Chung, 2009). Indeed, concerning the "power distance", this feature established a "standard of behavior" for the students given their position in the university. The "harmony and collectivism" involves modesty and friendly cooperation and gives priority to people's relationship because, according to Confucian scholars, the purpose of education is the shaping of every individual into a harmonious

member of society (Bush & Haiyan, 2000, p. 62). It also includes an interaction between students and their supervisors in a context of broader settings and the primacy of harmony in their relationship (Ingleby & Chung, 2009). Concerning the 'face and face-saving,' it involves the maintaining of their 'self-respect' by the students and the maintaining of the 'appropriate respect for their supervisor.' Indeed, the concept of 'face,' in Chinese '*diulian*' (丢脸) and '*diumianzi*' (丢面子) have a particular meaning. The first refers to "a situation where someone causes embarrassment by his or her behavior," and the second refers to "a situation where a person is embarrassed by the behavior of another" (Ingleby & Chung, 2009, p. 44). For the 'educational backgrounds,' it refers to the authority of the teachers, who are considered the 'master of knowledge' in the Chinese educational system. These cultural features regulate the interpersonal relationship within Chinese higher education institutions.

Discussion

Despite the vital role of the academic culture in the construction of educational values and talent cultivation, we should notice that the cultural attributes of the university also produce perverse effects that deviate from the essential attribute of university organization. For example, with the traditional culture of the respect for the authority and collectivism proper to the Chinese higher education system (Bush & Haiyan, 2000), the institutions still face some challenges related to bureaucratic delays and the lack of communication and involvement among the university's stakeholders.

Additionally, in China, the university is considered a '*danwei*', which means a work unit. The *danwei* is the "institutional arrangements under planned economy in urban China, concerning resources allocation, employment and social welfare and with unique spatial and social representations" (Chai, 2014, p. 184). For this purpose, the university simultaneously constitutes a place of residence, family and community life, leisure and commercial activity, and workplace. This system based on the Confucian traditional culture of 'harmony', 'obligations', and 'hierarchy' in the structure of social and professional life, displays some limits (Yu, 2018).

Moreover, for Cai and Yan (2019), the Chinese higher education system faces some challenges somewhat related to the academic and campus culture. The challenges of Chinese higher education include lack of sufficient resources and effective measures to ensure quality, lack of capability to cultivate outstanding and innovative talent due to the formulaic educational model, lack of diversity among higher education institutions, increasing unemployment among university graduates, disparate distributions of higher education resources among regions and unequal access to higher education between different social groups, and issues related to higher education reforms, namely, the contrast

between Chinese and Western ideologies. In this perspective, Cai (2013) also stressed the necessity of strengthening a university culture based on academic freedom and individual development.

The government has launched a series of policies as responses to higher education demands (Cai & Yan, 2019). China is developing its higher education system in size, quality, and impact (Mohrman et al., 2011). The country has the largest higher education system in the world, with a total of 38.33 million students in 2018 (Ministry of Education of the People's Republic of China, 2019). As noted by Cai (2011), the higher education reforms introduced the establishment of a legal environment, the reduction of state control, the fulfillment of mass higher education, the implementation of quality assurance systems and market mechanisms, the building of competitive universities, and the expansion of internationalization. For Wang (2014), the Chinese government is engaged in the promotion and development of assessment mechanisms and the improvement of university performance. However, Li (2010) considered that the implementation of evaluation and quality assurance mechanisms do not automatically create quality.

The main policy trends of Chinese higher education include the increasing quality of talent cultivation, the enhancement of the university innovation system, and the development of the world-class discipline (Cai, 2013). According to Rungfamai (2014), the Chinese government had played a 'critical role' over the university function in society.

Conclusion

Chinese higher educational institutions are endowed with a rich and specific academic culture rooted in Confucius philosophy. Several Confucius precepts such as the "respect for authority, patriarchy, worshiping traditions and collectivist rather than individual values" still affect the structure of Chinese schools and the broader society (Bush & Haiyan, 2000, p. 66). The higher education system has witnessed significant development with the increasing number of world-class universities, the expansion of higher education through internationalization, the growing number of international students, and the innovation of scholars.

Nonetheless, the Chinese higher education system still faces some challenges, such as corruption and the issue of university autonomy. It is perceptible that the Chinese government is working to solve these problems considering their action in the construction of better academic culture. In this context of globalization and the growth of world-class universities, it is necessary to improve the 'academic organization,' 'academic democracy,' 'academic freedom,' and 'innovative essence,' to build a competitive culture of universities (Sui, 2013, p. 213). Universities should consider the cultivation of

innovative talent as the highest goal, promote educational innovation, contribute to the promotion of scientific and technological progress, and develop a knowledge-based approach (Yu & Jia, 2009).

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Emerging University-Society Engagements in Africa: An Analysis of Strategic Plans

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Abstract

Due mainly to globalization, knowledge economies, liberalization, and regulation and accountability regimes, higher education institutions are under increasing pressure to demonstrate their relevance and significance to society. European and North American universities have rearticulated their profiles and adopted entrepreneurial and engaged mandates. The extent to which and how African universities are strategically repositioning themselves in that respect remains obscure. Using relevant theoretical frameworks, this study explores emerging modalities of university-society engagements and linkages in Africa through a critical analysis of the current strategic plans of 30 universities from 14 countries. Qualitative and quantitative analyses of the strategic plans reveal that universities have explicitly identified strategies for the production and transfer of knowledge; for creating networks and partnerships; and for engaging varied stakeholders in decision making at various levels. Implications for further research are identified.

Keywords: Africa, engagement, higher education, society, strategic plans, universities

Introduction

Due mainly to globalization, democratization, and liberalization (Brennan, King, & Lebeau 2004, P. 19), higher education institutions (HEIs) are under increasing pressure to demonstrate their relevance and significance to society (Addie, 2018; Altbach, 2008; Hannon, 2018; Massen, 2014; Pugh et al., 2018; Reichert, 2019). The socio-cultural and economic transformative potential of universities (Pinheiro, Wangenge-Ouma, Balbachevsky, & Cai, 2015; Brennan et al., 2004) seems more vividly acknowledged than ever before. Universities are thus expected to significantly and directly contribute to innovation, economic growth and development, democratization, social cohesion, and sustainability.

These expectations seem to mainly trigger the generation of "strategic responses" (Pinheiro et al. 2015, p. 1) by HEIs. To promote societal engagement, universities seem to identify two nonexclusive strategies. One, a "third mission has emerged for higher education – next to its two traditional missions of education and research – which reflects an expected close engagement, in the first place economic, of higher education with society" (Massen 2014, p. 33). This is generally called university community service which comes in the form of paid or non-paid consulting. The other, a what looks more recent budding strategy, is to embed community service into the academic core- education and research. University teaching and research are presumably framed within and directly contribute to serving real societal needs. These manifest in the form of teaching and research activities with clear and achievable goals of transforming communities (Ofoyuru, 2018).

In both cases, such traditional functions of universities as ideology expression, elite selection and socialization, knowledge generation, and training of skilled labor force (Castells, 2001) and particularly the mechanisms used seem to require further reconceptualizations. The nature of the "social contract" (Massen, 2014, p. 33) between HEIs and society seems qualitatively changing. As part of the strategy for the realization of these emerging engagement modalities and learning from corporate management, HEIs embark on strategic planning.

University strategic plans embody university aspirations and intentions to become more relevant and significant to society. However, due partly to varied socio-cultural, economic, and governance realities, the modalities and extents of emerging engagements vary across regions, countries and institutions. Analyses of the strategic plans of 115 European and North American universities, for example, indicated that universities "have responded to these changing circumstances by adopting a variety of entrepreneurial and engaged mandates that have rearticulated both their institutional and territorial profiles" (Addie, 2018, p. 2). Emerging university-society engagements are explicitly linked to teaching, learning, research, and community service. Universities also forge strategic partnerships and networks with stakeholders at the city, community, state, national, regional, and global levels.

Partly as a response to this societal development and partly due to institutions' natural gait to serve their society, African universities are poised to substantially reconceptualize their missions-education, research and community service (Frempong, Mohamedbhai, & Addy, 2014) through engaging in strategic planning. Universities worldwide use strategic planning to "direct long-term institutional priorities, establish internal benchmarking indicators, and restructure broad ways of

operating in response to changing external drivers, relations, and societal expectations" (Addie, 2018, p. 6 -7). Through strategic plans, universities reposition themselves to engage in meeting societal needs more directly.

Still, our understanding of the modalities and extents of university engagements across African regions as enshrined in their strategic plans is unclear. First, strategic planning as a methodology started in education after the mid-1980s (UNESCO, 2010) and reached Africa only lately. Strategic planning analysis as a field of study in higher education (HE) globally has gained momentum recently. Second, some existing studies on strategic planning analysis seem to focus on the examination of university mission and vision statements only. Third, studies seem to report case analyses of the strategic plans of individual universities. There exists a paucity of analysis of university strategic plans across African regions as well as empirical studies that explore actual practice.

Expectations of the African states from universities evolved in the aftermath of colonialization (Teferra, 2014). As such, African nations are embracing the discourse of the knowledge economy and seeking to revitalize their HE systems (Molla & Cuthbert, 2016), with university functions presumed to be progressing from teaching to research, and eventually to community service. Empirical studies on this topic are yet to gain momentum but some studies (Cloete & Maaseen, 2015; Mugabi, 2015; Ofoyuru, 2018; Ogunsanya, Olajumoke, & Govender, 2019, Schalkwyk, 2015) seem to reveal somewhat marginal and fragile situation of university-society engagements in Africa budding in all the three core functions of the university: teaching, research and direct service. Moreover, much of the emphasis still seems to be on teaching and learning (Cloete & Maassen, 2015; Mugabi, 2014; Ogunsanya, Olajumoke, & Govender, 2019). However, these engagement studies are either case studies (Mugabi, 2015; Ofoyuru 2018) or comparative studies of eight universities from Southern and Eastern Africa only (Cloete & Maaseen, 2015; Schalkwyk, 2015). This limits our understanding of the modalities and extents of university-society engagements across African regions.

This study aspires to extend our understanding of emerging university-society engagement modalities by analyzing the strategic plans of 30 universities from Northern, Southern, Eastern, and Western Africa. As strategic plans identify organizational goals, priorities and implementation mechanisms based on internal and external multi-stakeholder deliberations- Strengths, Weaknesses, Opportunities, and Threats (SWOT) analyses (Addie, 2018; Allison & Kaye, 2011; Chang, 2006; Hinton, 2012; Pirtea, Nicolescu, & Botoc, 2009), methodically analyzing strategic plans

can reveal the nature of emerging university-society engagements in selected universities. The study could deepen our understanding of the emerging strategic positioning of universities within the context of the knowledge society. It will also identify theoretical and methodological issues and challenges in studying this fast-emerging development in the African HE landscape.

Research Questions and Definitions

To render a holistic understanding of emerging university-society engagement modalities, this study makes some assumptions. First, examining the specific factors or conditions that trigger the development of university strategic plans as opposed to traditional plans can explain why, how and to what extent academic cultures and/or entrepreneurial, business motives drive contemporary university functioning. Second, studying university vision deepens our understanding of the immediate future organization and functioning of universities amidst changing circumstances. Third, examining how and to what extent the core functions of universities (teaching, research, and service) are reconceived in the strategic plans can reveal institutional positioning and the level of readiness to meaningfully implement their strategic plans. Finally, an exploration of the strategic pillars facilitates our understanding of university priority areas amidst meagre resources and global competitions. Strategic plan analysis can reveal how and to what extent universities are poised to engage with society.

The overarching research question that guides this study is thus: How does strategic planning analysis deepen our understanding of potential modalities of emerging university-society engagements in Africa? The following specific questions are articulated based on the general question and the analytical frameworks outlined below.

1.   What triggers the development of university strategic plans?

2.   What visions and strategic pillars are universities pursuing?

3.   How and to what extent are universities repositioning themselves (with regard to teaching, research, and service) in relation to emerging societal needs and challenges?

For clarity, some terminologies need operational definitions. *Engagement* lacks a universal definition but such terms as "service learning, outreach, community engagement, scholarly engagement, university-industry linkages, third mission, and popularization of science" generally appear synonyms (Schalkwyk, 2015, p. 205). As per the foregoing discussions, engagement in this study refers to university strategic or methodic positionings and activities primed to respond and contribute to addressing real societal needs and challenges more directly and sustainably. The academic core- education and research- is conceived and organized in such a way that real community or societal needs and challenges are reflected and represented. Engagements could target the needs and challenges of

various locales which fall under university spheres of influence- cities and towns, communities, districts, states, provinces, countries, regions and the world society at large. The focus of this study is on emerging engagements in the sense that recent university-society interplays articulated within the contexts of globalization, internationalization, discourses of knowledge economies and societies, and the Sustainable Development Goals (SDGs) are the concern of the study. The post-2015 university strategic plans are considered for analysis in this study as they reflect emerging university-society engagements. Contextual analysis involving sociocultural, economic, and governance aspects of society facilitates meaning making and understanding (Bekele, 2018). A brief account of African HE is thus provided below.

Context of Higher Education in Africa

It is noteworthy to mention that HE in Africa is not homogeneous. It is polarised along Anglophone, Francophone and Lusophone colonial lines. The Anglophone higher education zones are tailored to the British system while the Francophone and Lusophone zones are tailored respectively to the French and Portuguese systems. Due to its geopolitical positioning, North Africa is additionally influenced both by Europe and the Arab world. These zones have distinct systems of university education (Assie-Lumumba, 2006). Africa is also divided into Northern, Western, Central, Eastern and Southern geopolitical regions (Soderbaum & Brolin, 2016) which seek to address issues of common concerns including education. They also serve as HE areas of some sort, pursuing somewhat common HE agenda and guiding principles, and having common indicators linked to the academic core (Oanda & Matiangi, 2018). The apparent need for universities to strategically engage with society remains compelling across those variegated zones.

Although differences at regional, national and institutional levels affect HE provision, salient common characteristics are also noticeable. Colonial legacy, harsh economic realities, poverty, HIV Aids, education access, quality and equity are generic issues that cut across the continent (Teferra & Altbach, 2004). The following accounts could thus generally illustrate the evolving positionings of African HE.

Whereas some semblance of HE existed in Africa well before colonialism (Teferra & Altbach, 2004), the university system we know in its current form is directly a colonial creation (Mohamedbhai, 2014). This colonial establishment did not initially plan for Africa to achieve mass enlightenment and attend to societal needs in a deliberate and direct way, hence the strategic development of university education was far-fetched (Cloete & Maassen, 2015).

Universities in post-colonial Africa continued to trade a narrow path of training human resource for Africanizing the civil service (Mugabi, 2014). As such, they were considered as ivory towers, which in

Etzkowitz's (2014) usage means that universities operate as secluded institutions which mind their own businesses without mutual and genuine interest in applying their knowledge to solve societal problems. They were neither engaged nor entrepreneurial in nature.

However, as expectations of the African states and society from universities evolved over time (Teferra, 2014), functions of universities presumed to progress from teaching, research, and service to society. The latter is what Clark (2004) and Etzkowitz (2014) refer to as entrepreneurialism. Universities were confronted with daunting expectations in respect to proportionately dispensing the three missions. Such demand was made by the independent African states spearheaded by their umbrella organization, the Organisation of African Unity, now the African Union.

The first Conference of Ministers of Education of the Independent African States held in 1976 resolved that higher education would be used to promote African development at individual, local, regional and national levels (Banya & Elu, 2001). These were expounded as promotion of culture, being dedicated to Africa and its people, correcting misconceptions about Africa through research, promoting science and technology, and training human resource for the pressing post-colonial needs of nation building. Universities seem to be slack in meeting the expectations though (Cloete & Maassen, 2015; Ogunsanya & Govender, 2019) due to formidable institutional and contextual predicaments.

It is noteworthy to mention further that cross-cutting institutional issues such as underfunding, increasing enrolments, and poor quality and relevance exist. Funding deficits are compelling, with per capita funding being way below the ideal (Gyimah-Brempong & Ondiege, 2011; World Bank, 2019). These press hard against the econometric gains made in terms of enrolment. Libraries, laboratories, and classrooms have neither been expanded nor improved to keep pace with enrolments (Shabani, 2013). On the other hand, many academic programs have been launched with view to raise incomes, but attempts to increase tuition tends to be met with stiff resistance from students (World Bank, 2019). Underfunding has therefore partly put a toll on quality of academic programs, teaching, and research. This has triggered concerns about relevance of university education to society.

There is however a dearth of studies that explore the quality and extent of emerging university-society engagements, making our understanding inadequate and incomplete. Studies (Cloete & Maaseen, 2015; Ogunsanya, Olajumoke, & Govender, 2019) focusing on country-level comparisons and involving a few universities and their research engagement seem to reveal somewhat a fragile situation of university-society engagements; much focus seems to be made on teaching and learning. Institutional case studies (Mugabi, 2015; Ofoyuru, 2018) also reveal fragile/nascent university-societal engagements. To extend our understanding, this study explores how and to what extent the academic core and

university third mission reveal emerging engagements through an analysis of the post-2015 strategic plans of 30 universities from four African geopolitical regions. To meaningfully explain emerging engagement modalities, this study considers the analytical frameworks explained below.

<div align="center">**Analytical Frameworks**</div>

Analytical frameworks that delineate recent transformations in HE globally, and modalities of emerging university-society engagements are needed for conceptual scaffolding. These respectively provide macro-level (national, regional, and global) and meso-level (institutional) explanations. The frameworks inform the articulation of the study questions and guide the organization and discussions of findings.

A plethora of conditions affects the operations of HEIs globally. Disciplinary, institutional, national, and (academic) professional cultures (Clark, 1983) determine much of the 'equation'. However, globalization and internationalization seem to trigger new modalities of university-society engagements. The Triple Helix model of university-industry-government relations (Etzkowitz & Leydesdorff, 2000); and the Quintuple Helix which adds media-based public and civil society, and natural environments of society" to the Triple Helix (Carayannis & Campbell, 2012, p. 20) presumably better explain emerging engagements. Universities are thus expected to meaningfully widen their partnerships and spheres of influence to society.

The approaches and intentions of emerging university-society engagements appear varied and prolific. The entrepreneurial university model (Audretsch, 2014; Etzkowitz, 2013; Clark, 2004; Hannon, 2013; Pugh et al., 2018); Mode 2 thinking explaining the changing nature of scientific research to improve its social relevance and significance (Nowotny, Scott, & Gibbons, 2003; 2006); Mode 3 thinking explaining the nature of emerging university-society engagements regarding socio-economic development, democratization, and public accountability (Barnnet, 2004; Carayannis & Campbell, 2006; Rhoades & Slaughter, 2006); and academic capitalism explaining the economic motives of universities behind societal engagements (Slaughter & Rhoades, 2009) all elucidate on the economic interests of universities. As rational and autonomous actors having their own established cultures and norms, universities also aspire to meet the needs of society.

For the meso level analysis, the Addie (2018) methodological model is chosen to provide further conceptual scaffolding for its 1) comprehensiveness in its inclusion of multifaceted university functions, 2) solid foundation on frameworks that emerged from empirical investigation of contemporary developments in HE and society, and 3) simplicity and practicality to analyze university strategic plans.

The defining characteristics of emerging university-society engagements are captured in such three core categories as Mediation, Centrality, and Difference and nine indicators (see Table 1). Addie

used this methodology to study the strategic plans of 115 universities in London and New York and found it appropriate in revealing emerging university-society engagement modalities. This study used a slightly adapted version of the model as outlined below.

Mediation mainly reflects knowledge production and dissemination mechanisms. Such Mediation indicators as Internal coordination, Knowledge exchange, and External relations "highlight strategic attention being given to the internal coordination of academic activities, the prioritization of knowledge mobilization, and the external relations being targeted through such processes" (Addie, 2018, p. 9).

Centrality includes such indicators as Institutional networks, Campus development, Community, and Urban orientation. Centrality refers to techniques of "spatialization" universities may use to "involve inhabitants and inform decision makers across their social spaces" (Ibid, p. 10).

Table 1

University-Society Engagement Indicators

Engagement indicators	Guiding questions
Internal coordination	Are key societal challenges being used to galvanize university activities?
	Are research centres being developed and prioritized?
	Is interdisciplinary education and research a key strategic principle?
Knowledge exchange	Are mechanisms being established to promote and facilitate knowledge exchange?
	Are universities seeking to build capacities beyond basic training and education?
External relations	Are specific connections with public agencies, city plans, or development agendas being prioritized?
Institutional networks	Are universities looking to utilize branch or multicampus facilities to shape outreach and program delivery?
	Are regional and international networks identified?
Campus development	Are there plans to introduce open and flexible spaces on campus?
Community	Are stakeholders identified?
	Does the university prioritize community relations and processes of place-making?
Urban orientation	Is the university's position in its city or region key to its institutional mission?
	How are local, national, and global visions presented and balanced?
Opening access	Is there evidence of established mechanisms to target nontraditional students?
	Are issues surrounding widening participation addressed?
	Are there clear approaches to rendering the university more porous?

New pedagogies and technologies	Are new technologies to promote teaching and research being explored?
	Are there proposals to develop open access forums for academic work?
	Are new learning outcomes deemed relevant to society articulated?

Source: Addie, 2018, pp. 9-12.

Difference indicators (Opening access, and New pedagogies and technologies) "consider whether universities are actively engaging varied urban stakeholders (as students, collaborators, audiences). This includes enhancing participation for diverse communities and seeking to invest in technologies that facilitate broadened mandates" (Addie, 2018, p. 11).

Overall, the theoretical frameworks explained above are developed within Western contexts. Their relevance and significance to Southern realities such as those in Africa is less known. The use of these conceptions in this study is however justified in several ways. First, scientific theories generally presumably have external validity (generalizability) as they are developed based on evidence collected from varied settings. Second, universities are universal institutions having shared understandings about science, society, humanity, and development. That the cultures of the disciplines are universal consolidates this argument. Third, discourses linked to globalization, internationalization, knowledge society and economy, and technological advances contribute to the further development of universal values and policies. There are indications that African nations and universities embrace the discourses of the knowledge economy and seek to revitalize their HE systems vis-à-vis community needs and challenges (Frempong, Mohamedbhai, & Addy, 2014; Molla & Cuthbert, 2016). Fourth, strategic planning in universities is one instance of the international transfer of policy ideas from the West to Africa. The analytical frameworks thus inform the articulation of the study questions and the methods and techniques used for analyzing the 30 strategic plans.

Methods

The following criteria are used for the selection of universities from four African regions. First, to include as many universities as possible from each region, an international HE database and search engine, uniRank, is considered. Unlike other ranking systems, uniRank offers a ranking of 200 African universities for the year 2019. Second, to ensure regional representation, a maximum of five universities per country are included. Third, for practical reasons only, universities having their strategic plans in English are included. Notwithstanding the exclusion of universities particularly from Francophone, Lusophone, and Arabic speaking countries, those included in this study could enable a modest analysis of emerging change dynamics in HE in Africa, as English is still the lingua franca of globalization and internationalization. However, the study does not intend to generalize its findings beyond the studied

universities. Fourth, the institutional strategic plans of universities are considered, excluding strategic plans of colleges, faculties, schools, departments, and centers. Fifth, universities having complete strategic plans are included; universities with vision and mission statements only are excluded. Sixth, actual search for the strategic plans of universities as per uniRank 2019 ranking is conducted. Based on the ranks, the official websites of universities are visited to locate their strategic plans.

However, the strategic plans of many top-ranking universities were inaccessible during the search period. Emails requesting for copies of their strategic plans were sent to over a dozen universities out of which only two responded. Besides, whereas several universities apparently posted their strategic plans on their websites, the documents could not be retrieved at the time of search because of technical challenges with the websites. Overall, the complete strategic plans of 30 universities from 14 countries were considered for analysis.

As strategic plans are grounded on institutional visions and embody goals, strategic pillars, engagement modalities, and scaffolding discourses, a primarily qualitative analysis of the current strategic plans of universities is appropriate. Qualitative policy analysis (Cardno, 2018; Wagenaar, 2007; Walker, Rahman, & Cave, 2001) complemented by quantitative content analysis of strategic plans is found relevant for this study.

The three categories and the nine indicators of emerging university-society engagement modalities are used as organizing logics for analyzing the strategic plans. The following scoring rubrics (Addie, 2018, p. 9 - 12) are used to analyze the strategic plans. The questions under each category or indicator are adapted for simplicity and clarity, and guided actual analysis (see Table 1). As HE relevance and significance to society is powerfully justified partly in terms of student competencies and skills, a new question dealing with learning outcomes (transferable skills) is included under the New pedagogies and technologies indicator.

The 0 - 4 continuum Addie (2018) developed presumably found effective in analyzing the strategic plans of 115 UK and US universities. It is also considered sufficient to explore emerging African university engagement modalities with society. Analysis of the strategic plans is guided by the following formula (Addie, 2018, p. 12).

4- Explicit, Dedicated Engagement. The indicator is explicitly identified as a key strategic planning principle and is central to the university's plan, mission, and vision. Direct reference is made to specific mechanisms, processes, or objectives targeting development to this end.

3- Explicit, Identified Priority. The indicator is a highly visible and explicitly identified area for strategic prioritization, but without evidence of specific mechanisms to develop an institutional agenda.

2- Implicit, Embedded Importance. The indicator is acknowledged as an important consideration, but without specific connections drawn to institutional programs or planning.

Implicit, Acknowledgment. The indicator is mentioned passively through a general appeal to its relevance, but it is not emphasized.

No Evidence. The indicator is not referenced at all.

Varied techniques are used to analyze and synthesize the data. To reveal findings linked to the rationales, visions, and strategic pillars, qualitative thematic analysis is used. Themes which describe commonalities and differences across the strategic plans with regard to these elements are created. Where appropriate, counts and percentages are complementarily used. To exemplify themes, excerpts directly taken from the strategic plans are provided.

To identify patterns or dominating categories and indicators across African regions and universities regarding the modalities of engagements, quantitative content analysis is conducted. The number of universities and their corresponding percentages, and average scores for the categories and indicators at the regional and institutional levels are calculated. The country level of analysis is not considered as seven countries out of the 14 are represented only by one university each.

Both the qualitative and quantitative analyses focus on identifying the pattern and trend in emerging university-society engagement modalities. The major findings are discussed in comparison with the analytical frameworks and other literature. Implications of the findings to future strategic planning are highlighted. Issues and tensions having theoretical and methodological implications for further research are also identified. Due to regional, national, and institutional diversity, the findings and conclusions of this study are valid for the studied universities only.

Findings

This section consecutively highlights the rationales behind the development of university strategic plans, university visions, reconceptualizations of university core functions, and strategic pillars. For contextualization, some demographic information about the regions, countries, and universities included in the study is provided first.

Demographic Information

Using the search criteria, 30 universities are selected from 14 countries from Southern Africa (South Africa, eSwatini, Namibia, Zambia and Zimbabwe), Northern Africa (Egypt and Libya), Eastern Africa (Ethiopia, Mauritius, Rwanda, Sudan, Tanzania), and Western Africa (Ghana and Nigeria), see Table 2 below. Due to 1) the limited sample size compared to the number of African universities, and 2) the diverse nature of African HE, the conclusions of the study concern the studied universities only.

The data indicate that 1) the vast majority of the universities are public institutions and hence private-public university comparisons are insignificant in this study, 2) the strategic plans of 50 % of the universities cover six years whereas 33% of them have plans covering five years, 3) the strategic plan of the American University in Cairo has the shortest time span (four years) whereas the University of Pretoria strategic plan covers the longest period (15 years) followed by the University of Johannesburg (13 years), the University of Ghana (11 years), and the University of Rwanda (eight years), see Table 2. Substantial differences also exist among universities regarding the rationales they provide in support of the development of their strategic plans.

Table 2

Sampled Countries, Universities and Strategic Plan Time Periods

Country	University and strategic plan time period
Egypt	Ain Shams University (2018-2023), American University in Cairo (2019-2022), Benha University (2017-2022), British University in Cairo (2017-2022)
Ethiopia	Addis Ababa University (2015-2020), Bahir Dar University ((2015-2019), and Haramaya University (2015-2020)
Ghana	University of Cape Coast (2018 - 2022), University of Education (2014-2018), University of Ghana (2014-2024)
Libya	University of Tripoli (2013 - 2018)
Mauritius	University of Mauritius (2015-2020)
Namibia	Namibia University of Science and Technology (2014-2018).
Nigeria	University of Jos (2015-2019), Kwara State University (2014-2019), University of Nigeria (2013-2018), University of Uyo (2015-2020), Ilorin University (2019-2023)
Rwanda	University of Rwanda (2018-2025)
South Africa	University of Cape Town (2016-2020), University of Pretoria (2011-2025), University of Wits (2017-2022), University of Johannesburg (2013-2025), University of Stellenbosch (2019–2024)
Sudan	National University of Khartoum (2017-2022)
eSwatini	University of Eswatini (2016-2021)
Tanzania	Sokoine University of Agriculture (2016 – 2021)
Zambia	University of Zambia (2018-2022)
Zimbabwe	Midlands State University (2019-2023), University of Zimbabwe (2016-2020)

Rationales, Visions, and Strategic Pillars

The rationales behind the development of the strategic plans are provided as preludes, introductions or as prefaces to the plans. The following non-exclusive categories of rationales are identified. The categories are made based on explicit statements provided in the strategic plans- the percentages do not implicate the overall significance of a category as additional rationales are implicitly provided in the plans.

Positioning

Twenty-two universities (73%) claim that their strategic plans are developed to improve their relevance and significance to emerging national, regional, and international needs and challenges. The overarching rationale is to improve HE quality and relevance through embracing entrepreneurial spirits. Terms the strategic plans used to articulate this rationale include customer, corporate, stakeholders, business, income generation, and service provision. Strategic plans are also needed to presumably better introduce the university to the various stakeholders, thereby to improve institutional transparency and accountability. A dozen universities also claim that strategic plans are needed to identify and set institutional goals and implementation strategies. Overall, universities aspire to position themselves qualitatively differently in response to or to contribute to emerging societal needs.

Excerpts directly taken from the strategic plans exemplify this rationale. Strategic plans are developed to: address the new realities emerging from the needs of self-reliance (Sokoine University of Agriculture, 2016, p. ii), closely align to industry and the needs of society and sustainability of economic, institutional, natural, and social environments (Namibia University of Science and Technology, n.d., p. 55), capture the cornerstones of a common vision and understanding of its role and identity within the context of national, regional, and global demands (University of Pretoria, 2011, p. 2), and quickly and adequately align itself with new environmental realities (Midlands State University Zimbabwe, n.d., 5).

Pillar Identification

To nine universities, strategic plans identify strategic pillars for focus amid limited financial, material, human, and technologic resources, and global competitions. Such pillars as innovative pedagogies, applied research, business-oriented consulting, community engagement, and internationalization are given prime importance. However, the analysis of all the 30 strategic plans reveals such strategic pillars as quality of education (100%), impactful research (93%), innovation and technology (87%), partnerships (70%), governance (50%), campus development (43%), internationalization (43%), and income generation (40%).

Excerpts directly taken from the strategic plans exemplify this rationale. Strategic plans are needed to: map out its strategic directions, intended outcomes, performance measures, and communication strategies for dynamic and sustainable improvements (Addis Ababa University 2015, 3), set out the vision and the key strategic directions and corresponding actions and indicators (University of Mauritius, n.d., p. 1), and properly re-engineer its prospects vis-à-vis its programmes, as well as the needs of its internal and larger communities (University of Uyo, 2015, p. 4).

Competitiveness

To seven universities, strategic plans are developed to improve their competitiveness at national, regional, and international levels. Expressions the strategic plans used to articulate this aspiration include: to become one of the best performing universities, one of the leading, to be a leader, and to be the leading. University vision statements clearly embody this concept. However, a closer analysis of the vision statements of the 30 universities reveals the following exclusive categories of ambitions. The classification is based on how the vision statements articulate university aspirations. The classification of rationales is thus based on explicit statements made in the strategic plans.

Continental Aspirations

Universities (47%) envision to become among the best performing in Africa. Terms the strategic plans used to highlight this aspiration include highly ranked African university, a distinguished African university, a preeminent African university, a premier African university, a leading African university, and Africa's university of choice. The ambition is to: be among the top ten pre-eminent graduate and research universities in Africa by 2025 (Addis Ababa University, 2015, p. 9), be an inclusive, engaged and research-intensive African university (University of Cape Town, n.d., p. 6), and become the university of choice in Africa (University of Eswatini, n.d., p.10).

Global Aspirations

Others (37%) aspire to become one of the leading universities globally. Such terms as world class, globally competitive, globally ranked, globally rated, globally leading, worldwide leader, and a university with worldwide acclaim, are used. The aspiration here is to: be a world-class university internationally recognized for its leadership and excellence in teaching, research, creative expressions, and service (American University in Cairo, n.d., p. 2), be a leading research intensive university firmly embedded in the top 100 world universities by 2022 (University of Wits, n.d., p. 5), and be a leading, innovative, entrepreneurial and technologically-driven world class university (Midlands State University, n.d., p. 5).

National Aspirations

To the rest of the universities (17%), the aspiration is to become among the best performing universities in their own countries. But, theoretically, a university with continental and/or global aspirations can also have national aspirations. Terms used include to be a leading university producing enterprising graduates; a leading university in the provision of quality education; a premier university of science and technology; an eminent university driven by pursuit of knowledge, innovation, and social responsiveness; and to be foremost in expanding the frontiers of knowledge. Universities aspire to: be a leading university in the provision of quality knowledge and skills in agriculture and applied sciences (Sokoine University of Agriculture, 2106, p. iv), and become a premier university of science and technology preparing leaders for the knowledge economy (Namibia University of Science and Technology, n.d., p. 29).

Overall, the findings indicate similarities and differences among African universities regarding the rationales behind the articulation of strategic plans, university visions, and strategic pillars. The pattern is that universities aspire to position themselves in qualitatively different ways compared to what their histories tend to implicate. All plan to directly and significantly attend and contribute to emerging realities in their societies and beyond. The modalities and extents of emerging university positionings are but as varied as they are prolific.

Modalities of Emerging University-Society Engagements

As explained in the methods section, the strategic plans of 30 universities are coded and analysed using the three categories and nine indicators such as Mediation (International coordination, Knowledge exchange, External relations), Centrality (Institutional networks, Campus development, Community, Urban orientation), and Difference (Opening access, and New pedagogies and technologies), and 19 items that define modalities of emerging engagements (see Table 1).

As some indicators appear similar, a brief distinction is useful to understand the findings. External Relations refers to specific university connections with public agencies, city plans, or development agendas as linked to the coordination of academic activities and the prioritization of knowledge mobilization. Institutional Networks refers to university linkages with regional and international networks linked to branch or multicampus facilities to shape outreach and program delivery whereas Community refers to strategies universities consider to involve stakeholders and their plans to enhance community relations and processes of place-making.

As the goal of the analysis is to map out emerging university-society engagements by identifying the pattern, tendency and or trends in the data sets, category and indicator average scores are calculated without resorting to statistical significance testing. It is not to the best interest of this study to explain the nature or amount of differences between African regions and universities regarding engagement categories and indicators. The analysis focuses on examining how and to what extent the 30 universities aspire to forge new engagements with their societies.

To render clear logic, the analysis followed a deductive approach, consecutively highlighting engagement modalities at the continental, regional, and institutional levels. The national level of analysis is found not relevant in this study as seven of the 14 countries are represented only with a single university each.

Table 3 indicates the modalities and extents of emerging university engagements at the continental level. The average engagement score for the 30 universities (3.56) lies midway between Explicit, identified priority and Explicit, dedicated engagement. Universities seem to have at least explicitly identified strategies of engagement with their societies. Mediation appears the most prominent dimension of engagement (3.63) followed by Centrality (3.54) and Difference (3.50). The most and least prioritized engagement modalities appear respectively Knowledge exchange (3.83), and Urban orientation (3.33) and Opening access (3.36). These indicators belong respectively to Mediation, Centrality, and Difference. Overall, the universities seem to identify explicit modes and strategies of engagements with their society.

Table 3

Continental Average Scores by Category

Category	Score
Internal Coordination	3.44
Knowledge Exchange	3.83
External Relations	3.63
Mediation average	**3.63**
Institutional Networks	3.66
Campus Development	3.51
Community	3.68
Urban Orientation	3.33
Centrality average	**3.54**

Opening Access	3.36
New Technologies	3.64
Difference average	**3.50**
Grand Average	**3.56**

At the sub-indicator level, Societal challenges justifying mission (3.96) and Capacity building beyond training (3.93)- Mediation; and New pedagogies and technologies (3.90)- Difference; and Interdisciplinarity (2.83)- Mediation, and City university position (2.93)- Centrality- are respectively the most and least prominent engagement modalities, see Table 4. The former indicates that universities have nearly Explicit, dedicated strategies for engagement whereas the latter indicates nearly Explicit, identified priorities lacking dedicated engagement strategies. Universities appear to have Explicit, identified strategies for the rest of the sub-indicators. To have a complete understanding of the extent and modality of engagements across locales, a regional analysis is conducted.

Table 5 reveals that universities in Eastern (3.68) and Western (3.67) Africa appear the most attuned to direct societal development agendas compared to universities in Southern (3.35) and Northern (3.33) Africa. Western Africa seems to lead in Mediation (3.83) and Centrality (3.74) while Eastern Africa seems to lead in Difference (3.66). On the other hand, the least dedicated engagement modalities for Southern Africa is Mediation (3.18) whereas they are Centrality (3.33), and Difference (3.05) for Northern Africa.

Table 4

Continental Average Scores by Indicator

Indicators	Averages
Societal challenges justifying mission	3.96
Research centers opened	3.53
Interdisciplinarity promoted	2.83
Knowledge exchange mechanisms identified	3.73
Capacity building beyond training	3.93
Specific connections prioritized	3.63
Outreach program delivery branch multicampus	3.53
Regional and international organizations as partners	3.80
Open flexible campus spaces	3.50

Stakeholders or customers identified	3.63
Community relations as priority	3.73
City university position as key to mission	2.93
Balance of local, national, and global visions	3.73
Non-traditional students targeted	3.16
Widening participation	3.43
University made more porous	3.50
New technologies for teaching, research	3.90
Open access forums for academic work	3.60
New learning outcomes	3.43
Grand average	**3.55**

More specifically, the two most and least prominent modalities of engagement for Eastern Africa seem respectively Knowledge exchange (3.92) and Community (3.85), and Urban orientation (3.49) and Internal coordination (3.56). Western Africa gives most dedicated priority to Knowledge exchange (4.00) and Campus development (4.00), making the region the most strategically articulated in Africa in those parameters. Its least prioritized engagement modalities include Urban orientation (3.43) and New pedagogies and technologies (2.74). Northern Africa's most and least prominent engagement modalities are respectively Community (4.00), External relations (3.80), Institutional networks (3.80), and New pedagogies and technologies (3.80); and Campus development (2.20) and Opening access (2.30). The most and least prominent strategies for Southern Africa are respectively Knowledge exchange (3.71) and Campus development (3.61); and Internal coordination (2.34).

Table 5

Regional Average Scores by Category

Categories	Northern	Eastern	Southern	Western
Internal Coordination	3.20	3.56	2.34	3.66
Knowledge Exchange	3.70	3.92	3.71	4.10
External Relations	3.80	3.57	3.51	3.75
Mediation average	**3.56**	**3.68**	**3.18**	**3.83**
Institutional Networks	3.80	3.78	3.51	3.68
Campus Development	2.20	3.71	3.61	4.10
Community	4.10	3.85	3.41	3.75

Urban Orientation	3.10	3.49	3.31	3.43
Centrality average	**3.33**	**3.70**	**3.46**	**3.74**
Opening Access	2.30	3.71	3.26	3.83
New Technologies	3.80	3.61	3.51	2.74
Difference average	**3.05**	**3.66**	**3.38**	**3.33**
Regional Average	**3.33**	**3.68**	**3.35**	**3.28**

Interesting commonalities and differences are also noticed when sub-indicators are considered as the units of analysis, see Table 6. Western (seven indicators) and Northern (four indicators) Africa tend to have the greatest number of Explicit, dedicated engagement indicators whereas Eastern and Southern Africa appear to have the least number of fully achieved indicators (two each). Explicit, dedicated priorities are given to: Societal challenges, Stakeholders identified, Community relations, and New pedagogies and technologies in Northern Africa; Capacity building and Stakeholders identified in Eastern Africa; Societal challenges and Capacity building in Southern Africa; and Societal challenges, Knowledge exchange, Capacity building, Open flexible campus, Community, Balance of local/regional/global visions, and New pedagogies and technologies in Western Africa. Whereas Implicit, embedded importance is given to Interdisciplinarity in Northern (2.20) and Southern Africa (2.70). Northern Africa also pays the least Implicit acknowledgment to Non-traditional students (1.60) compared to all the regions. Overall, all African regions seem to have Explicit, identified priorities for most of the indicators of engagements.

Table 6

Regional average scores, by indicator

Indicators	Northern	Eastern	Southern	Western
Societal challenges justifying mission	4.00	3.8	4.00	4.00
Research centers opened	3.40	3.85	3.20	3.75
Interdisciplinarity promoted	2.20	3.00	2.70	3.25
Knowledge exchange mechanisms identified	3.60	3.85	3.50	4.00
Capacity building beyond training	3.80	4.00	3.90	4.00
Specific connections prioritized	3.80	3.57	3.50	3.75
Outreach program delivery branch multicampus	3.80	3.85	3.20	3.50
Regional and international organizations as partners	3.80	3.71	3.80	3.87
Open flexible campus spaces	2.20	3.71	3.60	4.00

Stakeholders or customers identified	4.00	4.00	3.30	3.50
Community relations as priority	4.00	3.57	3.50	4.00
City university position as key to mission	2.20	3.57	2.90	2.87
Balance of local, national, and global visions	3.80	3.42	3.70	4.00
Non-traditional students targeted	1.60	3.42	3.30	3.75
Widening participation	2.40	3.85	3.30	3.87
University made more porous	3.00	3.85	3.20	3.87
New technologies for teaching, research	4.00	3.71	3.90	4.00
Open access forums for academic work	3.60	3.85	3.40	3.62
New learning outcomes	3.80	3.28	3.20	3.62
Grand average	**3.31**	**3.68**	**3.42**	**3.75**

The next question relates to the modalities and prominence of particular engagement categories and indicators at the institutional level. As Table 7 indicates, Explicit, dedicated engagement strategies for Knowledge exchange, Community, and External relations are identified respectively by 22, 21, and 19 universities across the regions. A little more than 50% of the universities do also have Explicit, dedicated engagement mechanisms for Institutional network, Community, and Opening access. National University of Khartoum, University of Cape Town, University of Jos, and University of Mauritius have Explicit, dedicated engagement strategies for Internal coordination whereas Addis Ababa University, University of Mauritius, University of Rwanda, National University of Khartoum, and University of Wits have also Explicit, dedicated mechanisms for Urban orientation. However, University of Tripoli, Bahir Dar University, and University of Zambia have Implicit, embedded importance respectively for Internal coordination, External relations, and Institutional network. Ain Shams University, University of Zambia, and University of Tripoli have Implicit, acknowledgment respectively for Opening access, Internal coordination, and Urban orientation. Finally, strategic plans of Ain Shams University and University of Tripoli left no clear evidence of engagement mechanisms respectively for Campus development; and Campus development and Opening access. Of all the universities, it is only the University of Pretoria and University of Stellenbosch which have not achieved the full Explicit, dedicated status in any of the nine categories. Indeed, they have attained an Explicit, identified priority in all the categories but lacking clear evidence of specific mechanisms to develop an emerging institutional positioning.

However, this study focuses only on the pattern and trend that cut across institutional, and regional boundaries. Explaining differences among institutions and regions regarding engagement modalities is beyond the scope of the study. The major findings of the study are discussed below considering the analytical frameworks and other literature.

Table 7

Institutional Average Scores by Category

University	IC	KE	ER	IN	CD	CO	UO	OA	NP
American University Cairo	3.00	3.50	4.00	4.00	4.00	4.00	3.50	3.66	4.00
Ain Shams University	3.33	4.00	4.00	3.50	0.00	4.00	3.50	1.33	3.66
Benha University	3.66	4.00	4.00	4.00	4.00	4.00	3.50	4.00	4.00
British University in Egypt	3.66	4.00	4.00	4.00	3.00	4.00	3.00	4.00	4.00
University of Tripoli	2.33	3.00	3.00	3.50	0.00	4.00	1.50	0.00	3.33
Addis Ababa University	3.33	4.00	4.00	4.00	4.00	3.50	4.00	4.00	4.00
Bahir Dar University	3.33	4.00	2.00	3.50	4.00	3.50	3.00	3.00	2.33
Haramaya University	3.00	3.50	3.00	3.00	3.00	4.00	3.00	3.33	3.66
University of Mauritius	4.00	4.00	4.00	4.00	4.00	3.50	4.00	4.00	4.00
University of Rwanda	3.66	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
National University of Khartoum	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.66
Sokoine University of Agriculture	3.66	4.00	4.00	4.00	3.00	4.00	3.00	3.66	3.66
Namibia University of Science and Technology	3.66	4.00	4.00	4.00	4.00	4.00	3.00	4.00	4.00
University of Cape Town	4.00	4.00	4.00	4.00	4.00	4.00	3.00	3.00	3.66
University of Pretoria	3.33	3.00	3.00	3.50	3.00	3.00	3.00	3.00	3.66
University of Wits	3.66	4.00	4.00	3.50	3.00	3.50	4.00	3.00	3.33
University of Johannesburg	3.66	3.50	4.00	4.00	4.00	3.00	3.50	3.00	3.66
University of Stellenbosch	3.33	3.50	3.00	3.50	3.00	3.00	3.50	3.00	3.66
University of Eswatini	3.00	3.50	3.00	3.50	4.00	3.00	3.00	4.00	3.66
University of Zambia	1.66	3.50	4.00	2.00	4.00	3.00	3.50	3.33	3.66
Midlands State University	3.66	4.00	3.00	4.00	4.00	4.00	3.50	3.66	3.33
University of Zimbabwe	3.00	4.00	3.00	3.00	3.00	3.50	3.00	4.00	4.00
University of Cape Coast	3.66	4.00	3.00	4.00	4.00	3.50	3.50	3.66	3.66

University of Education	3.66	4.00	3.00	3.00	4.00	4.00	3.50	4.00	3.66
University of Ghana	3.66	4.00	4.00	3.50	4.00	4.00	3.50	4.00	3.66
University of Jos	4.00	4.00	4.00	4.00	4.00	3.50	3.00	3.00	3.66
Kwara State University	3.6	4.00	4.00	3.50	4.00	3.50	3.50	4.00	3.66
University of Nigeria	3.66	4.00	4.00	4.00	4.00	3.50	3.50	4.00	3.66
University of Uyo	3.66	4.00	4.00	4.00	4.00	4.00	3.50	4.00	4.00
Ilorin University	3.33	4.00	4.00	3.50	4.00	4.00	3.50	4.00	4.00

Notes: IC- Internal coordination; KE- Knowledge exchange; ER- external relations; IN- Institutional networking; CD- Campus development; CO- Community; UO- Urban orientation; OA- Opening access; NP- New technologies and pedagogies.

Discussion and Conclusion

Socio-cultural, economic, and political needs and challenges of societies appear the key drivers of the development of university strategic plans. Showcasing university societal relevance and significance, strategic plans analyze at length the UN Sustainable Development Goals (SDGs), the African Union 2063 Vision, and country visions and strategies for meeting the SDGs by 2030. Universities position themselves as important actors in the realization of community, state, provincial, national, regional, and global goals for sustainable development. They are thus looking both within and beyond their geographic locales and defining society as broadly as per the dictates of globalization, internationalisation, liberalization, and democratization. That is partly why most universities (84%) envision to become among the leading institutions in Africa and globally. For focus and prioritization, such strategic pillars as quality education, impactful research, innovation and technology, partnerships, and internationalization are identified.

Varied and prolific strategies are identified for societal engagement. Universities have explicitly identified strategies for the production and transfer of scientific knowledge (Mediation); for creating networks and partnerships at community, national, and international levels (Centrality); and for engaging varied stakeholders in university governance (Difference). Overall, universities redefine their major functions (the academic core such as education and research) in line with emerging societal needs and challenges. Specifically, societal challenges seem to justify university mission (3.96), universities aspire to build their capacities beyond basic training (3.93), new technologies for teaching and research are identified (3.90), and regional and international partners are identified (3.80).

Most universities seek to improve their societal relevance and significance by becoming more entrepreneurial, in Clark's (2004) and Etzkowitz's (2014) usage of the term. Strategic plans portray universities as corporate entities, stakeholders as clients, and communities as markets. Teaching, research and service are expected to directly and substantially respond and contribute to market needs and challenges. This is partly in line with such theoretical explanations of emerging university-society engagements as Mode 2 (Nowotny et al., 2003, 2006); Mode 3 (Barnnet, 2004; Carayannis & Campbell, 2006; and Rhoades & Slaughter, 2006); and academic capitalism (Slaughter & Rhoades, 2009). These theoretical frameworks and university strategic plans seem to primarily elucidate on the economic interests of universities. The notion of entrepreneurial universities becoming self-determining and innovative (Clark, 1998, 2004) seems to finally take some traction among the studied African universities, but not necessarily with the sole purpose of increasing income as they also aspire to reach out to society in what Clark refers to as expanding the developmental periphery.

The findings also fit into Etzkowitz and Leydesdorff (2000) Triple Helix but not the statist model where the state directly dominates the other two helices. Rather, universities seem to take strategic lead in this somewhat developing university-industry-government partnership and collaboration. The Quintuple Helix model adding "natural environments of society" and media-based public and civil society to the Triple Helix (Carayannis & Campbell, 2012, p. 20) also appear consistent with the findings. Such Mediation and Centrality indicators as external relations, stakeholder participations, institutional networks, community relations, and urban orientations are clear instances of the relevance of the Quintuple Helices to the studied African contexts. However, the influence of the state as the primary duty bearer and funder may not be underestimated, and HE operates within the purview of prevailing laws, regulations and policies.

Overall, the findings seem to mirror what Pinheiro et al. (2015) referred to as university strategic responses to societal needs. The findings seem consistent with Winberg's (2006) finding that South African universities are keen and responsive to social development issues including the environment and sustainability. Strategic plans consider university-society engagements as the core functions of universities and if successfully practiced, the marginal and fragile situation of university-society engagements reported in some studies (Cloete & Maaseen, 2015; Ogunsanya, Olajumoke, & Govender, 2019) may not hold much longer for most universities. Otherwise, evidence of marginality in university-societal engagement for some of the universities studied may

be confirmative of case study findings (Mugabi, 2015; Ofoyuru, 2018) which portend that university society engagement in two case universities may indeed be fragile with weak institutional support.

This emerging development in the studied universities could also be generally compared to the 115 London and New York university-society engagements linked to Mediation, Centrality, and Difference (Addie, 2018). The international transfer of policy ideas including strategic planning could contribute to the isomorphic nature of emerging university-society engagements in London, New York, and Africa. However, African universities cannot yet claim to have fully developed mechanisms for strengthening their societal engagements. Indeed, with the current evidence of intent to engage with society in many strategic ways and defining society broadly beyond their regular students and campus, they do not qualify as ivory towers anymore. The articulation of societal goals in their strategic plans points to the long-held aspirations of African states to use HE as an engine for socio-economic transformations (Frempong, Mohamedbhai, & Addy, 2014).

Based on the foregoing discussions, the following conclusions could be drawn. One, universities appear to primarily adopt the embedded approach to societal engagements. Instead of having a third mission dedicated for community service, the academic core (teaching, learning, and research) is conceived to embody societal goals. In instances where the third mission is maintained, community service is reduced to education consulting. Two, community or society is broadly defined to include such locales that presumably fall under university spheres of influence as cities and towns, districts, states, provinces, countries, regions/continents, and the world society at large. This exemplifies the local and universal or global nature of universities as institutions. Three, although societal goals presumed to rationalize emerging engagements, universities shoulder economic interests where education and research are branded as commercial services. This could be considered as a survival strategy amidst dwindling funding, massification of HE, and competitions at national, regional and global levels. Four, as stakeholders at several levels are recognized as important allies in conceiving and promoting emerging engagements, university governance seems to become more inclusive, participatory, democratic, and transparent. The state control of African HE that prevailed for decades seems to be seriously challenged.

The nature of emerging university engagements in Africa as embodied in strategic plans could be finally explained by Micelotta, Lounsbury, and Greenwood's (2017) model of institutional change processes. One, changes in the studied universities are more of evolutionary than revolutionary in nature, as they are triggered by "societal changes and/or the intentional introduction by change agents of modest innovations" and as changes unfold through "persuasive

embedding and consensual pragmatic collaborations" that do not interrupt institutional logics (p. 13). The development of strategic plans themselves involves multiple stakeholders and intentional analyses of macro, meso, and micro-level societal conditions that results in the consensual and collaborative rearticulation of university core functions. Two, changes appear transformational as "shared understandings, which define what is accepted and valued in the field, are overturned or significantly altered" (p. 13). Such university core functions as teaching, research, and community service as well as governance styles are substantially reconceived to presumably more directly and significantly respond and contribute to societal needs and challenges. Overall, to become more socially relevant and significant, universities reposition themselves by introducing evolutionary but transformational changes to their academic core.

This configurative study should be useful in catalyzing future research and discussions on this timely and significant topic of emerging university-society engagements in Africa. Although strategic plans as data source are found efficacious in answering the study questions and reflect universities' best strategic intentions, they do not per se reveal action, practice, and or impact. It would thus be worthwhile to collect empirical data or interrogate other documents such as annual reports which could be more potent in revealing actual implementation and impact.

This study offers a continental perspective considering 30 universities only. Similar studies involving many more universities from all the five African regions and considering their socio-cultural, economic, and governance dimensions in details are yet to follow suit. Studies on institutional autonomy, academic freedom, and quality regulation and assurance within the contexts of emerging dynamics of university-societal engagements are also warranted.

Theoretical and analytical frameworks other than Modes 2 and 3 knowledge production, the entrepreneurial university and the helices models may be considered in extending the debate. Institutional phenomenological theories, critical discourse analysis, and frameworks on policy transfer could deepen our understanding of emerging university engagements with society.

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Book Review

Education Abroad: Bridging Scholarship and Practice by Anthony C. Ogden, Bernhard Streitwieser, and Christof Van Mol. Routledge: New York, 2020. 247 pp. $35.96 (paperback). ISBN 978-1-138-36428-8.

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In Education Abroad: Bridging Scholarship and Practice, co-editors Anthony C. Ogden, Bernhard Streitwieser, and Christof Van Mol set out to create a helpful desktop reference for new professionals and emerging scholars of international higher education. The purpose of the book is to synthesize existing research in the growing field of education abroad into one place and to set directions for future research. The book analyzes five key topics: participation, programming, student outcomes, institutional outcomes, and societal outcomes. Each topic is divided into subtopics, identifying for each subtopic existing literature, implications for practice, and areas of needed further study. As relative newcomers to the field of international education ourselves, we overall found it to be approachable and accessible. A succinct yet thorough introduction to the field at only a little over 200 pages, it will certainly serve as a useful reference and springboard for further research throughout our academic and professional pursuits. Seasoned practitioners will value it as a resource to help make research-backed decisions for their practice. The book also recently earned the Association for the Study of Higher Education's Council on International Higher Education Award for Significant Research on International Higher Education. The impact of the coronavirus pandemic has undoubtedly changed the face of the field since this book was written, but it is still useful as a guide to the existing research and emerging research questions from right before the pandemic hit.

This publication was an international endeavor, as Ogden and Streitwieser are both U.S.-based and Van Mol is based in the Netherlands. The contributing authors of each section also represent a wide range of countries as we discuss below. This book embodies its own principles by being a product of international research partnerships and including diverse perspectives from multiple countries. This is important because it aims to provide a global overview of scholarship on international education, rather than one that is over-concentrated on the U.S. and Europe. For example, the chapter on global

citizenship, identity, and intercultural competence that was co-written by Doerr (United States), Puente (Spain), and Kamiyoshi (Japan) is enhanced by a case study from Japan, a country with a conservative immigration policy, examining the relationship between a lack of young skilled workers, attitudes about accepting immigrants, and the significance of study abroad participation. International partnerships and research collaboratives are part of the larger picture of international education of which the book's topic of education abroad is a part. As scholar practitioners who educate students from abroad and lead short-term educational trips abroad (at least in Streitwieser's case), the editors demonstrate the interconnectedness of the many aspects of international education as well as their personal investment in the improvement of the field.

Within each of the five main topic areas of the book is an introduction by the editors and two to five literature reviews on specific subtopics related to the section. The chapters are designed to be easy to read and reference, with key highlights indicated in bullet points at the beginning of each chapter. All follow the same template of introduction, literature review, implications for practice, directions for future research, further reading, and references. The structure lends itself well to the book's purpose of being a desktop reference, as readers can quickly locate specific topics of interest and gain an understanding of them in a digestible format.

There were certain chapters and sections of this book that stood out to us. Chapters 13 and 14 provided necessary conversation on the social implications of education abroad. These chapters will be of use to individuals who aspire to be critical of the implications of education abroad. On college campuses, we often see posters and study abroad fairs that market the endless benefits and opportunities for students when they pursue education abroad. In Chapter 13, van Gaalen, Huisman, and Sidhu discuss the many undesired consequences of Education Abroad. They argue that "education abroad may homogenize rather than diversify education" as higher education institutional relationships prefer and market "like-minded" institutions from certain nations with a set curricula and language to their students (p. 204). Also, education abroad can have negative effects on environmental sustainability from the high carbon footprint associated with air travel (p. 204). Finally, education abroad can promote further inequality among students by giving distinction to already privileged students rather an opportunity for all. These criticisms introduce fresh lenses such as environmental sustainability, and the valuing of indigenous knowledge to evaluate the outcomes of education abroad, providing us with more tools for our analytical toolboxes and widening our perspectives. This critical perspective needs to be more present on college campuses and especially in education abroad offices. International education practitioners should bring many of these honest criticisms to education abroad fairs so that students

and faculty can make informed decisions in how their money and participation may affect the homogenization of education.

Chapter 14 expands this conversation of societal impacts by exploring the impact of mobile students on host communities' politics, culture, education, and economics (p. 249). Ziguras and Lucas advocate for "reciprocity" and "mutuality" in education abroad programs between visiting and host nations (p. 255). By reframing the question: "What do the students and institutions want in education abroad?" to "What do host communities want and need in education abroad?", we are creating a more thoughtful space to lift host community institutions', families', and individuals' narratives and perspectives on education abroad. Both these chapters dive into the global implications and unintended consequences of education abroad that are very rarely discussed among students and professors outside of the field of Comparative International Education. By including these critical perspectives in this book, the authors ensure that they are treated as an integral part of the body of literature on education abroad, introduce them early to new professionals who may be using the book as a reference, and hopefully inspire other researchers to act on the calls for further research in these areas.

Another particularly illuminating section was on institutional outcomes, especially curriculum integration and faculty engagement. Chapters 11 and 12 will be of immediate use to practitioners designing comprehensive internationalization strategies. For example, contributors Leask and Green in Chapter 11 look at studies on the importance of collaboration between faculty, students, learning designers, and international office staff in developing teaching and learning practices for internationalization at home. Meanwhile, in Chapter 12, Leask, Whitsed, de Wit, and Beelan propose new ways to look at the nature of engagement when it comes to faculty involvement in integrating education abroad into the broader institutional strategy. They challenge assumptions about faculty disengagement and advise approaching engagement through cognitive, emotional, and behavioral dimensions. Internationalizing the curriculum brings some of the benefits of education abroad to students who do not have the resources or ability to study abroad, while engaged faculty impact how students use, make sense of, and integrate their education abroad experiences (p. 170, p. 186). The advice contained in these chapters will be more important than ever as institutions strive to reach more students with less resources as they balance the value of accessibility of intercultural experiences with the funding, health, risk management, and other challenges that have been exacerbated by the coronavirus pandemic.

The authors deliberately sought a diverse group of contributors representing expertise from around the world. The 37 contributing authors hail from a dozen different countries, although those

from the United States still more than double those of the second-most represented country, Australia. To enhance geographical diversity, the book could have benefitted from more perspectives representing countries in Africa, the Middle East, and Latin America. However, the authors state in the conclusion that contributors "reported significant difficulties in finding and covering solid scientific studies in other contexts, such as Africa or South America" (p. 235). Contributors may have benefitted from looking at, for example, the work of Peace Gineka Nwodeki (2020) on international student experiences in South Africa. Research from a wide variety of geographic locations leads to a richer understanding of international education, and its similarities and differences across national contexts.

Although this book specifically has sections labeled "Implications for Practice" in each chapter, there are few examples of specific educational institutions, programs, or international education practitioners mentioned. For example, in Chapter 3 titled Program Types, Moore, Menlove, and Pisano describe what type of program design structure is most effective for students and faculty; however, they do not mention any specific pre-existing program designs that balance "structure" and "support." Perhaps no specific institutions, programs, and people were mentioned because the authors did not want to express favoritism and wanted to focus on theory. However, providing example institutions, programs, and quotes from faculty and students in international education would enrich and celebrate the many great actors in international education and could make the book more approachable for those who are turned off by theory.

Overall, Education Abroad: Bridging Scholarship and Practice is a useful resource for experienced to novice education abroad professionals that want to understand pre-existing research, theory, and vocabulary in their field. We found it to be expansive, succinct, and easy to read. The book's glossary makes it easy for readers to navigate and find sections relevant to their interests. Although this book was written before the pandemic, it still serves as a guide for practitioners rebuilding their programs in the wake of the pandemic or innovating new ways to imagine education abroad, as well as set a foundation for scholars looking to compare how education abroad has changed after the disruption caused by the novel coronavirus. We believe this book will inspire thoughtful conversation and relationships between education abroad practitioners and scholars as the world tackles new challenges caused by the global pandemic in international education and other current, emerging, and future challenges such as those caused by climate change.

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