Table of Contents

Revisiting Cambodian private tutoring: insights into teachers' professional misconduct

Sopha Soeung[a]
Hiroshima University

Abstract: *Cambodia uses a 'discouragement' strategy to manage teachers' engagement in supplying private tutoring (PT). However, previous studies have criticised teachers' professional misconduct in terms of promoting tutoring classes to ensure supplementary income. Currently, examination reforms alongside economic growth propose a new understanding of professional misconduct. Based on descriptive data from 93 students and in-depth interviews with 24 informants, who were tutees and their parents, tutors and school administrators respectively, this study found uncaring pedagogies to be a primary motivator for tutoring demand. This tended to have an association with the inadequate instructional time given to core examination subjects and implementation of the learner-based approach. Additionally, the examination reform brought positive changes in the teacher's behaviour. Although this study's findings are largely aligned with previous studies, it still sheds light on new perspectives regarding teachers' professional misconduct in Cambodia.*

Keywords*: Cambodia; shadow education; supplementary tutoring; teaching profession; urban areas*

Introduction

Education is globally acknowledged as public good whereby each government is expected to give very fair treatment to every citizen regardless of their family economic status and background. It is, additionally, an investment for the development of the nation. However, the existence of private tutoring (PT) creates inequality for individuals towards obtaining a quality education in the eyes of educational stakeholders, mainly in countries in which schoolteachers provide fee-paid tutoring. Heyneman (2009, 2011) argues that offering PT to the students for whom teachers are responsible in mainstream schools is a corrupt practice in education. This, furthermore, can downplay teaching professional standards and leads to professional misconduct. Due to the great expansion of PT and its impacts, researchers constantly alert educators and policymakers at the international level to take relevant actions towards improving the quality and equality of education (Mori & Baker, 2010). Each country/region employs different regulations/guidelines to regulate PT. Cambodia, China, Georgia, Lebanon and Nigeria use professional codes of conduct referred to as 'discouragement' to deter teachers from engaging in PT. Other regulations/guidelines namely 'permission if approved' in Brunei Darussalam, Malaysia, Singapore, Vietnam, 'laissez faire' in Hong Kong SAR, Philippines, Thailand and 'officially prohibit' in Bhutan, Japan are also implemented (Bray & Kwo, 2014; Liu & Bray, 2020).

Incidence of Private Tutoring and Professional Misconduct

Biswal (1999, p. 238) reveals prevalent causes of PT in developing countries, namely low salaries, limited accountability and weak monitoring system. For example, teachers engaged in private

a Correspondence can be directed to: soeungsopha@gmail.com

activities inside mainstream classrooms such as selling snack in the Tanzanian context either for personal benefits or to secure their family's needs (Betweli, 2013, p. 89). There have also been instances where teachers sold test papers, forced parents to pay for PT and in some cases for passing grade adjustments in Southeast Europe, the former Soviet Union as well as in China, Malaysia and Vietnam (Hallak & Poisson, 2007; 2008; Rumyantseva, 2005). Similarly, in Latin America, teachers forced students to pay if they wanted to move to the next grade (Heyneman, 2009).

Heyneman (2009, p. 3) points these behaviours (i.e., biasing in grading and assessing, forcing students to take tutoring lessons and buy some materials as well as using school properties for personal benefits, etc.) as professional misconduct, and considers it as one of the corrupt ways in education. Similarly, Bray (2003, p. 27) also emphasizes ways in which teachers abuse their position over their students for personal gains as corruption; for example, withholding contents and accepting a bribe to promote students to the next grade. Subsequent literature (i.e., Banfield, Richmond, & McCroskey, 2006; Kelsey, Kearney, Plax, Allen, & Ritter, 2004; Zhang, 2007; Zhang, Zhang, & Castelluccio, 2011) also highlights how professional misconduct interferes in students' learning as well as impacts on parents' trust in teachers' profession and schools (Liu & Bray, 2020; Page, 2016). Furthermore, professional misconduct spawns not only the poor quality of education at the mainstream schools but also puts students whose families are unable to pay teachers for these extra services at a disadvantage. It, moreover, reduces their opportunity to obtain benefits from this free public good.

Cambodia's Responses Towards Incidence of Private Tutoring

Cambodia has been committing its best to respond to teachers' low salaries and strengthen its education system. Newly employed upper secondary schoolteachers' basic salaries have been, so far, increased around 68% during a 10-year time (2010 to 2020) (MoEYS, 2009; 2019a). Yet, teachers claimed that they were unable to meet the family needs due to the simultaneous increase in living costs (Dawson, 2009; Khy, 2019). In 2001, the Cambodian Ministry of Education Youth and Sport (MoEYS) launched the Priority Action Programme (PAP) nationwide to implement a free education policy by abolishing school registration fees and all types of informal payment such as purchasing test papers, learning materials and teachers' gift as well as paying daily fee including tutoring lessons (Bray & Bunly, 2005; Brehm & Silova, 2014; Dawson, 2010). It is worth highlighting that MoEYS attempted to stop PT in the mid-1990s (Dawson, 2009). Keng (2009) reports that those programmes and attempts boosted the enrolment rates and further empowered the schools. However, she highlights that schools faced other hindrances such as the PAP program failing to improve the quality of education (pp. 149-150).

Teachers catered for supplementary income by attempting to increase the number of tutees at their tutoring classes by all possible means. Parents feeling concerned about their children's learning and future viewed investing in PT as a necessity (Bray & Kwo, 2014, p. 27) and a kind of human capital investment (Heyneman, 2011, p. 184). MoEYS amended Articles 13, 17, 25 and 27 of the Ethics Code for the Teaching Profession in 2008 to respond to teacher professional misconduct. These articles address prohibition towards private gains during mainstream school hours as well as forcing students for PT (MoEYS, 2008). These amendments can be linked to the term 'discouragement' defined at the beginning of this paper. However, the main question to be posed is whether this strategy is serving its purpose effectively.

Professional misconduct has been claimed and believed to spawn tutoring demand in Cambodia for more than two decades. However, this paper hypothesizes that the examination reform alongside economic growth may develop new thoughts about professional misconduct towards PT. This new paradigm in Cambodia can be one of the significant examples of tutoring practice in developing countries. This paper attempts to answer the following question through conflating descriptive and narrative information: what are Cambodian twelfth graders' perceptions of teachers' professional misconduct further to the national examination reform?

Findings on Private Tutoring in Cambodia

Cambodian MoEYS attempted to ensure equal opportunity in accessing education and obtaining quality education by building more schools, raising teachers' salaries and implementing a free education policy. However, the quality of education shrank further to a rapid increase in school numbers and the inability to supply sufficient qualified teachers (Brehm & Silova, 2014). Therefore, parents and students demanded PT as a complement to maximize their chances to succeed in the examinations.

There were three main reasons behind Cambodian teachers offering PT namely insufficient instructional time to complete the intended curriculum, large class size and inability to sustain on the government salary (Bray, Kobakhidze, Liu, & Zhang, 2016; Brehm, Silova, & Tuot, 2012; Dawson, 2009; 2010). In this regard, previous studies pointed out some cases of professional misconduct being practised in the Cambodian context. Teachers withhold curriculum contents to secure supplementary income by offering PT to their students (Bray, 1999a; Dawson, 2009). Also, teachers focused more on theories/formula during the mainstream hours but did more practices in PT classes only (Brehm & Silova, 2014). Some teachers applied effective and caring pedagogies only during PT classes as a strategy to promote demand for PT (Bray, et al., 2016; Bray, Kobakhidze, Zhang, & Liu, 2018). Bray (2013) pointed out that students who did not pay for PT were likely to repeat their grade because schoolteachers were responsible for designing and rating the end-year examinations. In addition, teachers were more inclined to favour their tutees not only during classroom learning activities but also for examinations by giving them more care, emphasising tests during PT prior to the test date and giving tutees higher scores (Bray, et al., 2016; Bray, et al., 2018; Bray, Liu, Zhang, & Kobakhidze, 2019; Edwards, Le, & Sustrarsic, 2019). Some teachers would also allow tutees to cheat during the examinations as well as make fun of non-tutees in class (Maeda, 2019). Conceptually, these cases of professional misconduct from previous literature on PT discussed above mainly combined two aspects, namely teacher's *unethical behaviour* (e.g., allow tutee to cheat, mock students) and '*uncaring pedagogies*' (e.g., withhold contents, teach only theories).

Impacts of Examination Policies and Reform in Cambodia

Examination eliminating policy is seen as one determinant contributing towards expanding PT demand as well as professional misconduct in Cambodian classroom (Brehm, 2015; Dawson, 2010). In 1997, Cambodia abolished the leaving examination at the primary education level to increase the completion rate of basic education to realise the goals of Education for All. Nevertheless, this policy generated more corrupt practices since class teachers functioned as test designers, exam invigilators and test raters. The elimination of Cambodian sixth grade leaving examination increased the demand towards PT like cases of 'equalisation policies' in South Korea and 'relaxed education' policies in Japan (Dawson, 2010, pp. 21-22). Teachers favoured the students who followed tutoring classes with them. Furthermore, parents thought that their children were likely to fail the grade or be penalized if they did not opt for PT with their class teacher (Bray, 1999b; Bray, 2013).

There are few empirical studies on the impacts of the 12th-grade national examination reform since it was launched nationwide in Cambodia in 2014. The main principles of the reform are the legal basis, justice, transparency and accepted results which aim to ensure that only qualified students pass (MoEYS, 2019b). During the year of examination reform, the passing rates of the 12th-grade examination sharply declined from 83% (2012/2013) to 26% (Koyanagi, 2017). However, the passing rates gradually improved in sequential years up to 68.62% in 2019 (MoEYS, 2019c). It is worth highlighting that result of 12th graders (passed or failed) is just based on how well students perform in the tests during the national examination days. Prior to the examination reform, the achievement from school-based examinations was adjusted and added to the sum scores of the national examination (MoEYS, 2013). Teachers were, thus, able to generate supplementary income through PT by emphasising some parts of tests before the test dates (Brehm, et al., 2012). This practice was seen as an effective strategy to attract students to opt for PT. Those who could afford

PT thus hoped to maximize their chances for higher scores in the school-based examinations (i.e., monthly tests and semester exams) unlike their peers who could not afford (Bray, et al., 2016; Bray, et al., 2019; Brehm & Silova, 2014; Edwards, et al., 2019).

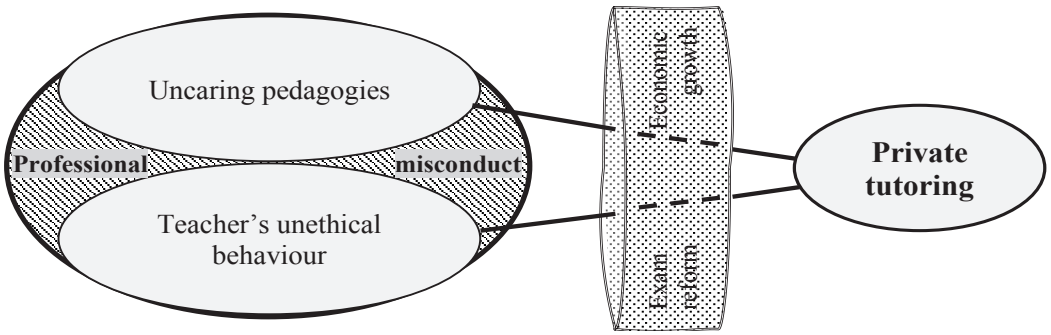
In an attempt to eliminate the bribery to cheat during the national examination days, MoEYS doubled the wage of 12th-grade examination proctors. Therefore, MoEYS delegated the organisation of the 9th-grade national examination to individual schools (Kuch & Blomberg, 2014). Besides increasing the wage of proctors, MoEYS could save around half of the 9th-grade examination budget (Barron, 2014). Nonetheless, Kuch and Blomber (2014) reported that this situation increased more corrupt practices at the mainstream schools resulting in the financial burden going into the hands of households as families are called to invest more in PT while MoEYS is saving on its budget.

Economic Growth in Cambodia

Recently, Cambodia has been committing towards developing itself into an upper-middle-income country by 2030. After a long economic fluctuation from 1995 to 2009, Cambodia remarkably improved its Gross Domestic Product (GDP) from 6% (2010) to 7.5% (2018) (World Bank, 2019). Although its GDP slightly declined by 0.4% in 2019, Cambodia maintained its GDP as high as it was in 2014. This GDP increase can be marked as the growth of the middle-class population. Middle-class and rich households tended to demand better quality education (Hanushek & Wößmann, 2007; Khiev & Ty, 2011). During the school year 2018/2019, 5.50% of upper secondary school students attended private schools while 23.51% of total urban students enrolled in private schools nationwide (MoEYS, 2019d; 2019e). Findings from some countries show household income or family socioeconomic status and urban location as factors influencing demand for PT (Dang, 2013; Dang & Rogers, 2008; Kwok, 2010).

This study constructs a conceptual framework aiming to assess the significance of the relationship between professional misconduct and PT. Examination reform alongside economic growth is seen as factors that may potentially influence this relationship. Professional misconduct constitutes several elements (see Heyneman, 2009). However, the conceptual framework shown in Figure 1 focuses on two elements of professional misconduct namely: *uncaring pedagogies* and teacher's *unethical behaviour* to serve the purpose of this study.

Figure 1. Conceptual Framework



Materials and Methods

This study employed an explanatory sequential mixed method for data collection to question professional misconduct and PT in Cambodia. Quantitative data was first collected and followed by qualitative data to probe for in-depth reasons on the central phenomenon or any extreme cases (Creswell & Creswell, 2018). Both phases for data collection were conducted online during school closures due to the COVID19 pandemic (MoEYS, 2020). Due to the fact that PT has a significant

association with high-stakes examinations as well as the diploma-granting grades (Bray, 2009; Bray & Lykins, 2012; Bregvadze, 2012; Dang, 2007; Elbadawy, Assaad, Ahlurg, & Levison, 2007), this study narrowed its scope to 12th-grade students. This is the only grade of Cambodian general education where students are required to sit for the national examination.

The first phase of data collection started from late March to late April 2020. The online survey was sent out through social media applications to six 12th grade classes, which were chosen by a cluster random sampling method, in all three urban upper secondary schools located in a province whose poverty rate (17.7%) was a median of other 23 provinces in Cambodia. According to the Cambodian Ministry of Planning's data on Identification of Poor Household, as cited by Sok and Chhinh (2018), Phnom Penh Capital with a poverty rate of 9% and another province having a poverty rate of 37.1% were considered as outliers. Thus, they were removed prior to the research site selection process.

The survey questionnaire consisted of 16 statements ($\propto$=.826) that were used to seek Cambodian 12th graders' perceptions of their teachers' *uncaring pedagogies* and *unethical behaviour* during mainstream hours as well as of their mainstream schools. There were 9 statements about uncaring pedagogies starting from statement 2 to 9 and 12. Four statements were related to teachers' unethical/ethical behaviour, namely statements 1, 10, 11 and 13 while the last three statements were about their schools. Participants were asked to choose one out of the five scales *(strongly disagree= -2, disagree= -1, neutral= 0, agree= +1 and strongly agree= +2)* for each statement which best represented their perceptions. Before this, respondents were asked to estimate the percentage of their classmates who were taking PT during 12th grade by selecting one choice *(0%, 1-20%, 21-40%, 41-60%, 61-80%, 81-100%, Don't know)* that applies to them. This scale was adopted from Bray and Kwo (2015, p. 174). The questionnaire was translated into Khmer (local language) and proofread by the researcher's colleagues who specialized in Khmer subject for feedbacks mainly in terms of content before it was sent to the participants. As a result, 93 tutees, accounting for 37.50%, out of the total 248 twelfth graders responded to the survey. Twenty-seven respondents declared that both they and their parents were willing to participate in the interviewing stage. Prior to the data analysis, collinearity and reliability were checked and calculated (refer to Appendix A).

After obtaining results from the survey, the researcher conducted online semi-structured interviews during May and June 2020 to probe the central phenomenon and explain the descriptive results. Informants were from different educational stakeholder groups as well as tutoring actors as seen in Table 1. Interviewed tutees were randomly selected from the questionnaire among those who stated to voluntarily participate in the next process. Then the researcher conducted interviews with each tutees' parent separately. Since there was no data/record available about tutors, snowball sampling was done to select teachers as a tutor in each selected school. The first tutor in each school was introduced by one of the tutees in that school. In an attempt to seek if schoolteachers used their authority to force students to opt for PT, one school administrator from each selected school was invited to be the informant. As Page (2016) explains that despite teachers' misbehaviours being covertly performed, school administrators were still aware of the same. Consent forms to record (video calls) and use data were received from all interviewees.

Table 1: Types and Number of Samples

School ID	Total selected students	Returned surveys	Informants for interviews *(n= 24)*			
	total	*Tutees*	*tutees*	*tutee's parents*	*tutors*	*school administrators*
US1	83	22	2	2	3	1
US2	75	26	2	2	3	1
US3	90	45	2	2	3	1
	248	(n=93)	6	6	9	3

Prior to the content analysis stage, recorded interviews were transcribed, and transcripts were verified with some informants in the event the researcher would like to clarify some information or some local dialects. Two fundamentals of content analysis – conceptual and rational analysis, were used. Conceptual content analysis was employed to code concepts based on words and phrases frequently appearing in the scripts. Then rational content analysis was used to examine the relationship of the analysed concepts (Busch, et al., 2012).

Results

This paper aims to revisit Cambodian 12th graders' perspectives on professional misconduct in PT. Results from the survey followed by interview responses will be presented. Furthermore, those results will be compared to findings from previous studies in this section.

Percentage of Tutees and Investment

Figure 2. Estimated Percentage of Students Opting for PT

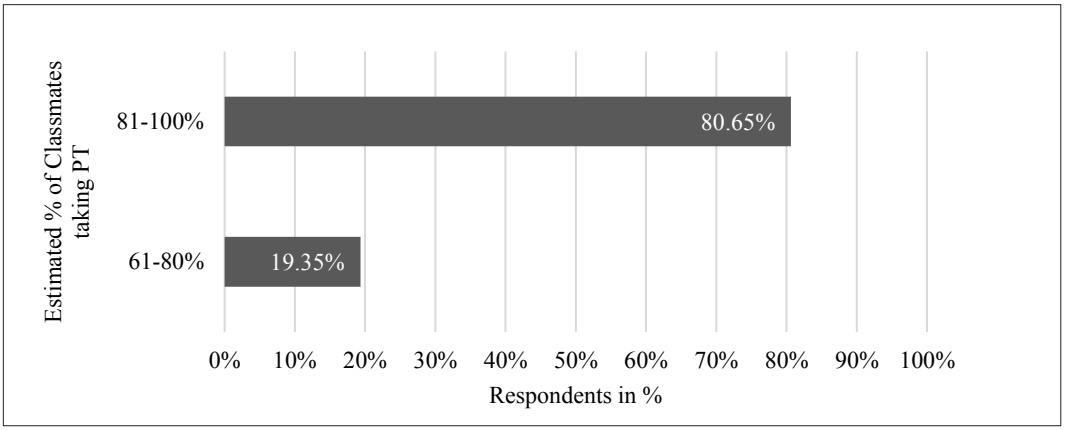


Figure 2 illustrates that majority of Cambodian grade 12 students invested in PT. This finding was aligned with that of previous studies in other contexts such as Vietnam and Egypt (Dang, 2007; Elbadawy, et al., 2007). About 81% of the respondents claimed that 81-100% of their classmates opt for PT while the remaining 19% responded that 61-80% of their classmates opt for PT. These results indicated that most students tended to view PT at this grade as mandatory for them to succeed in the national examination although they had to invest both time and money (Edwards, et al., 2019). Students in the social science strand spent about 40 hours in PT per month whereas their peers in the science strand spent about 100 hours per month. This required households to spend about US$ (Dollars) 10 to US$25 (US$1=4,000 Cambodian Riel) per child per month on average for PT excluding English tutoring.

> This [year] is my exam year. I have to take PT […]. I am taking [PT] five subjects. I study mathematics, Physics and Chemistry for one hour per day, and I study only 2 days per week for Khmer [literature and composition] and Biology by taking 2 hours in a row for one day. […] I pay 1,000 Riels (US$.25) per hour for all [tutoring] subjects. (tutee [science] 3)

> […] I spend 3 hours and 3000 Riels (US$.65) per day for PT. I am taking only Khmer and mathematics, but I have two [tutoring] classes in mathematics. Teachers rarely teach on Saturday […]. (tutee [social science] 2)

It is worth noting that, starting from 2010/2011, it is mandatory for Cambodian students to choose one of the two learning strands, namely Science (e.g., Physics, Chemistry, Biology) and Social Science (e.g., History, Geography, Moral Civics), during their second semester in 10th grade (MoEYS, 2010). A household whose child followed the science strand seemed to spend more than double the total expenditure for PT which was paid by their peers having a child in the social science strand. This is due to the fact that students following the science strand had to take science and mathematics tests which were said to very challenging compared to their peers in the social science strand (Kao & Shimizu, 2020). Even though the main aim of the current study is not to distinguish the different amount of time and money spent for PT by students in each learning strand, the results tended to nest inside the previous literature and shed light for further study.

This study echoed similar findings to that of Heyneman (2011) and Bray & Kwo (2014). Parents were willing to invest in PT hoping that this would help their children succeed in their studies as well as secure their future. However, some parents admitted that PT would financially burden them if they had to pay for more than one child simultaneously. This could be implied that the family size seemed to influence PT consumption of the children like in the contexts of Vietnam and South Korea (Dang, 2007; Kim & Park, 2010; Kim & Lee, 2010).

> I am not sure how many hours my child takes PT per day or week. […] I pay around 100,000 Riel (US$25) per month. […] I think it [this amount] is fine for ***one child*** *[emphasis by interviewee]*, but if that for 2 or 3 at same [diploma-granting grade], I don't think I may be able to afford. […] I don't mind this because it is for my child's future. (parent 3)

> I don't know [about my child's PT]. I just know that I gave him 5,000 [Cambodian] riels per day. He [child] said he pays 3,000 riels for PT and 2,000 riels for something else. […] this amount is ***not much*** *[emphasis of interviewee]* when thinking about my child's future. (parent 2)

Students' Perceptions of Teachers in Mainstream Schools

The students perceived that teachers treated every student fairly and teachers did not force them to opt for PT. However, they thought that the central focus of the teachers was to complete the annual teaching plan according to the set curriculum rather than caring about students' understanding during the mainstream classes.

As seen in Figure 3, about 83% of the respondents highlighted that their teachers behaved fairly during examinations towards both tutees and non-tutees (statement 1). This could be implied that teachers seemed to apply one rule for all in every school-based examination. Consistently, almost all tutees (except tutee 9) acknowledged that teachers were fair and strict during the school-based examinations. This response was, additionally, echoed by all tutors during the interviews.

On the one hand, this finding seemed to contradict previous studies in the same context (i.e., Bray, et al., 2016; Bray, et al., 2018; Bray, et al., 2019; Edwards, et al., 2019; Maeda, 2019). On the other hand, this study tended to propose a new thought towards teacher's unethical behaviour during examinations. This positive behaviour change seemed to be swayed by examination reform especially when school-based examination results would no longer contribute towards the result of the national examination.

> As I've observed, every teacher is really strict. I think during the [school-based] examinations, teachers are as strict as in the actual (national) examination. Teachers will deduct scores from or give zero scores to any student who cheats or asks each other during the examination. I myself experienced this [score deduction] […]. (tutee 1)

Figure 3. Students' Perceptions of Teachers at Mainstream School

> […] teachers are ***really strict*** *[emphasis of interviewee]*, and I sometimes feel that teacher is like two different persons. S/he is so funny and gentle during teaching hours, but so serious during [school-based] examinations. I cannot even move my head. (tutee 5)

Teachers also explained ways to promote their tutoring classes. Doing their best to help students learn during the mainstream hours as well as to support them more during tutoring classes were effective marketing strategies after the examination reform. The teacher whose former tutees obtained better grades during the national examinations would be approached by more students.

> Before [the examination reform] some teachers may have given some hints to their tutees about the tests/questions. Sometimes, they use the same exercises with different value or wording for the tests. Now [it] is not like before [the examination reform]. It doesn't work (help increase number of tutees) if we do so […]. We have to teach them with care during mainstream hours. (tutor 2)

> The main purpose of students to take to PT is to build their real ability and skills for examinations. They go to teachers who can help them to learn with quality. I think to have more tutees, we [teachers] need to use materials from different sources and help them understand better at both mainstream and tutoring classes. The best strategy is to ensure our tutees gain better grades in the national exam. (tutor 8)

Regarding the concern about uncaring pedagogies, the majority of respondents agreed with the six statements (2 to 7) but disagreed with two statements (8 and 9). Teachers tended to shorten lessons by presenting only theory/formula and leaving some parts of lessons as well as to reduce the time for practice and individual interactions including time for questions. These descriptive results were in line with the previous studies (i.e., Bray, 1999a; Brehm & Silova, 2014; Dawson, 2009).

On the contrary, this current study qualitatively unveiled two main factors affecting uncaring pedagogies at mainstream schools. Tutors and tutees as well as school administrators seemed to have the same opinion on the notion of uncaring pedagogies. One of which was *less instructional time* for core examination subjects. About 85% of respondents confirmed that time for core examination subjects was not sufficient enough (Statement 14). This was likely to contribute towards increasing PT demand (Bray, et al., 2016; Kobakhidze, 2015). From 2010/2011, regardless of the learning strand, Cambodian upper secondary school students have five core examination subjects, taking 17 hours out of 32 hours per week for 14 subjects (MoEYS, 2011). In 2016, MoEYS also released its latest curriculum framework by increasing instructional time for core examination subjects to 21 hours (MoEYS, 2016). However, this framework could not be implemented due to some challenges. It is worth highlighting that the issue of instructional time was originated from the national curriculum rather than the teacher absenteeism in this study. Evidently, most respondents (86%) reported that their teachers were rarely absent at the mainstream schools (statement 12). All tutors explained that they tended to save time as much as they could for the lessons, or they were not able to complete the entire syllabus. Consistently, there were a higher percentage of tutees (62.37%) who agreed with statement 6: teachers teach fast at state school.

> […] content and number of teaching hours do not match well. We will be blamed when being unable to complete the [annual teaching] plan. Thus, we cut some parts [of lessons] and explained main points briefly with some exercises for them to practice. (tutor 2)

> […] school requires us to use a learner-based [approach]. It takes much time. Group work is not effective because class is too big (40-50 students). Students need to understand every lesson very clearly because they are in the diploma-granting grade. (tutor 7)

> Learning hours [for examination subjects] are not enough. Teachers cannot explain us precisely. […]. Only choice we can do is to go to private lessons, so we can learn more, at least 4 hours per week in each subject. (tutee 4)

Another key factor was a *learner-based approach*. This teaching approach was reported as being more time-consuming than a teacher-based one in Lithuania (Būdienė & Zabulionis, 2006). About 61% of respondents reported that teachers used group work more frequently than individual works during the mainstream hours (statement 7). On the one hand, teachers confessed that group work could help them broadly brush upon the contents despite knowing that students would not able to

probably grasp all the contents. They, therefore, would not be blamed for staying behind the teaching plan. This finding echoed that of the Cambodian Education Sector Support Project (CESSP, 2006).

> […] the learner-centred approach takes too much time. Group work can help us to complete the lessons. We assign tasks to students and they will report their results. However, they could not understand clearly although we can catch up with our [teaching] plan. (tutor 3)

On the other hand, this study unveiled that both teachers and students as well as school administrators perceived that the teacher-based approach was more effective with diploma-granting graders than was the learner-based approach.

> Not only for my subject (physics), but also others, students can ***understand well*** *[emphasis of the interviewee]* at tutoring classes. We can focus on the same things until students can understand very well. Also, ***we follow our way of teaching*** (teacher-based approach) *[emphasis of the interviewee]*. No one blames us because it is our time […]. (tutor 3)

> […] I prefer more explanation from teachers rather than group discussion. The discussion is good, but it is not good for me for [the national] examination. It works with other grades but not this [12th] grade, I think. I need to understand every lesson clearly […]. (tutee 6)

Furthermore, this study revealed that school administrators tended to recommend students to opt for PT and suggest teachers spare time to provide PT owing to the two issues above as well as a large class size in mainstream schools. On the contrary, Kobakhidze's (2014) study unveiled that teachers were the ones to recommend and persuade students and their families for PT by boasting the benefits of increased instructional time and individual interaction.

> During the morning or afternoon assembly for the national anthem, I frequently remind them of the [national] examination, and I encourage them (all graders) to spare their time for private tutoring. […] but I informed them that they can study with any teacher or anywhere they feel comfortable. (administrator 1)

This implies that, in addition to parents and students, administrators also do not seem to trust the quality of education being provided in mainstream schools. About 74% of respondents reported that their school principals recommended them to opt for PT (statement 15) and about 73% complained about large class size at the mainstream schools (statement 16).

> […] I used to have this kind of feeling when I was a classroom teacher [of mathematics]. I presented only formula and gave some exercises to practice. Sometimes I was still behind the [teaching] plan. […] I know it is not easy to use a learner-based approach. It takes much time but not really effective with 12th graders and with this large class size. It may work with other (non-diploma-granting) grades. (administrator 2)

> […] Currently, to pass [the national examination] is not easy, they (students) must be qualified enough. Here [at mainstream school], [there are] many lessons but time is less, I almost always insist on them [teachers and students] to spare time for PT. Some teachers don't want to teach [PT] because their living is good enough or they need time to help their family business. (administrator 3)

Unlike previous studies, this current study unveiled that teachers did not use their authority to force their students to take PT with them. Evidently, about 84% of respondents disagreed with statement 11 – teachers demand students to take tutoring with them. Tutees also claimed that they were aware of the challenging level of exercises in the national examination. Therefore, they were willing to invest their personal time and money. It was noted that students who followed the

social science strand tended to opt for fewer tutoring subjects than their peers following the science strand. They took only Khmer literature and mathematics. They could learn other core examination subjects on their own because those subjects need only memorisation skills.

> Opting for tutoring is our choice because it is about our examinations and future. We can study with any teachers we prefer. In my case, I am taking [PT] with my own teacher only for Khmer literature. Teachers don't mind with whom we are studying [PT]. They are happy when we are qualified and pass the [national] examination. I agree that a few years ago I did not feel good if I did not study PT with my own teachers. (tutee 6)

> My teacher [Khmer literature] did not want to teach PT. We insisted him to spare time for us. Teachers don't mind whether you study PT with them or with others. Teachers just want us to be qualified to pass [the national examination]. Some teachers, for example, my teacher of mathematics, don't have time [to offer PT] for us. They teach special tutoring classes (one-to-one/small-group tutoring). (tutee 2)

Although only about 6.45% of tutees who admitted that teachers mocked them when they were not able to do exercises well (statement 13), one school administrator admitted that some teachers still favour more tutees and annoy non-tutees or tutees of other teachers especially when solving exercises during the mainstream hours. Similarly, one tutee stated that teachers provided their own tutees clarification individually after school-based examinations although about 75% of tutees reported that teachers cared about everyone (statement 10).

> It is not easy to stop this (forcing students to take PT). In my school, almost every year, I got about 2 or 3 complaints from parents and students. Teachers blamed non-tutees or tutees with another teacher before their classmates when they are not able to solve [homework or practical] exercises well. (administrator 2)

> […] teachers do not act fairly especially after returning the examination results. Teachers spend time explaining their tutees individually during the mainstream class rather than explaining to everyone. (tutee 9)

Conclusion and Implications

The purpose of this paper is to gain insights into the central phenomenon of PT demand through Cambodian twelfth graders' perceptions of their teachers' professional misconduct during mainstream classroom hours. The results proposed that PT may become a norm among urban twelfth graders and their parents as the middle-class population keeps growing. However, family size may reduce PT consumption. Contextually, the households whose child followed the science strand tended to pay more than their peers whose child was in the social science strand. Furthermore, the findings pointed out that PT demand was impacted mainly by uncaring pedagogies rather than teacher's unethical behaviour.

Concerning uncaring pedagogies, this study identified that teachers seemed to be encouraged by two phenomena, namely lack of instructional time and impacts of learner-based approach at the mainstream schools. These phenomena were, furthermore, seen to encourage teachers to engage in PT. In order not to be blamed, teachers attempted to limit interactions and explanations despite knowing that students would not be able to grasp all contents being taught. Their main focus was to complete the assigned syllabus within the given instructional time. Therefore, students and parents invested their time and money for PT to strengthen knowledge and skills for the national examinations. Students having the capability to pay are able to go through the same content twice or in a proper way in which the syllabus should be taught effectively. On the contrary, students who are unable to pay for PT may be pushed at a disadvantage.

A learner-based approach may be effective in learning; however, this study unveiled that this approach did not seem to work effectively with Cambodian students who were in diploma-granting grades. The findings imply that there may be some mismatch between how students were taught in class and the type or level of difficulty in exercises in the national examinations. Along the same line, Chey and Khieu's (2017) study pointed out that national examination tests in 2015 measured only remembering and understanding skills which relate more to the teacher-based approach. However, students in mainstream schools were taught through the learner-based approach (i.e., group works and discussion). This mismatch may contribute towards increasing PT demand among such group of students who aim to increase their capability for the national examinations.

The examination reform indicated positive contributions towards minimizing teacher's unethical behaviour during learning activities and school-based examinations in this empirical study. The reform can be seen, additionally, to expand the tutoring market and may gradually move PT towards a free market. Students gained more freedom to opt for tutors of their choice. Additionally, the tutoring market of teachers whose former tutees obtained good grades in the national examinations may be expanded. They are named as 'best tutor' in the Cambodian context.

Cambodia may be similar to other countries which are using a 'discouragement' strategy to regulate PT. However, this strategy meant to manage teachers' PT engagement did not seem to work in the Cambodian context. Some previous studies on PT in Cambodian and other contexts unveiled similar findings where teachers still involved in professional misconduct for personal gains. Professional misconduct may downplay the educational quality in the mainstream system. Gaining insights into teachers' professional misconduct may navigate educators and policymakers to the right focus. This empirical study, therefore, proposed to look at 'professional misconduct' from 2 perspectives: teacher's unethical behaviour and uncaring pedagogies, when addressing the issue of the relationship between teachers' professional misconduct and PT. Cambodia may be a significant example of this concern. It is worth acknowledging that Cambodia made a great change in teachers' payment and implemented a critical reform in examination. This can be argued that these could only fix teacher's unethical behaviour and gradually push PT towards a free market for those who are able to afford the same. However, uncaring pedagogies seemed to be safe to practice with common excuses – lack of instructional time and learner-based approach. Along the same line, these empirical pieces of evidence aim to alert the personnel at the central level as well as policymakers to consider maximising instructional hours for core examination subjects and simultaneously reducing hours of other subjects. Additionally, teachers should be given the freedom to choose appropriate teaching pedagogies that best fit their students' needs. To provide policymakers and implementers with more benefits, future studies should target a larger number of schools, extend to rural areas as well as employ on-site data collection. This study used the online survey which had some limitations in terms of participants' response time and limited capacity to generalise the findings.

References

Banfield, S., Richmond, V., & McCroskey, J. (2006). The effect of teacher misbehaviors on teacher credibility and affect fro the teacher. *Communication Education, 55*(1), pp. 63-72. doi: 10.1080/03634520500343400.

Barron, L. (2014, September 08). *Meet the Man Behind the exams.* Available at https://www.phnompenhpost.com/national/meet-man-behind-exams?fbclid=IwAR2cpjH6kDHyG5RkTdwzyuparPWqdnU5enj8kd5dhwT1dcXBb6f9b7QFL7g[Accessed 20 July 2019].

Betweli, O. (2013). The nature of teacher professional miscoduct in Tanzanian public primary schools: The case of Sumbawanga municipal and rural districts. *International Journal of Education, 5*(1), pp. 81-93. doi: 10.5296/ije.v5i1.3291.

Biswal, B. (1999). Private tutoring and public corruption: A cost-effective education system for developing countries. *The Developing Economies, 37*(2), pp. 222-240.

Bray, M. (1999a). *The Private Costs of Public Schooling: Household and Community Financing of Primary Education in Cambodia.* Paris: International Institute for Education/UNESCO.

Bray, M. (1999b). *Shadow Education System: Private Tutoring and its Implications for Planners.* Paris: UNESCO International Institute of Educational Planning (IIEP).

Bray, M. (2003). *Adverse Effects of Private Supplementary Tutoring: Dimensions, Implications and Government Responses.* Paris: International Institute for Educational Planning & UNESCO.

Bray, M. (2009). *Confronting the Shadow Education System: What Government Policies for What Private Tutoring?* Paris: UNESCO International Institute for Educational Planning.

Bray, M. (2013). Shadow education: Comparative perspectives on the expansion and implications of private supplementary tutoring. *Procedia - Social and Behavioral Sciences, 77*, pp. 412-420. doi: 10.1016/j.sbspro.2013.03.096.

Bray, M., & Bunly, S. (2005). *Ballancing the Books: Household Financing of Basic Education in Cambodia.* Hong Kong: Comparative Education Research Centre, The University of Hong Kong.

Bray, M., Kobakhidze, M. N., Liu, J., & Zhang, W. (2016). The internal dynamics of privatised public education: Free-charging supplementary tutoring provided by teachers in Cambodia. *International Journal of Educational Development, 49*, pp. 291-299. doi:10.1016/j.ijedudev.2016.04.003.

Bray, M., Kobakhidze, M. N., Zhang, W., & Liu, J. (2018). The hidden curriculum in a hidden marketplace: Relationships and values in Cambodia's shadow education system. *Journal of Curriculum Studies, 50*(4), pp. 435-455. doi: 10.1080/00220272.2018.1461932.

Bray, M., & Kwo, O. (2014). *Regulating Private Tutoring for Public Good: Policy Opinions for Supplementary Education in Asia.* Hong Kong: Comparative Education Research Centre (CERC) & UNESCO Asia Pacific Regional Bureau for Education.

Bray, M., & Kwo, O. (2015). Designing and implementing mixed approaches to shadow education research: Experiences and lessons in Hong Kong. In M. Bray, O. Kwo, & B. Jokić (Eds). *Researching Private Supplementary Tutoring: Methodological Lessons from Diverse Cultures.* Hong Kong: Springer & Comparative Education Research Centre (CERC), The University of Hong Kong, pp. 149-178.

Bray, M., Liu, J., Zhang, W., & Kobakhidze, M. N. (2019). (Mis)trust and (abuse of) authority in Cambodian education: Parallel lessons in the shadow. In M. Schüpbach, & N. Lilla (Eds), *Extended Education from an International Comparative Point of View.* Wiesbaden, Germany: Springer VS, pp. 7-21. doi:10.1007/978-3-658-27172-5.

Bray, M., & Lykins, C. (2012). *Shadow Education: Private Supplementary Tutoring and its Implications for Policy Markers in Asia.* Mandaluyong, Philippines: Asian Development Bank.

Bregvadze, T. (2012). Analysing the shadows: Private tutoring as a descriptor of the education system in Georgia. *International Education Studies, 5*(6), pp. 80-89. doi: 10.5539/ies.v5n6p80.

Brehm, W. (2015). The structure and agents enabling educational corruption in Cambodia shadow education and the business of examinations. In Y. Kitamura, D. Edwards, C. Sitha, & J. Williams (Eds), *The Political Economy of Schooling in Cambodia*. New York: Palgrave MacMillan, pp. 103-123.

Brehm, W., & Silova, I. (2014). Hidden privatization of pubic education in Cambodia: Equity implications of private tutoring. *Journal for Educational Research Online, 6*(1), pp. 94-116.

Brehm, W., Silova, I., & Tuot, M. (2012). *The Public-Private Education System in Cambodia: The Impact and Implications of Complementary Tutoring.* ESP Working paper No. 39. Budapest: Open Society Institute.

Būdienė, V., & Zabulionis, A. (2006). Lithuania. In I. Silova, & M. Bray (Eds), *Education in a Hidden Marketplace: Monitoring of Private Tutoring*. New York: Open Society Institute, pp. 211-235.

Busch, C., De Maret, P., Flynn, T., Kellum, R., Le, S., Meyers, B., Saunders, M., White, R., & Palmquist, M. (2012). *Content Analysis.* Available at https://writing.colostate.edu/guides/pdfs/guide61.pdf[Accessed 02 July 2020].

Cambodian Education Sector Support Project (CESSP). (2006). *Student Achievement and Education Policy: Result from the Grade Three Assessment.* Phnom Penh: MoEYS.

Chey, C., & Khieu, V. (2017). Cognitive domain, level of difficulty and topic distribution of the science stream in the national exit examination in Cambodia. *Cambodia Education Review, 1*(1), pp. 33-48.

Creswell, J., & Creswell, J. (2018). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches.* California: SAGE.

Dang, H.-A. (2007). The determinants and impact of private tutoring classes in Vietnam. *Economics of Education Review, 26*(6), pp. 683-698.

Dang, H.-A. (2013). *Private Tutoring in Vietnam: A Review of Current Issues and its Major Correlates (Policy Research Working Paper;No.6618).* Washington, D.C.: The World Bank Development Research Group: Poverty and Inequality Team.

Dang, H.-A., & Rogers, F. (2008). The growing phenomenon of private tutoring: Does it deepen human capital, widen inequalities, or waste resources? *The World Bank Research Observer, 23*(2), pp. 161-200.

Dawson, W. (2009). The tricks of the teacher: Shadow education and corruption in Cambodia. In S. P. Heyneman (Ed). *Buying your Way into Heaven: Education and Corruption in International Perspective*. Rotterdam, Netherlands: Senses Publishers, pp. 51-73.

Dawson, W. (2010). Private tutoring and mass schooling in East Asia: Reflections of inequality in Japan, South Korea, and Cambodia. *Asia Pacific Education Review, 11*, pp. 14-24. doi:10.1007/s12564-009-9058-4.

Edwards, B., Le, H., & Sustrarsic, M. (2019). Spatializing a global education phenomenon: Private tutoring and mobility theory in Cambodia. *Journal of Education Policy*, *35*(5), pp. 713-732. doi:10.1080/02680939.2019.1610192.

Elbadawy, A., Assaad, R., Ahlurg, D., & Levison, D. (2007, October). *Private and group tutoring in Egypt: Where is the gender inequality?* Available at https://erf.org.eg/publications/private-and-group-tutoring-in-egypt-where-is-the-gender-inequality/[Accessed 25 March 2020].

Hallak, J., & Poisson, M. (2007). *Corrupt Schools, Corrupt Universities: What can be Done?* Paris: International Institute for Educational Planning (IIEP).

Hallak, J., & Poisson, M. (2008). Academic fraud and quality assurance: Facing the challenges of the internationalisation of higer education. In G. Hemes, & M. Martin (Eds), *Accreditation and the Globle Higher Education Market* (Vol. Policy Forum). Paris: International Institute for Educational Planning (IIEP), pp. 190-206.

Hanushek, E., & Wößmann, L. (2007). *The Role of Education Quality for Economic Growth.* Working Paper No.4122. World Bank. Available at https://documents.worldbank.org/en/publication/documents-reports/documentredirects?url=/external/default/WDSContentServer/WDSP/IB/2007/01/29/000016406_20070129113447/Rendered/PDF/wps4122.pdf [Accessed 23 May 2020].

Heyneman, S. (2009). *Buying your Way into Heaven: Education and Corruption in International Perspective.* Rotterdam: Sense .

Heyneman, S. (2011). Private tutoring and social cohesion. *Peabody Journal of Education*, *86*(2), pp. 183-188. doi:10.1080/0161956X.2011.561662.

Kao, S., & Shimizu, K. (2020). Factors affecting Cambodian upper secondary school students' choice of science track. *International Journal of Sociology of Education, 9*(3), pp. 262-292. doi:10.17583/rise.2020.4823.

Kelsey, D., Kearney, P., Plax, T., Allen, T., & Ritter, K. (2004). College students' attributions of teacher misbehaviors. *Communication Education, 53*(1), pp. 40-55. doi: 10.1080/0363452032000135760.

Keng, C. (2009). Basic education in Cambodia: Quality and equity. In Y. Hirosato, & Y. Kitamura (Eds), *The Political Economy of Educational Reforms and Capacity Development in Southeast Asia: Cases of Cambodia, Laos and Vietnam*. Netherlands: Springer, pp. 131-152.

Khiev, C., & Ty, S. (2011, November 02). *Strengthening the Quality of, and Building Confidence in, State Schools.* Available at https://www.phnompenhpost.com/lift/strengthening-quality-and-building-confidence-state-schools[Accessed 12 October 2020].

Khy, S. (2019, October 28). *Wages Set to Increase for Civil Servants.* Available at https://www.khmertimeskh.com/654902/wages-set-to-increase-for-civil-servants/?fbclid=IwAR2AHjRUyUwqY_Kx2NF5HuXYXn3UhCewhgYLbM5S4ABL4jbBxouQ882vTxA[Accessed 20 July 2019].

Kim, J.-H., & Park, D. (2010). The determinants of demand for private tutoring in South Korea. *Asia Pacific Education Review, 11*, pp. 411-421. doi:10.1007/s12564-009-9067-3.

Kim, S., & Lee, J.-H. (2010). Private tutoring and demand for Education in South Korea. *Economic Development and Cultural Change, 58*(2), pp. 259-296. doi: 10.1086/648186.

Kobakhidze, M. N. (2014). Corruption risk of private tutoring: Case of Georgia. *Asia Pacific Journal of Education, 34*(4), pp. 455-475. doi: 10.1080/02188791.2014.963506.

Kobakhidze, M. N. (2015). Shadow education research through TIMSS and PIRLS: Experiences and lessons in the Republic of Georgia. In M. Bray, O. Kwo, & B. Jokic (Eds), *Researching Private Supplementary Tutoring: Methodological Lessons from Diverse Cultures*. Hong Kong: Comparative Education Research Centre (CERC), Springer, pp. 23-48.

Koyanagi, K. (2017, March 16). *Cambodia's Teachers Cannot Afford to be Professional.* Available at https://asia.nikkei.com/Economy/Cambodia-s-teachers-cannot-afford-to-be-professional?fbclid=IwAR3Ai5tbRl5oQvfFuaazf0h9hcnWUNcwgVHskKxb1Jg_NsGY850ZD1Q5X0o[Accessed 10 August 2020].

Kuch, N., & Blomberg, M. (2014, April 08). *Education Ministry to Delegate Junior High Exam to Schools.* Available at https://english.cambodiadaily.com/news/education-ministry-to-delegate-junior-high-exam-to-schools-56015/[Accessed 20 July 2019].

Kwok, P. L. (2010). Demand intensity, market parameters and policy responses towards demand and supply of private supplementary tutoring in china. *Asia Pacific Education Review, 11*(1), pp. 49-58. doi:10.1007/s12564-009-9060-x.

Liu, J., & Bray, M. (2020). Accountability and (mis)trust in education systems: Private supplementary tutoring and the ineffectiveness of regulation in Myanmar. *European Journal of Education, 55(3)*, pp. 361-375. doi: 10.1111/ejed.12409.

Maeda, M. (2019). Exam cheating among Cambodian students: When, how, and why it happens. *Campare: A Journal of Comparative and International Education*, pp. 1-19. doi: 10.1080/03057925.2019.1613344.

Ministry of Education Youth and Sport (MoEYS). (2008). *Ethics Code for the Teaching Profession.* Phnom Penh: MoEYS.

MoEYS. (2009). *Updating the Salary Wage per Unit for Civil Servants of the Kingdom of Cambodia* (in Khmer). Phnom Penh: Cambodian Government.

MoEYS. (2010). *Instruction on General Education Curriculum Implementation at Upper Secondary School, No. 23 moey.s.n.n* (in Khmer). Phnom Penh: MoEYS.

MoEYS. (2011). *Guideline for General Education Curriculum Implementation for Grade 11 & 12.* Phnom Penh: MoEYS.

MoEYS. (2013). *Organization and Implementation for Upper Secondary General Education Certificate Examiniation No. 74 moeys.br.k* (in Khmer). Phnom Penh: MoEYS.

MoEYS. (2016). *Curriculum Framework of General Education and Technical Education.* Phnom Penh: MoEYS.

MoEYS. (2019a). *Updating the Salary Wage per Unit for Civil Servants of the Kingdom of Cambodia* (in Khmer). Phnom Penh: Cambodian Government.

MoEYS. (2019b). *Examination Preperation and Implementation at Upper Secondary Education No.155 moeys.br.k* (in Khmer). Phnom Penh: MoEYS.

MoEYS. (2019c). *Announcement on the Results of Upper Secondary School Examination in 2019* (in Khmer). Phnom Penh: MoEYS.

MoEYS. (2019d). *Private Education Statistics & Indicatiors 2018-2019* (in Khmer). Phnom Penh: MoEYS.

MoEYS. (2019e). *Public Education Statistics & Indicators.* Phnom Penh: MoEYS.

MoEYS. (2020). *Early School Vocation for All Types of Educational Institutions* (in Khmer). Phnom Penh: MoEYS.

Mori, I., & Baker, D. (2010). The origin of universal shadow education: What the supplemental education phenomenon tells us about the post modern institution ofeducation. *Asia Pacific Education Review, 11*, pp. 36-48. doi:10.1007/s12564-009-9057-5.

Page, D. (2016). The multiple impacts of teacher misbehaviour. *Journal of Educational Administration, 54*(1), pp. 2-18. doi: 10.1108/JEA-09-2014-0106.

Rumyantseva, N. (2005). Taxonomy of corruption in higer education. *Peabody Journal of Education*, *80*(1), pp. 81-92. doi: 10.1207/S15327930pje8001_5.

Sok, S., & Chhinh, N. (2018, September 11). *Poverty Alleviation and Income Inequality in Cambodia: Balancing "Growth" and "Development"*. Available at https://theasiadialogue.com/2018/09/11/poverty-alleviation-and-income-inequality-in-cambodia-balancing-growth-and-development/ [Accessed 12 December 2019].

World Bank. (2019). *GDP Growth (annual %) - Cambodia*. Available at https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=KH&fbclid=IwAR1n1dy8BFkS2Kwn7iNF4F4Qb6209lZB4Th3cXRzRVyGhMf-28NorRJAbnA[Accessed 29 October 2020].

Zhang, Q. (2007). Teacher misbehaviors as learning demotivators in college classrooms: A cross-cultural investigation in China, Germany, Japan, and the United States. *Communication Education, 56*(2), pp. 209-227. doi: 10.1080/03634520601110104.

Zhang, Q., Zhang, J., & Castelluccio, A.-A. (2011). A cross-cultural investigation of student resistance in college classrooms: The effects of teacher misbehaviors and credibility. *Communication Quarterly, 59*(4), pp. 450-464. doi: 10.1080/01463373.2011.597287.

Appendix A Pearson Correlation

Statements	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Statement 1	-	.315**	.483**	.241*	.236*	.344**	.314**	.276**	.428**	.231*	.328**	.133	.171	.403**	.265*	.240*
Statement 2		-	.071	.255*	.345**	.381**	.294**	.134	.171	.119	.243*	.257*	.306**	.463**	.148	.273**
Statement 3			-	.157	.287**	.186	.166	.342**	.246*	.275**	.221*	.004	.255*	.347**	.345**	.151
Statement 4				-	.251*	.377**	.200	.132	.232*	.212*	.212*	.110	.295**	.342**	.339**	.196
Statement 5					-	.306**	.272**	.133	.284**	.280**	.289**	.077	.229*	.430**	.056	.102
Statement 6						-	.268**	.092	.186	.070	.090	.245*	.190	.432**	.183	.251*
Statement 7							-	.095	.345**	.127	.196	.380**	.160	.308**	.191	.174
Statement 8								-	.158	.266**	.173	.194	.035	.298**	.203	.303**
Statement 9									-	.096	.286**	.112	.080	.316**	.338**	.087
Statement 10										-	.358**	.174	.192	.197	.245*	.269**
Statement 11											-	.215*	.102	.368**	.332**	.204
Statement 12												-	.209*	.172	.233*	.295**
Statement 13													-	.137	.137	.131
Statement 14														-	.287**	.385**
Statement 15															-	.211*
Statement 16																-

**. Correlation significant at 0.01 level (2-tailed)
*. Correlation significant at 0.05 level (2-tailed)
Cases Listwise (N=93)

Greening STEM: A Theoretical Exploration for the Malaysian Context

Aai Sheau Yean[a]
Suzieleez Syrene Bt Abdul Rahim
University of Malaya

Abstract: *This theoretical piece explores the frame of mind required for a Science, Technology, Education and Mathematics (STEM) education in an uncertain time. Predominantly argued from an epistemic standpoint, this paper analyses the relationship between environment, anthropomorphism, the essence of education, and our presumed mastery of nature. In the attempt to envision and realise a form of STEM education with sustainability as a frame of mind that would befit Malaysia, National Wildlife Foundation's Green STEM; Bybee's STEM Literacy; and Bonnett's idea of sustainability were explored. Through the exploration, a possible frame of mind for Green STEM that could facilitate learning and challenge the status quo of being emerges. Ultimately a STEM education with sustainability as a frame of mind is meant to encourage discussion and exploration of issues as it arises rather than being prescriptive. It is hoped that through such an educational approach, we will eventually arrive at a more harmonious way of being.*

Keywords*: Green STEM, Malaysia, Sustainability as a frame of mind, Emergent Curriculum*

Introduction

In line with the advancements made in the 21st century, the Malaysian Education Blueprint (MEB) that was revised and introduced in 2013 aims to transform the content, pedagogy delivery and assessment of Malaysian pupils (Bahrum, Wahid & Ibrahim, 2017). Claimed to be devised in accordance with the National Education Philosophy, MEB is designed to produce pupils that are nurtured intellectually, emotionally, spiritually and physically, in short, holistically. In the exact wordings of the blueprint,

> "such an effort is designed to produce Malaysian citizens who are knowledgeable and competent, who possess high moral standards, and who are responsible and capable of achieving high levels of personal well-being as well as being able to contribute to the harmony and betterment of the family, the society, and the nation at large" (MOE 2013, p.2-2).

The MEB 2013 revisions placed Science, Technology, Education and Mathematics (STEM) approach at its core, hence allowing for the incorporation of teaching and learning geared towards higher-order thinking skills (Bahrum et al., 2017). STEM education is perceived as the key to propelling the nation from (1) the developing to developed, (2) a middle-income country to a high-income country, and (3) a semi-skilled workforce to a highly-skilled workforce (Bahrum et al., 2017; Shahali, Ismail & Halim, 2017). Putting the ethics of perverting education for economic advancement and personnel training aside (Jickling, 1994), the greater concern that the whole tone of the blueprint and STEM guideline is predominantly anthropocentric is of great concern. In an earlier piece exploring the epistemology of MEB, the concern that the environmental welfare of Malaysia has been side-lined in favour of economic prosperity have been discussed (see Aai, 2014 for details). In 2016, the release of STEM guidelines for all education levels has not adequately assuaged the anthropocentric

a Correspondence can be directed to: syean.aai.2012@my.bristol.ac.uk

concerns raised in the article (Khalil & Osman, 2017). Takeuchi et al.'s (2020) critical review of the STEM education discourse globally raised similar concerns regarding the predominance of the "human capital discourse" (p.213) at the expense of a more nuanced interpretation of the field. This is especially concerning at a time when *human-induced* record-breaking temperatures were achieved on a yearly basis (Vautard et al, 2020). This translates to unfathomable disaster for the survival of species on land and in water (Smale, et al., 2019). Smale et al.'s (2019) article forewarned that anthropogenic climate change would disrupt global biodiversity and ecosystem for decades to come. Echoing Sen's (1999) argument, a human capital discourse emphasising economic growth and productivity fails to appreciate the potential of humans as more than just agent for economic production. To effect any sort of social change, he proposed the discourse of human capability, where the change beyond economic growth is embraced.

Malaysia, as the home to one of the 17 mega biodiverse hub[1] worldwide holds great responsibility in ensuring its citizens are fully capable of appreciating it and safeguarding it from unsalvageable disruption. A human-capital discourse focusing on economic growth alone would not be sufficient in preparing Malaysia's citizens for the environmental crisis. Smith and Watson (2019) supplant that the prevailing "techno-optimist neoliberal" (p.1) discourse in STEM education is unable to prepare the students to live sustainably, rather it perpetuates the environmentally damaging way of life. To achieve a meaningful change, "greater imaginations of critical transdisciplinary" (Takeuchi, Sengupta, Shanahan, Adams & Hachem 2020, p.241) is required in STEM education through the inclusion of other disciplines to orient us and steer us away from restrictive and environmentally damaging discourses in the form of instrumentalist ideology. As is currently promulgated, STEM education fails to be the critical voice needed to challenge the current unsustainable "assumptions, worldviews, myths and metaphors underpinning business-as-usual education" (Smith & Watson 2019, p.2). For the purpose of environmental sustainability, the current STEM guidelines need to be questioned critically, and fine-tuned further towards environmental sustainability rather than paying cursory mention of it in the form of eclectic courses. As such, this paper would like to argue for a Green STEM approach based on Bonnett's (2002) sustainability as a frame of mind to the current STEM education for environmental sustainability.

What is STEM education?

Science, Technology, Education and Mathematics (STEM) was said to be a generic label for 'any event, policy, program, or practice that involves one or several of the STEM disciplines (Bybee, 2010a, p.30) when it was first used. Like Bonnett (2002) who dissected the three main issues—semantics, epistemological, and ethical— plaguing sustainable development, this article argues that the same issues plague the inception and development of STEM education as a field:

(1) Semantics: The term was so loosely used that when it was first adopted into the field of education it is poorly understood and ambiguous to many who came across it. The T and E were claimed by Technology educators, Career and Technical educators, and Engineering educators concurrently (Sanders, 2009). Given its ambiguity, some lament that the acronym does little, but beyond being bandied as a slogan (Bybee, 2010a).

(2) Epistemological: STEM education is promoted heavily as the most effective means to prepare pupils of today for the many global challenges (Bybee, 2010a) we are and will be experiencing; energy, health and environment being a few of the more notable examples. However, questions remain on what areas of the subject to emphasise within and across the disciplines. Should the criteria used to determine its inclusion be based on the economic needs of the country or its environmental and social concerns? (Ortiz-Revilla, Adúriz-Bravo & Greca, 2020) Who is in a position to judge which need prevails? (Takeuchi, et al., 2020). The prevailing scientific view in many STEM education

approach of today is poorly reflective of the complex relationship between science and socio-cultural values (Ortiz-Revilla et al., 2020) much less the environment.

(3) Ethical: With the link to real-world issues being emphasised, there is a need to consider the implications of what is included versus what is not. Whether the different approaches to STEM education would widen the apparent technology divide of the North versus the South[2]?

From the brief discussion of issues elucidated above, it is obvious that matters concerning social responsibility predominates other concerns in STEM education. Within the scientific community, the concept of social responsibility came in vogue after the European Union gave the concept a necessary boost. However, the consideration or socially beneficial impacts of science and innovative technologies were not explicitly stated in policies (Owen, Macnaghten & Stilgoe, 2012), hence does little in binding any of its practitioners. For that reason, Owen et al. (2012) call for a re-evaluation of "the concept of responsibility as a social ascription in the context of innovation as a future-oriented, uncertain, complex and collective endeavour" (p. 757). Similarly, in STEM education, where the focus lies largely in giving the coming generation of learners the skills to address the pressing socio-environmental problems of today (Marginson, Tytler, Freeman, & Roberts, 2013), due consideration needs to be given to the idea of social responsibility.

In light of these considerations, the question of what a socially meaningful, humanistic, representation of STEM education looks like took hold. Sanders (2009, 2012) argued that integrative STEM education where intentional integration of technological/engineering design-based learning approaches with the concepts and practices of science and/or mathematics education should be the answer. However, Sanders' emphasis is on promoting the importance of technology literacy in the improvement of STEM education. Bybee (2013) offered another possibility in the form of STEM literacy made up of four components:

(1) knowledge, attitudes, and skills to identify questions and problems in life situations, explain the natural and designed world, and draw evidence-based conclusions about STEM-related issues;
(2) understanding of the characteristic features of STEM disciplines as forms of human knowledge, inquiry, and design;
(3) awareness of how STEM disciplines shape our material, intellectual, and cultural environments; and
(4) willingness to engage in STEM-related issues with the ideas of science, technology, engineering, and mathematics as a constructive, concerned and reflective citizen (p.xi).

The learner-centred and knowledge-centred interpretation of STEM education is arguably a more meaningful representation, compared to one in which STEM education is perceived as a mere tool for topping international student assessments and addressing the STEM pipeline (Sanders, 2009). Although Bybee's (2010b; 2018) argument for the emphasis on STEM literacy is valid, especially so when he stressed its importance particularly in relation to the global challenges we are faced with, this interpretation of STEM education is still insufficient. The problem lies with the rhetoric such interpretation entails. Pushing for a market-driven and consumer-oriented entrepreneurial citizenship through STEM education (Takeuchi et al., 2020) fails to address the root cause of anthropocentric driven environmental degradation. Rather, what would be is merely encouraging the rhetoric of experimental entrepreneurship, turning students into complicit agents of "oppression or dispossession" (Irani 2019, p.217); orienting the focus towards "projects that generated novel lines of flight but occluded the possibility of …politics that destroy" (ibid). It is with this thought that we will turn to the next section on Green STEM.

Green STEM: Sustainability as a Frame of Mind

Conceptualising Sustainability as a Frame of Mind

Education's purpose is "ineluctably environmental" (Bonnett, 2017, p.333). If STEM education is to be the platform for understanding and addressing the global challenges (which are ultimately environmentally centred) we face, there is a pressing need to re-orient STEM education along the line of sustainability as a frame of mind. Huckle (2012) opines that such a "way of relating to nature" (p.36) seeks the evolution of all species on earth to arrive at a state of sustainable relationship beneficial to both the biophysical and social world. Education is ultimately environmental, as, at the heart of it, the "question of what it is to be human" (Bonnett, 2017, p. 334) is addressed. To elaborate on his point,

> "human consciousness is ecstatic in this sense of existing in a constant (and complex) motion of standing out towards things beyond itself in the world—and hence, we can say, *environmental*." (p.335, emphasis in original)

That is to say, as humans, our consciousness responds to stimulus beyond the boundaries of our mind and body. The stimulus in question is the environment. Ontong and Le Grange (2018) reasoned that such framing engenders nature as "independent of human will, but not unaffected by it" (p.S3). While positing the bio-physical structure of nature as existing independent of human activity in a realist frame, nature is "nevertheless affected by society" (Huckle 2012, p.36). Hence, in the event where education deals with the essence of being human, it serves to reason that it needs to be environmental. Even then, it seems to be a huge leap of reasoning to equate the environment with sustainability. In response to this, Bonnett (2002) argued that sustainability is rooted "in the notion of *truth*" (p.18, emphasis in original) and it is central to being human. Truth in this sense refers to our consciousness of the world around us that is a blend of what we anticipate and what we experience or observe as is. As humans, we will not be able to realise our full potential until we acknowledge the value of and appreciate the bio-physical forms of reality for what it is (Huckle, 2012).

Green STEM as Viewed by National Wildlife Foundation (NWF)

Similar to integrative STEM where the four disciplines are connected purposefully for specific learning outcomes (Sanders, 2009), Green STEM was designed to achieve the same through the incorporation of nature studies into the mix (NWF, 2015). NWF's approach to "formal instructional programs that adopt local natural and socio-cultural environments as the context for student's educational experiences" (NWF 2015, p.16) are:

(1) interdisciplinary learning—blurring of the line between subjects through the connection of nature and socio-cultural themes;
(2) project-based learning experiences where understanding and experience is gained through solving real-world issues;
(3) student-centred instruction—a student-directed approach where learners are responsible for leading the pace of their learning; and
(4) constructivist approach—where learning is slowly built upon previous skills, knowledge and constant reflection.

Although infusing natural and socio-cultural environments into STEM is a good move, surface inclusion of the relevant themes would not address the root cause of the current environmental crisis. Just as sustainability education has been value-laden and manipulated to champion the status quo (Jickling, 1994), Green STEM could end up making no discernible impact without critical consideration of its underlying rhetoric. As Takeuchi et al.'s (2020) analysis suggests "*who* the learners are, *how*

they are positioned in relationship to STEM and for *whom* STEM is oriented" (p.215), would affect its practice in classroom settings. Likewise, it is the opinion of this paper that uncritically accepting the underlying rhetoric below would compromise the potential of Green STEM:

(1) interpretation of interdisciplinary learning without realising the underlying oppression it perpetuates (Takeuchi et al., 2020);
(2) connotation of project-based learning and its relation to *entrepreneurial citizenship* that serves to encourage economically driven inventions (Irani, 2019)
(3) Americo-centrism influence in policy which might not consider the inclusion of and is insensitive towards students of different cultures, background, and experiences even if it is theoretically designed to be constructivist and student-centred (Takeuchi et al., 2020; Mclean, 2013).

With the points above in mind, we will turn towards the examination of Sustainable Development and sustainability, which lies at the heart of Green STEM.

The Underlying Rhetoric in Green STEM

Sustainable Development, a concept that is intricately linked to sustainability education, has "suffered as a catch-all buzzword" (Katzchner, 2011, p.161; Lele, 1991) since its introduction in the 1980s. It has been moulded to fit many intentions without much concrete commitment to back up such a claim. The energy, fashion, aviation, steel and cement industry among others have been using the term liberally to boost their development without committing to major carbon cuts capable of capping the warming at 1.5^0C. Additionally, although the term is strongly related to the environment and green agenda, the fact that "environment"—which is central to the discussion—has been rendered open to various interpretation and legitimization due to its malleability and ambiguity (Luke, 2001; Sterling, 2017) is disconcerting. For the convenience of mankind, the term *environment* has been associated with wilderness far from civilisation, the green space mostly untouched by development (Sterling, 2017). The immediate surrounding around us, such as the clogged drain and the odd grass patches, were excluded in our schemata of it. It is not surprising then that the same ambiguity seems to have found its way into the conceptualisation of sustainability-related education, a problem in which the term, though all-encompassing and is increasingly emphasised as a whole, has been manipulated by various stakeholders utilising it to represent different perspectives and epistemologies (Le Grange, 2017; White, 2013; Jickling, 1994). Likewise, developed from as malleable a concept as sustainability, Green STEM could be just as easily manipulated. In the end, it could end up dissociating our environment into schemata convenient for maintaining the status quo (Smith & Watson, 2019).

In pursuit of this argument, there is a distinction between science as a field of research, and scientism. Of which, the latter was conceptualised as "a set of presumptions about the significance and application of the assumptions, methodologies, and findings of this field of research in our daily lives" (Bonnett, 2017, p. 341). Arguably, the presumptions, if framed in the language of the current status quo of anthropocentrism, would end up being manipulated to benefit human wants and greed. Therefore, Bonnett (2017) is right to be cautious of the progressive emphasis on the value of the natural world as a resource for Man's continued "self-defined comfort and self-given projects" (p.342). The argument might seem brash, and in some way unpalatable, especially when human's superiority is questioned. However, the truth remains that we end up in the current environmental crisis because nature has been deemed inconsequential, of no immediate value to humans, and could therefore be subjected to our whims, fancy (Orr, 2011) and expropriation (Foster & Clark, 2020).

We may pride ourselves as autonomous individuals with the freedom to choose, but where sustainability is concerned the false belief that we are independent of our surroundings have done ourselves and the environment more harm than good (Jucker, 2012). The reason as Van Poeck and Vandenabeele (2012) opines, is simple— "every 'private' decision has 'public' consequences and

social conditions affect individuals' freedom of choice" (p.542). In this web of life where all living beings co-exist at the same time, in the same sphere, and connected in a complex manner, our actions and decisions are bound to affect others intentionally or otherwise. As such, sustainability education ought to prepare learners to be able to judge, evaluate, and actively participate in the various contesting discourses under the sustainability umbrella rather than simply providing a specific interpretation of sustainability as deemed appropriate by the selected few (Smith & Watson, 2019; Jickling, 1994). According to the author, there is a world of difference between the two notions of sustainability education. One encapsulates the essence of education, while the other is training. Following this line of thought, there is a fine line in educating a future generation of STEM learners who are conscious of the various perspectives on what they have learned, and those whose learning had been dictated to follow a set trajectory. As Bonnett (2017) would have argued, detailed pre-specification stymied learners' genuine engagement with the natural environment. The consequence is severe. We could only begin to challenge our presumed metaphysical mastery of nature through lived-experiences and reflections when we inhere authentically with the surroundings we intend to understand. Likewise, for Green STEM to be meaningful, it is important for the parties involved, both teachers and learners, to (1) reflect by asking the *whys*, and (2) experience before we explore the *hows*. Taking an excerpt from the Green STEM guidebook as an example:

> "Students are posed the essential questions "How can science and technology help to restore the degraded ecology of the New York Harbour Estuary?" and "What can people do to change their impact on the marine environment?" Oysters are one crucial component of our solution, but by no means the only response." (NWF, 2015, p.54)

Before we could ask about the possibility of STEM helping in restoring a degraded ecology, there is a need to explore (1) *why* we should or should not do so, (2) what we did or did not do to change the environment around us, (3) *how* can we go about addressing the issue without presuming ourselves the master of nature. There is no easy way in which the answers could be derived, and no right answers for any of them, but there are plenty of presumptions based on a different frame of mind. Hence, if we are to educate our learners rather than imposing our views on them, reflecting and exploring is the least we could do with them.

Viewing Sustainability as a Frame of Mind in Green STEM

With this frame of mind, where the emphasis of education lies in the development of systemic wisdom on the current global issues "that is rooted in learners' life-world enriched through a direct acquaintanceship with nature" (Bonnett, 2017, p.346), we arrive at a better interpretation of sustainability education as a frame of mind. In doing so, we could reconnect Bybee's (2010a) interpretation of STEM education with Bonnett's (2017) interpretation of sustainability to arrive at a better conceptualisation of Green STEM. That is, education that addresses:

(1) knowledge, attitudes, and skills to reflect on questions and problems in life situations, connect the experiences gleaned from nature with the designed world, and draw informed conclusions about STEM-related issues;
(2) STEM disciplines and their pervasive use of anthropomorphism in its vocabulary;
(3) how STEM disciplines shape our material, intellectual, and cultural environments judged against our false sense of metaphysical mastery over nature; and
(4) willingness to engage in STEM-related issues with sustainability as a frame of mind.

With this frame of mind as a reference, we shall turn towards the analysis of Malaysia's STEM curriculum.

Malaysia's STEM Curriculum: Ideal versus Reality

Mpofu's (2019) study on STEM approaches revealed four commonly observed interpretations: (1) isolated and independent S-T-E-M, (2) duet, most commonly SteM, (3) one into three E S-T-M, and (4) integrated—STEM. The confusions and misconception among STEM were said to be related to the mixture of approaches adopted in a different educational context, sometimes even occurring within the same country (Mpofu, 2019). STEM was conceptualised as a field, a stream, and an approach following the official STEM guideline (MOE, 2016a)[3]. Mpofu's (2019) interpretation of the STEM approach refers to the theoretical framework adopted by governing bodies. Deviating from Mpofu's (2019) interpretation of the STEM approach, MOE's operation definition for it refers to "teaching and learning strategy involving the application of knowledge, skills, and values" (Shahali, et al., 2017, p.126) of STEM. From the description of Mpofu's STEM approach which covers different ways individual disciplines fuses, it is more closely related to the definition of the STEM field offered by MOE. STEM field, according to the MOE (2016a) refers to all the traditional and specialised disciplines offered by the system. Science and Chemistry are examples of the prior, while Medical and Bio-Chemistry are examples of the latter.

STEM education in Malaysia was designed to target all levels of education, starting from pre-primary to tertiary. In the STEM education implementation guideline, integration of the four fields is mentioned as a key or its successful implementation (MOE, 2016b). However, further examination of how it was planned out seems to suggest that the integration does not necessarily refer to all four fields combined. Rather, at the pre-primary level, a duet focus on Science and Mathematics was adopted to promote inquisitiveness and develop 'early science and mathematics process skills' (Shahali, et al., 2017, p.127). At the primary and lower-secondary school levels, the STEM field is still largely dueted in nature, with the primary focus being science and mathematics (ibid). In addition to the duet focus, the STEM approach with an emphasis on scientific attitudes and values have been infused into the curriculum. Throughout the education levels, STEM delivery retains the discipline characteristics with the most common approach of integrating technology into mathematics, and science being practised at the secondary level. The approach reflects Mpofu's (2019) one into three STEM interpretation, which is clearly not fully integrated by any means.

Ideally, for STEM to work as intended, that is, interdisciplinary in its delivery, it needs to be integrated. With clear connections being drawn between all four subjects as much as possible (Sanders, 2009). However, its application in classroom settings was limited by the long-held tradition in curriculum favouring learning through individual discipline (National Academy of Engineering and National Research Council, 2014). As with problems encountered by teachers in the United States a decade ago, Bahrum et al. (2017) noted that teachers in Malaysia held the same misconceptions. The authors note that STEM education in Malaysia focuses predominantly on the two fields Science and Mathematics, with elements of computer or internet use infused as representative for the Technology element. The engineering component is, more often than not, considered troublesome and unnecessary.

As mentioned prior, the STEM initiative in Malaysia was devised to propel the nation from developing to developed, a middle-income country to a high-income country, and a semi-skilled workforce to a highly-skilled workforce (Bahrum et al., 2017; Shahali, Ismail & Halim, 2017). Hence, it is not wrong to assume that the initiative is economically motivated. To reach the goals aforementioned, the initiative has been designed to ensure the "STEM pipeline" (Sanders, 2009, p.22) retains a sizeable number of tertiary graduates capable of fulfilling the demands of industries. The emphasis has been so heavily played that teachers mistook STEM education's focus as purely industry-based (Bajuri, et al., 2020).

These misconceptions led Bajuri, et al. (2020) to argue that it is the weakness in Malaysia's STEM education's philosophical foundation that has led to its problematic implementation. However, deviating from the authors' attempt to address the weakness through a phenomenological exploration of knowledge and examination of the forms it took for integration to occur, this article attempts to

explore the issue from a sustainability perspective. Echoing Bonnett's (2017) argument of education's purpose being ultimately environmental, this article argues that a stronger philosophical foundation for STEM education could be found if the approach to its *whys* and *hows* is more environmental in nature. It has been said that the shift of focus in education—from learners being passive recipients of education to being active participants—the landscape of education has been altered (Biesta, 2009). Corresponding to such changes research is increasingly geared towards the *how* in learning rather than *why* we need to learn in the first place. However, without a firm grasp of the *why*, the *how* in learning seems to be built on a shaky foundation, thereby enabling problematic implementation. As such, the section below is an exploration of supplanting *how* with a *why* firmly rooted in the sustainability rhetoric.

Greening STEM Education in Malaysia

From the brief discussion of Malaysia's STEM education outlined above, the language of capitalism and anthropomorphism is very much apparent in the curriculum design. In the guidebook for STEM education implementation (MOE, 2016b), education has been likened to an "investment" (p.2) that would pay dividends in the form of increased competitiveness on an increasingly globalised platform. The whole design is an antithesis to Bonnett's (2017) version of education which is concerned with learning through experiencing, to gain systemic wisdom of the problem afflicting the world today. This form of education means that rather than viewing learning as an "investment" for "economic competitiveness", the attitudes and values that should be promoted shall encourage a wider interpretation of success in life beyond materialistic richness (Bonnett, 2002).

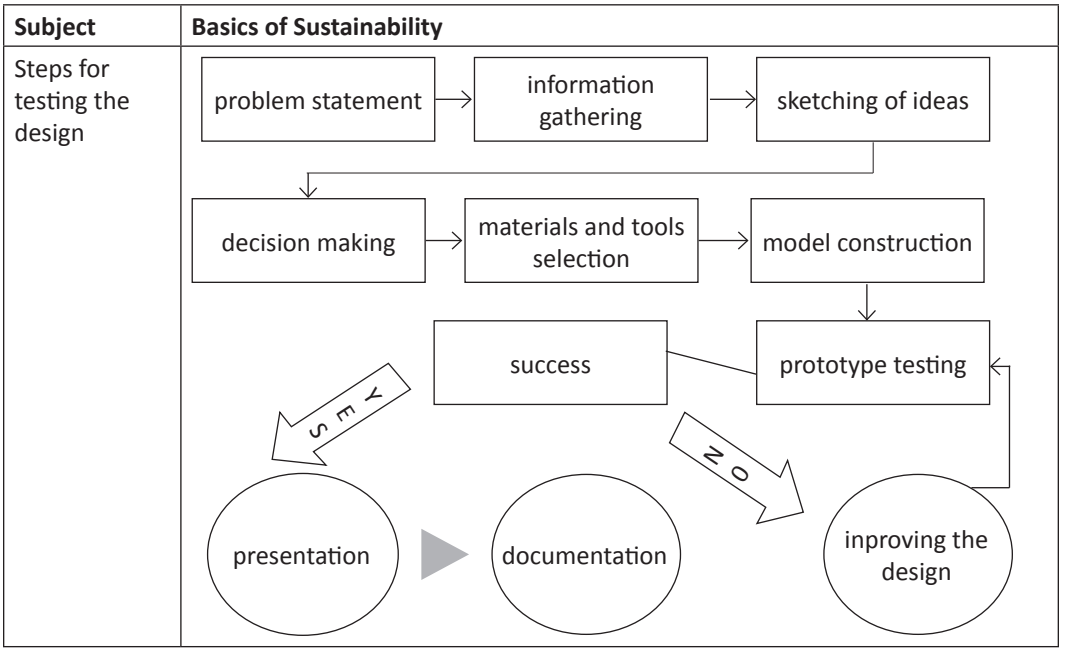
STEM education conceptualised as an approach was meant to ensure meaningful and engaging learning (MOE, 2016b), however, they were essentially prescriptive and inhibitory. To that end, videos were distributed to the relevant teachers to ensure "students' interest and curiosity on STEM subjects could be reignited and misconceptions avoided using the videos in their learning process" (MOE, 2016a, p.2 - 18). Additionally, STEM gamification and reality TV programme has also been included as par for the course in the effort to make learning fun. At first glance, the efforts made in encouraging a fun learning experience seems laudable. However, delving deeper into the *whys* revealed that it might not seem as attractive as it was thought to be. Being guided with pre-specified videos for fear of learners going off-course, and the introduction of games and reality TV programmes with rigid codes, and pre-determined scripts is not true learning. It was made even more so when teachers have had their hands tied preparing learners for "an examination focused education system" (Arsad, et al., 2020). As Jickling (1994) and Bonnett (2017) would have emphasised, detailed pre-specification deters genuine engagement with one's learning. This in turn defies the essence of education, which is associated with the effort to elicit the innate potential of learners by providing them with the necessary experiences to do so.

Taking an example of the activities suggested in the guidebook as a discussion point, see Figure 1 below, the presumption of human's mastery over nature is apparent:

Figure 1: Example of STEM activity from guidebook (MOE, 2016b)

Subject	**Basics of Sustainability**
Theme	Designing Cooler Box
End Product	Cooler Box
Scenario	Learners are required to design and produce a cooler box meant for use on a three days two-night camping trip

Figure 1: Example of STEM activity from guidebook (MOE, 2016b) (continued)



Bonnett (2017) has been adamant in his argument that "the potential for debilitating personal disengagement" (p.344) mounts, as the ranges of acceptable responses for learning narrows, and the rigidity of what is to be learned increases. Drawing from the example above, rather than fixing the end product as such, an emergent form of learning involving observations, reflections and experiences gleaned from nature would benefit the learners in the long run. The scientific processes exemplified above is sound if we are looking at a classic STEM framework. But in a Green STEM frame of mind, the language used and the underlying presumption needs to be put into question. This is especially true in the context of STEM conceptualised base on the deeply anthropogenic and manipulative western culture (Orr, 2011). Rather than learning the process of science geared towards bringing nature to serve human will, as the whole exercise seems to suggest, perhaps the focus should be on questioning the presumed mastery we had over nature. If the intention was to learn about the construction of a cooler box, it would serve the learners better to (1) question the purpose of it, (2) examine the construct of one, and (3) engineer an alternative based on their experiences gleaned from nature. The intention is to ensure that nature could be ascribed as possessing inherent intrinsic value rather than being viewed as a tool to be disposed of after use.

There are more points to address than the deleterious effect of anthropocentric language, rigid learning, and misguided metaphysical mastery of nature readily observed in the STEM guidebook. However, it is beyond the scope of this paper to address it all, neither is the intention here to go beyond exploring the possibility of Green STEM from a theoretical perspective. As such, the last part of this paper shall be directed towards the exploration of the potential and limit of Green STEM with sustainability as a frame of mind.

Green STEM with Sustainability as a Frame of Mind: Possible or Illusion?

As we are enjoying the comforts of today, struggles to cap global warming at 1.5^0C to minimize the possibility of irreversible ecosystem collapse is or should be, underway. Yet doubts on whether

anything substantial could be achieved before it is too late is aplenty. While education's role in this fight against time is contentious. Amidst the mounting signs of a planet under multiple stresses, gearing our learners towards an education pathway for purely economic reasons seems counterintuitive. Likewise, STEM education that could support the learners of today for an uncertain tomorrow is not one that dictates learning, but one that facilitates learning. This could be done through conscious efforts in redesigning learning to encourage experience and reflections. Ultimately, the goal is to facilitate learners' ability to challenge our presumed mastery of nature.

Admittedly, strict adherence to Bonnett's (2017) frame of mind intimates:

> "an approach to thinking about (STEM) education that valorizes receptivity, concreteness and particularity over the abstract and the analytic; holism and the ontological over the atomistic and the epistemological; "Cosmo-centrism" over anthropocentrism and cosmopolitanism; sensitivity to immanent organic elemental powers directly experienced as against abstract formulation" (p.345)

However, such an approach to learning assumes that the essential expertise to realise this ambitious overhaul is readily available. Great responsibility is placed on the policy team, the curriculum team, and the teachers, requiring them at the least to be (1) well-versed in their field to be flexible in seizing the opportunities that emerge for learning, (2) trained to recognise and resist the underlying anthropomorphism pervading STEM education, (3) sensitive to their natural surroundings, recognise its intrinsic value and able to convey as much to learners, and (4) capable of viewing learning in a holistic manner. Yet, studies of local authorities' understanding of sustainability do not lend confidence to its feasibility. Joseph (2013) found that even among those directly involved with sustainability initiatives in the government tends to commodify nature or believe humans to be the master of it in the attempt to preserve it for the future generation. Studies on teachers' knowledge of the environment suggest that their understanding is limited to the environment in the abstract sense and information they have been trained with (Esa, 2010).

That said, all is not lost in the push for Green STEM. We are, at present, in a day and age where awareness of the environmental crisis and will for change is greater than before. Miller's connection theory of responsibility (Brock, 2017) serves to reminds us of our culpability, directly or otherwise, and rendering any attempts at feigning ignorance redundant. Our actions are intricately connected to another's situation either directly, or indirectly. Directly, by being morally responsible, or causally responsible; Indirectly, by benefitting from it, being capable of assisting, or associated through the community. As such, education does have a role to play in providing learners with the experience and reflection needed to explore an alternative view of development and human flourishing (Bonnett, 2002).

Additionally, Malaysia, as home to one of the only 17 mega biodiverse hubs worldwide, presents us with a unique opportunity to explore and develop a "frame of mind—or perhaps, better, way of being—that is energised by loving allowance rather than unbridled calculative imposition" (Bonnett, 2002, p.343). That means, in the course of developing the necessary knowledge, attitude and skills to better reflect on question and problems as mentioned in the proposed frame of mind, greater incorporation of engagement with nature for STEM education is needed. By encouraging the opportunities to dwell on natures' stimuli as it emerges and reflect on its wonder, and immersing our senses in the environment, we are better equipped to reflect on our presumed metaphysics mastery of nature.

Embedded in this exploration of a possible interpretation for Green STEM education are several fundamental questions challenging the status quo in education: What shall our relationship with nature be? In what sense shall we contemplate the concept of sustainability? Whose voice takes precedence in the race against the sixth mass extinction? Through the contemplation of all these and then some, envisioning and realising a STEM education that is explicit in its exploration of the curriculum's epistemic underpinning is of utmost importance. As such, the proposed frame of mind

specifically conceived to be critical of anthropomorphism and designed to adopt the sustainability lens could enrich and supplant the 'neoliberal, hi-tech growthist perspective' (Smith & Watson, 2019, p. 8) propagated by STEM education in its current form. Only through this enhanced form of STEM education would we be able to populate a generation of forward-thinking learners who can judge, evaluate, and actively participate in the muddle that is sustainability discourse whilst developing a beneficial way of being for all.

Notes

[1] According to the World Conservation Monitoring Centre under the United Nations Environment Programme (UN-WCMC) (2014), Malaysia is one of the 17 countries identified as home to the world's most biodiversity-rich countries in the world. This translates to the fact that a small number of countries hold a disproportionate number of the world's biological resources and therefore holds greater "political responsibility for conservation and biodiversity management" (UN-WCMC, 2014, p.1).

[2] At the risk of simplifying a complex topic, the North-South divide alludes to the unfair categorisation of countries with different development status. The "North" refers to those with better socio-economic status while the "South" or the "Third World" were used to refer to those with lesser socio-economic status (see McFarlane, C., 2006). Cruz-Jesus, et al. (2015) among others suggests that educational imbalances led to the digital divide of citizens; that there emerges a difference incapacity of its citizens in understanding, adopting, consuming technological innovations due to educational attainment. Hence there is a valid concern that different approaches to STEM education due to the technology and knowledge capacity of the country could exacerbate the digital divide thereby allowing the continuation of a vicious cycle.

[3] Following the guideline, what was referred to as a STEM approach by Mpofu was perceived as a STEM stream by the MOE. To ease subsequent discussion of STEM approach, field and stream based on the MOE guideline, Mpofu's (2019) STEM approach will be addressed as STEM field henceforth.

References

Aai, S. Y. (2014). Education for sustainable development in Malaysia's national curriculum reformation: A theoretical exploration. *Journal of International and Comparative Education (JICE)*, *3*(2), pp.199–212. https://doi.org/10.14425/00.73.61

Arsad, N. M., Nasri, N. M., Soh, T. M. T., Mahmud, S. N. D., Talib, M. A. A., & Halim, L. (2020). *A Systematic Review on Culturally Relevant Science Teaching: Trends and Insights*. AIP Conference Proceedings. Available at: https://doi.org/10.1063/5.0000530 [Accessed 13 September 2020]

Bahrum, S., Wahid, N., & Ibrahim, N. (2017). Integration of STEM education in Malaysia and why to STEAM. *International Journal of Academic Research in Business and Social Sciences*, *7*(6), pp.645-654. https://doi.org/10.6007/IJARBSS/v7-i6/3027

Bajuri, M. R., Maat, S. M., & Halim, L. (2020). The sustainability of stem integration knowledge concept among Malaysian scientists. *Journal of Computational and Theoretical Nanoscience*, *17*(2–3), pp.1282–1291. https://doi.org/10.1166/jctn.2020.8802

Biesta, G. (2009). Good education in an age of measurement: On the need to reconnect with the question of purpose in education. *Educational Assessment, Evaluation and Accountability(Formerly: Journal of Personnel Evaluation in Education)*, *21*(1), pp. 33–46. https://doi.org/10.1007/s11092-008-9064-9

Bonnett, M. (2017). Environmental consciousness, sustainability, and the character of philosophy of education. *Studies in Philosophy and Education, 36*(3), pp.333–347. https://doi.org/10.1007/s11217-016-9556-x

Bonnett, M. (2002). Education for sustainability as a frame of mind. *Environmental Education Research*, *8*(1), pp.9–20. https://doi.org/10.1080/13504620120109619

Brock, G. (2017). Needs, vulnerability, and porous borders: Some issues for Onora O'Neill concerning the distribution of responsibility. *Acta Philosophica: rivista internazionale di filosofia*, *26*(2), pp.347–364. https://dialnet.unirioja.es/servlet/articulo?codigo=6395050

Bybee, R.W. (2018). *STEM Education Now More than Ever*. Arlington VA: NSTA Press.

Bybee, R.W. (2013). *The Case for STEM Education: Challenges and Opportunities*. Arlington, VA: NSTA Press.

Bybee, R. W. (2010a). What Is STEM education? *Science 329*(5995), pp.996–996. https://doi.org/10.1126/science.1194998

Bybee, R. W. (2010b). Advancing STEM Education: A 2020 Vision. *Technology and Engineering Teacher*, *70*(1), pp. 30–35.

Cruz-Jesus, F., Vicente, M. R., Bacao, F., & Oliveira, T. (2016). The education-related digital divide: An analysis for the EU-28. *Computers in Human Behavior*, *56*, pp.72–82. https://doi.org/10.1016/j.chb.2015.11.027

Esa, N. (2010). Environmental knowledge, attitude and practices of student teachers. *International Research in Geographical and Environmental Education*, *19*(1), pp.39–50. https://doi.org/10.1080/10382040903545534

Foster, J. B., & Clark, B. (2020). *The Robbery of Nature: Capitalism and the Ecological Rift*. New York: NYU Press.

Huckle, J. (2012). Towards greater realism in learning for sustainability. In A. E. J. Wals & P. B. Corcoran (Eds.), *Learning for Sustainability in Times of Accelerating Change*. Wageningen: Wageningen Academic Publishers, pp. 35-48

Irani, L. (2019). *Chasing Innovation: Making Entrepreneurial Citizens in Modern India*. New Jersey: Princeton University Press.

Jickling, B. (1994). Why I don't want my children to be educated for sustainable development. *Trumpeter*, *11*(3), pp. 114–116.

Joseph, C. (2013). Understanding sustainable development concept in Malaysia. *Social Responsibility Journal*, *9*(3), pp.441–453. https://doi.org/10.1108/SRJ-03-2012-0024

Jucker, R. (2012). The sustainable self: A personal approach to sustainability education. *Journal of Education for Sustainable Development*, *6*(1), pp.157–158. https://doi.org/10.1177/097340821100600122a

Katzschner, T. (2011). ESD to ESF (Education for Sustainable Development to Education For A Sustainable Future). In: J. Newman & P. Robbins (Eds.) *Green Education: An A-Z Guide*. California: Sage, pp. 160-166

Khalil, N., & Osman, K. (2017). STEM-21CS module: Fostering 21st century skills through integrated STEM. *K-12 STEM Education*, *3*(3), pp.225–233.

Le Grange, L. (2017). Environmental education after sustainability. In B. Jickling & S. Sterling (Eds.), *Post-Sustainability and Environmental Education: Remaking Education for the Future*. Cham: Palgrave Macmillan, pp. 93-107. https://doi.org/10.1007/978-3-319-51322-5_7

Lélé, S. M. (1991). Sustainable development: A critical review. *World Development*, *19*(6), pp.607–621. https://doi.org/10.1016/0305-750X(91)90197-P

Luke, T. W. (2001). Education, environment and sustainability: What are the issues, where to intervene, what must be done? *Educational Philosophy and Theory*, *33*(2), pp. 187–202. https://doi.org/10.1111/j.1469-5812.2001.tb00262.x

Marginson, S., Tytler, R., Freeman, B., & Roberts, K. (2013). *STEM: Country comparisons: international comparisons of science, technology, engineering and mathematics (STEM) education. Final report.* Melbourne, Vic: Australian Council of Learned Academies.

McFarlane, C. (2006). Crossing borders: Development, learning and the North – South divide. *Third World Quarterly*, *27*(8), pp.1413–1437. https://doi.org/10.1080/01436590601027271

McLean, S. (2013). The whiteness of green: Racialization and environmental education. *The Canadian Geographer / Le Géographe Canadien*, *57*(3), pp.354–362. https://doi.org/10.1111/cag.12025

Ministry of Education Malaysia (MOE). (2016a). *Malaysia Education Blueprint Annual Report 2016*. Available at: https://www.padu.edu.my/wp-content/uploads/2018/01/MEB_2016_Annual_Report.pdf [Accessed 10 September 2020]

Ministry of Education Malaysia. (2016b). *Panduan pelaksanaan stem dalam pembelajaran dan pengajaran* [Guideline on the delivery of STEM in teaching and learning]. Available at: https://www.slideshare.net/MOHDGAZALI1/2016-1226-panduan-pelaksanaan-stem-dalam-pembelajaran-dan-pengajaran-150779012 [Accessed 10 September 2020]

Ministry of Education Malaysia. (2013). *Malaysia Education Blueprint 2013-2025*. Putrajaya: MOE

Mpofu, V. (2019). A theoretical framework for implementing STEM education. In K. G. Fomunyam (Ed.), *Theorizing STEM Education in the 21st Century*. London: IntechOpen, pp.1-15.

National Academy of Engineering and National Research Council (2014). *STEM Integration in K-12 Education: Status, Prospects, and an Agenda for Research*. Washington, DC: The National Academies Press. https://doi.org/10.17226/18612.

National Wildlife Federation (NWF). (2015). *Green STEM Guidebook*. Available at: https://www.nwf.org/-/media/Documents/PDFs/Eco-Schools/Green-STEM-Guidebook.ashx [Accessed 15 September 2020]

Ontong, K. &Le Grange, L. (2018). Exploring sustainability as a frame of mind: A multiple case study. *South African Journal of Education, 38*, pp. 1-9.

Orr, D. W. (2011). Long Tails and Ethics: Thinking about the Unthinkable. In D. W. Orr (Ed.), *Hope is an Imperative: The Essential David Orr* . Washington D.C: Island Press, pp. 316-323 https://doi.org/10.5822/978-1-61091-017-0_33

Ortiz-Revilla, J., Adúriz-Bravo, A., & Greca, I. (2020). A framework for epistemological discussion around an integrated STEM education. *Science & Education*, *29*, pp.857–880. https://doi.org/10.1007/s11191-020-00131-9

Owen, R., Macnaghten, P., & Stilgoe, J. (2012). Responsible research and innovation: From science in society to science for society, with society. *Science and Public Policy*, *39*(6), pp.751–760. https://doi.org/10.1093/scipol/scs093

Reid, A. (2019). Climate change education and research: Possibilities and potentials versus problems and perils? *Environmental Education Research*, *25*(6), pp.767–790. https://doi.org/10.1080/13504622.2019.1664075

Sanders, M. (2009). STEM, STEM Education, STEMmania. *Technology Teacher*, *68*(4), pp. 20–26.

Sanders, M. E. (2012). Integrative Stem Education as "Best Practice". In *Explorations of Best Practice in Technology, Design, & Engineering Education (Vol. 2).* Queensland: Griffith Institute for Educational Research, pp.103-117.

Sanders, M.E., Wells, J. (2010). *Integrative STEM Education*. Available at: . http://web.archive.org/web/20100924150636/http://www.soe.vt.edu/istemed [Accessed 16 September 2020]

Sen, A. (1999). *Commodities and Capabilities*. New Delhi: Oxford University Press.

Shahali, E. H. M., & Halim, I. I. and L. (2017). STEM Education in Malaysia: Policy, Trajectories and Initiatives. *STEM Education in Malaysia: Policy, Trajectories and Initiatives*, *8*(2), pp. 122-133.

Smale, D. A., Wernberg, T., Oliver, E. C. J., Thomsen, M., Harvey, B. P., Straub, S. C., Burrows, M. T., Alexander, L. V., Benthuysen, J. A., Donat, M. G., Feng, M., Hobday, A. J., Holbrook, N. J., Perkins-Kirkpatrick, S. E., Scannell, H. A., Sen Gupta, A., Payne, B. L., & Moore, P. J. (2019). Marine heatwaves threaten global biodiversity and the provision of ecosystem services. *Nature Climate Change*, *9*(4), pp.306–312. https://doi.org/10.1038/s41558-019-0412-1

Smith, C., & Watson, J. (2019). Does the rise of STEM education mean the demise of sustainability education? *Australian Journal of Environmental Education*, *35*(1), pp.1–11. https://doi.org/10.1017/aee.2018.51

Sterling, S. (2017). Assuming the Future: Repurposing Education in a Volatile Age. In B. Jickling & S. Sterling (Eds.), *Post-Sustainability and Environmental Education: Remaking Education for the Future*. Cham: Palgrave Macmillan, pp. 31-45. https://doi.org/10.1007/978-3-319-51322-5_3

Takeuchi, M. A., Sengupta, P., Shanahan, M.-C., Adams, J. D., & Hachem, M. (2020). Transdisciplinarity in STEM education: A critical review. *Studies in Science Education*, *56*(2), pp.213–253. https://doi.org/10.1080/03057267.2020.1755802

United Nations World Conservation Monitoring Centre (UN-WCMC). (2020). *Megadiverse Countries definition: Biodiversity A-Z.* Available at: https://www.biodiversitya-z.org/content/megadiverse-countries [Accessed 18 September 2020]

Van Poeck, K., & Vandenabeele, J. (2012). Learning from sustainable development: Education in the light of public issues. *Environmental Education Research*, *18*(4), pp.541–552. https://doi.org/10.1080/13504622.2011.633162

Vautard, R., Aalst, M. van, Boucher, O., Drouin, A., Haustein, K., Kreienkamp, F., Oldenborgh, G. J. van, Otto, F. E. L., Ribes, A., Robin, Y., Schneider, M., Soubeyroux, J.-M., Stott, P., Seneviratne, S. I., Vogel, M. M., & Wehner, M. (2020). Human Contribution to the Record-Breaking June and July 2019 Heatwaves in Western Europe. *Environmental Research Letters*, *15*(9), pp. 1-9. https://doi.org/10.1088/1748-9326/aba3d4

White, M. A. (2013). Sustainability: I know it when I see it. *Ecological Economics*, *86*, pp. 213–217. https://doi.org/10.1016/j.ecolecon.2012.12.020

Happiness, Wellbeing, and Mental Health in Bhutanese Higher Education: Exploring Student and Staff Experiences and Perceptions within a Framework of Gross National Happiness

Matthew J. Schuelka[a]
Mollie Braznell
Matthew Leavesley
University of Birmingham

Sangay Dorji
Khandu Dorji
Karma Nidup
Pema Latsho
Royal University of Bhutan

***Abstract**: Bhutan is a country known for happiness. In the 1970s, the Fourth Druk Gyalpo [Dragon King] of Bhutan established the development philosophy of Gross National Happiness (GNH). However, using 'happiness' as a measurement of social and economic development does not mean that all Bhutanese are 'happy' themselves. Schools – including higher education – can be stressful places in Bhutan, and there is little support or resources for the mental health and wellbeing needs of students. In this article, we explore the experiences and perceptions of both students and staff across the Royal University of Bhutan in regard to wellbeing and mental health. In all, there were over 1,700 respondents to our survey. We explore the results of the survey through an Educational Values Evaluation and Design (EVED) framework to understand the complex factors that both enable and challenge GNH as a value in higher education. The results show that while many students view their happiness and wellbeing as positive overall, there are still a significant amount that experience depression, stress, social difficulties, and other forms of distress. In comparison to college staff perception of student's mental health and wellbeing, the students are more positive about their own wellbeing than the staff.*

***Keywords**: Wellbeing, Mental Health, Bhutan, Gross National Happiness, Higher Education*

Introduction

Bhutan is often characterized as the 'land of happiness' because it is the originator of the development philosophy of Gross National Happiness (GNH) – an alternative to Gross National Income. While Bhutan is a bucolic and peaceful kingdom, beautifully tucked away in the Himalayas, GNH does not guarantee that its citizens are happy. Indeed, the latest GNH Survey of Bhutan indicated that over half the country are 'unhappy' or 'narrowly happy' (Centre for Bhutan Studies, 2016). However,

[a] Correspondence can be directed to: m.schuelka@bham.ac.uk

Bhutan is mindful on happiness and wellbeing in that GNH guides its policies, decision-making, and societal goals.

In Bhutan, happiness does not mean individual happiness. Rather, it means the collective happiness and wellbeing of all. In Dzongkha, the Bhutanese national language, GNH is expressed as the phrase *Gyalyong Gakid Pelzom* ["happiness and peace for all nations for the realization of all things good and virtuous"] (Schuelka, 2017). In terms of operationalizing GNH, all policies and government initiatives must be approved by the GNH Commission, whose mission – as enshrined in the constitution – is to ensure the centralization of the four pillars of GNH (sustainable and equitable socio economic development; preservation and promotion of cultural heritage; preservation and sustainable use of the environment; and good governance) and the nine domains of GNH (psychological wellbeing, health, education, culture, time use, good governance, community vitality, ecological diversity and resilience, and living standards).

The youth of Bhutan – particularly those in young adulthood – are often caught between Bhutan's aspirations and realities. They are extremely proud of GNH and of Bhutan as a whole, but they are also expected to make a modern living in a capitalist society; to become educated and get a good job to ensure success and financial stability for their families. This is the reality for many young adults around the world, but in Bhutan it is particularly pronounced as the country has experienced rapid societal, economic, and cultural changes in only a few decades. As Willis memorably writes, "Young people are unconscious foot soldiers in the long front of modernity, involuntary and disoriented conscripts in battles never explained" (2003, p. 390). Nowhere is the stress and anxiety of youth in a transitioning society more pronounced than at the tertiary level of education (Field, et al. 2012; Gündogdu, 2010; Rickinson, 1998).

The research presented here is an exploration of the mental health, wellbeing, and happiness of young adults in Bhutan at the tertiary level of education. In this article, we will explore the results of a survey conducted across the entire Bhutanese higher education sector. Through the analysis and results of the survey, we argue that higher education institutions are crucial in promoting the mental health and wellbeing of young adults in a 'modern' society, but also reflect one aspect of a complex web of factors that influence the value of GNH in higher education. Higher education institutions also need to better integrate with existing community resources and local resiliency support networks, as well as provide more relevancy in aligning with socio-economic realities. We use an Educational Values Evaluation and Design (EVED) framework (Schuelka, forthcoming; Schuelka & Sherab, forthcoming) to support this argument.

In the article below, we will first provide a brief overview of the context of education and culture in Bhutan. Next, we will provide a succinct definition of the EVED theoretical framework that guides the analysis of the survey results. We will then explain the survey design and methodology. Following that, we will present the data and analysis of the survey from both university students and staff, and conclude with a discussion on the results and implications for the future.

Understanding the Context of Education and Culture in Bhutan

Bhutan is a small, extremely mountainous country located entirely in the Himalayas between China (Tibet) and India. Bhutan was never colonized, and remained a remote, feudal, and agrarian society until the 20th century. Bhutan's royal family, since 1910, have initiated and overseen an extraordinary transition to a modern socio-economic state, including the peaceful introduction of democracy to Bhutan in 2006.

Until the Royal Government of Bhutan's First Five-Year Plan in 1959, education in Bhutan was almost entirely monastic and served a sliver of the population. Buddhist monasteries were the only source of formal literacy development – in religious classical Tibetan – and the vast majority of the general Bhutanese population could not read or write in any language. With the advent of planned socio-economic development programs beginning in the 1960s, the education sector received priority from the government as a means for human capital development (Schuelka & Maxwell,

2016). Today, the education structure in Bhutan can be divided into three tiers: formal (secular) education, monastic (religious) education, and non-formal education.

Education is recognized both as a basic right in the national constitution, as well as a pre-requisite for achieving wider national aspirations. The Royal University of Bhutan (RUB) was established in 2003. The RUB consists of 10 colleges specializing in different academic areas, as well as 2 private affiliate colleges that offer a variety of programs. In Bhutan, the colleges are spread over the entire country, the result being that higher education students attend only their specialist program and do not mix.

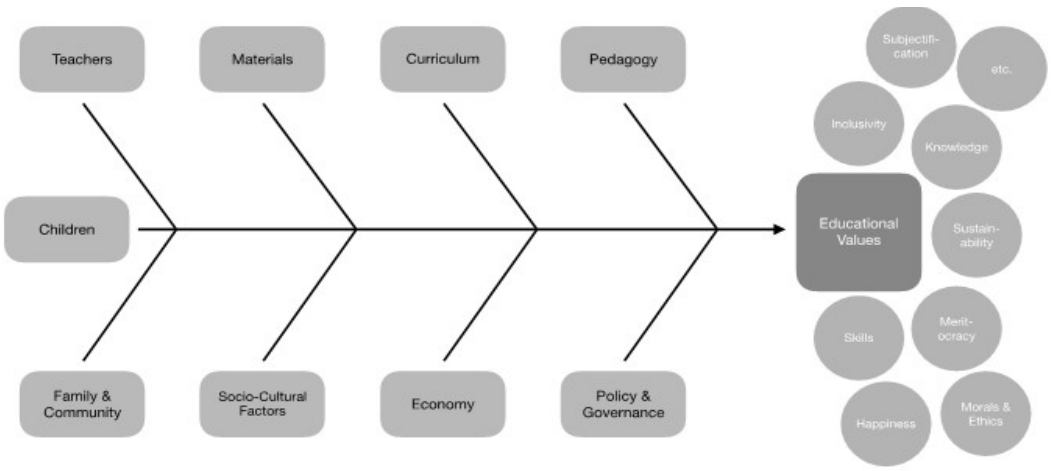
A key aspiration of the RUB is in the area of promoting a GNH-inspired society. The university expects all the colleges to use GNH values and principles as the educational foundation for degree programs. Since the inception of Educating for Gross National Happiness (EGNH) in 2010, all the colleges under the RUB were instructed to incorporate the theme of GNH in different modules and to deliver it accordingly in the classroom. Most recently, many staff were trained on universal human values both within the country as well as outside the country, and this training is done as part of the RUB's strategic plan (Pema Thinley, 2016).

While the RUB is certainly aspirational in its planning and policies, there are critical challenges that the RUB faces both internally and externally. Education in Bhutan, in general, is slow to respond to rapid changes in society and the economy (Sonam Kinga, 2005). The RUB has made enormous progress in a short amount of time, but still could be more innovative and fleet-of-foot in being societally and economically aligned and future-orientated (Schofield, 2016). While change may be slow, the RUB continues to focus on key areas of development, particularly when it comes to its role in inculcating GNH values. This study, and accompanying project, serves to shine a light on these values as they are realized in the happiness and wellbeing of higher education students and staff. In this next section, we will explain our theoretical framework that helps guide our analysis and understanding of the factors that promote and hinder the realization of GNH in Bhutanese higher education students.

The Educational Values Evaluation and Design (EVED) framework

Any educational system or institution that sets out to promote certain societal values and attributes will find itself within a nested series of complex societal systems. One way to understand the elements that inform values within a complex educational system is the Educational Values Evaluation and Design (EVED) framework proposed by Schuelka and Kezang Sherab (forthcoming). This framework itself originated from a multi-year study of educational values in Bhutan, but can be applied to any complex educational system. The visualization of the framework is in Figure 1 below:

Figure 1: The Educational Values Evaluation and Design Framework



Succinctly, the EVED framework identifies various elements that influence values perpetuated within an educational system. Note that this is not an exhaustive list of elements, and any research that uses the EVED framework may add or subtract elements for the purposes of their own analyses. The elements themselves are also simple categories that may be further broken-down into sub-categories. The elements are also inter-connected, and do not exist apart from other elements. The EVED framework can be used to identify misalignments and disjunctures of various elements in promoting certain values. For example, Schuelka (forthcoming) used the EVED framework to analyze various elements of the Bhutanese educational system that promote and challenge inclusion as an educational value. He found that misalignments between curriculum, teacher role identification, pedagogical practices, materials, and socio-economic incentives were not aligned with inclusive education policy and thus the value of inclusion in the Bhutanese educational system cannot be fully realized (Schuelka, forthcoming). The EVED framework can also be used pro-actively, in that values in an educational system can be deliberately designed when all of the elements are considered. For example, GNH as a value in higher education needs to not only exist in policy, but also be embedded in curriculum, embodied by teachers' pedagogical techniques and attitudes, and supported by the community to name only a few necessary elements. Based on the results of our survey, certain elements from the EVED framework will be considered and discussed. In the next section, we will explain how we went about collecting data for the survey.

Survey Design and Methodology

The mixed-method survey presented in this article is part of a larger project to support the establishment of counselling and wellbeing programs and centers in 9 colleges within the RUB. The 10th college – Yonphula Centenary College – was only just founded at the inception of our project and not included. There is only one other university in Bhutan – the Khesar Gyalpo University of Medical Sciences (KGUMS) – which is small and specialized. The KGUMS was also not included in our survey.

The online questionnaire survey collected quantitative and qualitative data in the form of closed-ended and open-ended questions. The questionnaire was in English, as this is the language of instruction and used widely by students and education professionals within schools in Bhutan. Our research design can be aptly categorized as 'convergent parallel mixed-methods' (Creswell, 2014) as the quantitative and qualitative data were collected within the same survey. These methods are within the single-country case study of Bhutanese higher education. As we wanted to ascertain participants' perceptions and experiences, our survey methodology was primarily emergent. However, we did statistical analysis to determine if dependent variable answers were influenced by factors such as age, gender, experience, and area of study.

The open-ended questions were analyzed using thematic analysis (Braun & Clarke, 2006). This process involved identifying emerging patterns and themes within the data to gain a clear understanding of the most common responses to the questions. For example, when students were asked whether they knew anyone in their college who had contemplated or attempted suicide they were offered an additional option to provide further details regarding their answer. From these responses four themes emerged, these themes were personal experience of suicide, reasons for suicide, action to be taken to reduce risk, and awareness. These themes were further broken down into sub-themes for clarity. The most common theme for this question was awareness. This occurred in 57% of the responses, and within that theme 60% of these responses were about not knowing of any suicide cases.

The questionnaire survey was distributed to *all* students and staff in the RUB (approx. 9,070 undergraduate students; 463 staff). The survey was completed by 1,364 students (15% response rate) and 292 staff members (63% response rate). The survey questions were modelled on a similar validated survey conducted on Welsh university students (Williams, et al., 2017). This Welsh study by Williams, et al. examined predictors of positive well-being, negative mental health, and cognitive function; very similar to our own aims and objectives. Our questionnaire consisted of 64 questions,

eliciting both qualitative open-ended, and quantitative closed-ended, responses utilising a Likert scale. The data collected from the Likert scales was analysed using the mean scores of responses.

One potential limitation of our study was in choosing to analyse mean scores from ordinal data, which can present challenges (Sullivan & Artino, 2013; Hasson & Arnetz, 2005). The first step in addressing this, as argued by Jamieson (2004), is for the authors to draw attention to the caution of analysing Likert scale data in this way. This may be a limitation of our research analysis, but we feel that Likert scale means best represented the data for the purposes of the study, as supported by Willits, Theodori, and Luloff (2016, p. 133) in their assertion that "responses to Likert type items can also be treated as interval scales." Another limitation in our study was a relatively small response rate from students (15%), although we had 1,364 returned questionnaires which is still a confidence interval of 4% with a 99% confidence level.

The survey protocol followed standard research ethics guidelines and was approved by all institutions involved. Survey participants were assured the right to anonymity, privacy, and data protection. Participants gave their written consent and were allowed to withdraw their personal data at any time during a 6-month period between data collection and data analysis. Being that this was an online survey, there was no harm to the participants, nor was there any inducement.

Results of the Student Survey

The aim of the student survey was to discover more about student wellbeing and happiness across the 9 colleges of the RUB sampled. During the analysis phase, the questions were sorted into 9 categories which facilitated thematic analysis of the various aspects of student wellbeing. The categories are as follows:

1. Student health and wellbeing
2. Student relationships
3. Student capabilities
4. Student responses to stress
5. Student life
6. Student support networks
7. Student perception of substance misuse and suicidal ideation
8. Student identified academic factors
9. Student opinions

The student surveys began with demographic questions. The findings from this data indicated the following demographic information:

Table 1. Student survey response demographic information

Gender:	Female (50%)
	Male (48%)
	Undisclosed (2%)
Age:	The mean age of respondents was 24 with ages ranging between 18-45, however most were aged between 18-27.
College of study:	JNEC – Jigme Namgyel Engineering College (16%)
	CLCS – College of Language and Culture Studies (16%)
	SCE – Samtse College of Education (15%)
	CST – College of Science and Technology (15%)
	SHER – Sherubtse College [Humanities] (14%)
	CNR – College of Natural Resources (11%)

Table 1. Student survey response demographic information (continued)

	PCE – Paro College of Education (8%)
	GCIT – Gyalpozing College of Information Technology (3%)
	GCBS – Gaeddu College of Business Studies (2%)
Years of study:	1st year (31%)
	2nd year (35%)
	3rd year (17%)
	4th year (4%) [Courses are typically only three years in length]
	other (6%)
Relationship status:	Single (73%)
	Long-term relationship (19%)
	Married (6%)
	Other (2%)
Living arrangements:	College dormitory (87%)
	Private accommodation with other students (6%)
	Private accommodation alone (4%)
	Living with family (3%)
Children:	Do not have children (96%)
	Do have children (4%)
How studies are financed:	Government funded (84%)
	Self-funded (16%)

Participants were asked to respond using a 1-10 Likert scale, where 1 represented a negative response and 10 was positive. However, some questions were negatively phrased, and these values were reverse-scored accordingly when determining the mean response for each category. A multivariate analysis of variance (MANOVA) was used to analyze the independent variables against each student category. Independent variables included College of Study, Gender, Age, and Year of Study.

Significant findings from the analysis were found in Student Life (student category 5) when analyzed against the independent variable of College of Study. This will be expanded on below. However, in looking at the means from student categories 1–6 across colleges, nearly all differences between colleges are statistically insignificant. This can be seen in Figure 2 below:

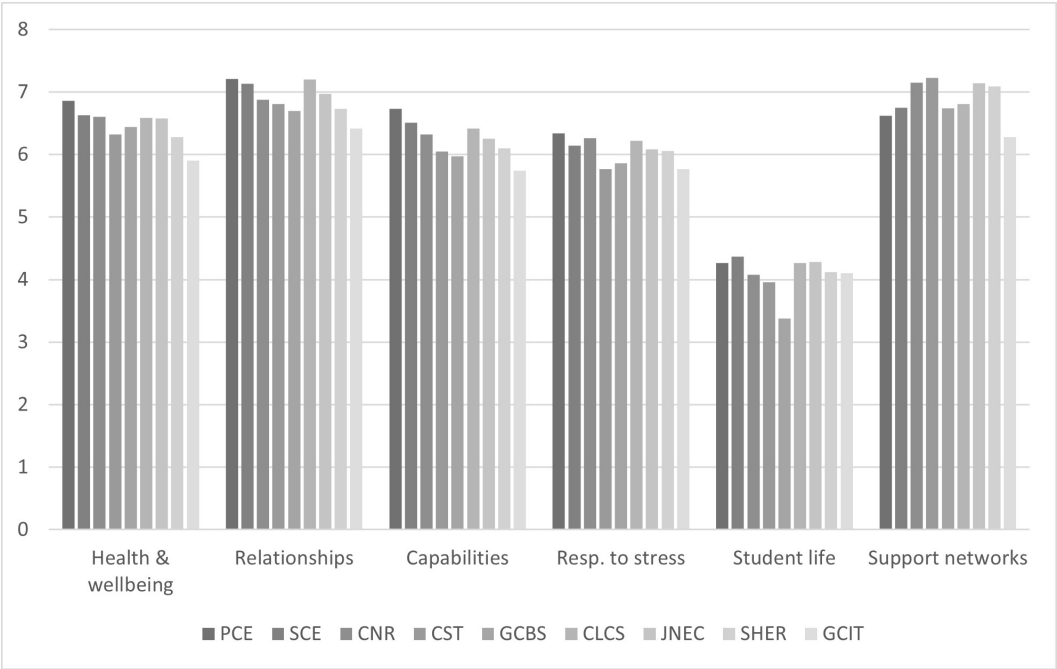
Category 1: Student Health and Wellbeing

Findings indicated good levels of health and wellbeing amongst participants, with a combined mean response of 6.44 out of 10. However, incongruities were discovered when participants were asked in one question whether they feel they have low self-esteem, and in another whether they have positive self-esteem. This discrepancy indicated that students may tend towards answering positively phrased questions positively, and vice versa.

Category 2: Student Relationships

Most students felt positive about their relationships with others. The combined mean for this category was 6.97 out of 10. Participants were asked about their social support and how well they

Figure 2. Mean scores from student survey, arranged by college and category



get on with others. However, again when participants were asked the same question phrased both positively and negatively discrepancies arose.

Category 3: Student Capabilities

Overall, it could be deduced that students were generally confident in their abilities to perform academically. When respondents were asked about their problem solving and motivation, the combined mean produced was 6.29 out of 10. When asked about their interest in new ideas, they demonstrated high levels of academic enthusiasm with a mean score of 7.37/10.

Category 4: Student Responses to Stress

The findings indicate that students were likely able to respond to stress in a healthy way, and less likely to engage in unhelpful behaviors such as drinking/smoking/drug-use to avoid their problems. The responses generated a mean score of 6.10 out of 10.

Category 5: Student Life

Students tended to have negative experiences of student life. This category generated the lowest combined mean of 4.2 out of 10. When asked about challenges to their development and time pressures, respondents indicated that this was a significant issue, with a mean score of 3.65/10 for both questions. These results highlight that the area of strongest student dissatisfaction lies in their student life, whereby they feel high levels of time pressure, challenges to development, and academic dissatisfaction. This will be further explored in the discussion section.

Category 6: Student Support Networks

Along with student relationships (category 2), this category scored the highest mean of 6.94 out of 10. In this category, students were asked about their access to tangible and emotional support and were

later asked to disclose who they who they can/would discuss their problems with. After analyzing the responses to this question, it was found that the top 3 persons students see to discuss their problems were parents (45%), fellow classmates (14%), and friends outside of their college (14%).

Category 7: Student Perceptions of Substance Misuse and Suicide Ideation

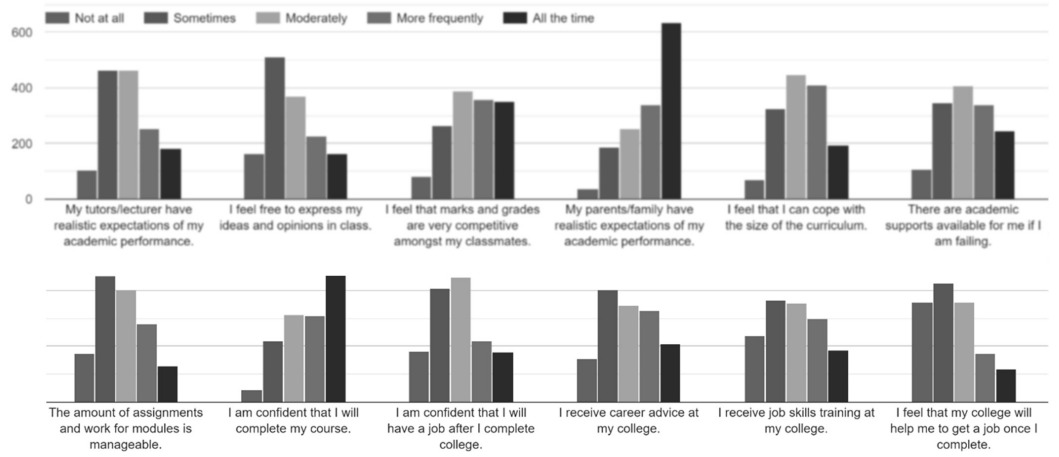
Overall, students did not identify substance misuse and suicide ideation to be significant challenges in Bhutanese higher education from their personal experience. However, many respondents were concerned about the general consequences of drug/alcohol over-use and called for action from the university to resolve issues, along with the introduction of counselling and guidance services. For example, one respondent wrote "*They know well about its side effects…therefore if some counselling are provided for them...so that they would stop*" [all quotes from respondents are provided without edit].

Respondents talked about not knowing of any suicide cases, with many stating that it does not happen at all. However, among students who talked of experiences of suicide, although most comments were about other people in their lives, there were a number of students who confessed to having a personal experience of suicide ideation. Furthermore, relationship issues were identified as the most common answer given about reasons for suicide ideation, with college/family pressures and depression also being a reoccurring factor. Moreover, community action/support along with counselling/mental health support were stated as actions that could be taken to reduce suicide risk. For example, one respondent wrote, "*If better counselling could be provided and if therapy could be provided for those suffering from mental issues, it would be nice. Some counsellors don't feel genuine*."

Category 8: Student Identified Academic Factors

On average, students expressed some concern over their academics and academic support. Students felt that the workload was not manageable and that the expectations from tutors was too high. They did not feel comfortable expressing their ideas and opinions in class, which is unsurprising given the pervasiveness of teacher-centered pedagogy and strict lecture formatting. It is also notable that securing a job after college was of the upmost concern, and there was general pessimism about this – particularly of the college's ability to help them with employment. The mean student responses across all colleges are demonstrated in Figure 3 below:

Figure 3. Student mean scores on academic factors



Category 9: Student Opinions

At the end of the survey participants were asked to respond to 7 open-ended questions. Students were first asked about the existing support offered by the colleges; the comment most frequently mentioned here was that spiritual support was provided, and this was closely followed by peer counselling. When students were asked what kind of wellbeing support they would like to see offered at their college; counselling received the most number of mentions, particularly counselling offered by trained professionals. Students were also asked what kind of academic support they would like to be offered; here respondents emphasized the need for better quality teaching and more learning resources. For example, one respondent wrote "*Quality of teaching should increase rather than reading slide by tutors*" and another wrote "*Monitor teaching standard since some lecturer just come to class and doesn't teach anything*." Students were also asked to provide thoughts on what they would like to see from their counselling center. Most responses to this question asked for general counselling services, particularly solutions to their problems. However, students also expressed a need for the service to be confidential and approachable, with guidance on careers and stress management. Students were also asked where in the community they could go for wellbeing support; most responses to this question featured a medical-psychological approach and indicated that they would go to the hospital/basic care unit.

When respondents were asked what the most serious mental health challenges are for youth in Bhutan, the top comment was about depression, followed by stress and low self-esteem. Substance abuse and financial/employment worries were also reoccurring amongst the responses, with pressures from family, education, and relationships also being frequently mentioned.

Finally, respondents were asked for their opinion on whether college students in Bhutan are happy. Most responses stated that yes, students are happy, with the most common reason for this being that students needs are met because they have free education. Of those who stated students were unhappy, or provided a mixed response, the most common reason stated for this was relating to a negative college environment and worries about limited job opportunities. Furthermore, college facilities were also frequently mentioned as being poor and not up to student expectations. For example, one respondent wrote, "*Maybe* [students are happy] *because students are mostly provided free tuition but the facilities provided are only satisfactory,*" while another wrote, "*No* [students are not happy], *because after training for more than 3 years they are left without job and less facilaties* [sic] *compare to other college*."

Results of the Staff Survey

The aim of the staff survey was to help understand how staff perceive the happiness and wellbeing of university students in Bhutan. In particular, the data from the survey showcases how staff at the RUB perceive the challenges and issues young people face during their college experience. Staff were also questioned on their own happiness and wellbeing while working for the RUB. The staff survey had 36 questions that teaching and non-teaching staff at the RUB answered. In total, 292 staff members responded. During the analysis phase, the questions were sorted into 10 categories which facilitated thematic analysis of the various aspects of staff and student wellbeing. The categories are as follows:

1. Staff perception of student health and wellbeing
2. Staff perception of student relationships
3. Staff perception of student capabilities
4. Staff perception of student stress
5. Staff health and wellbeing
6. Staff job satisfaction

7. Staff support networks
8. Staff perception of substance misuse and suicidal ideation
9. Staff identification of mental health challenges for Bhutanese youth
10. Staff perception of the happiness of students in Bhutan

The independent variables identified to analyze against each quantitative category included college of employment, gender, staff type, and years of service. The demographic information of the respondents can be seen in Table 2 below:

Table 2. Staff survey response demographic information

Gender:	Female (63%)
	Male (34%)
	Undisclosed (3%)
College of employment:	JNEC – Jigme Namgyel Engineering College (7%)
	CLCS – College of Language and Culture Studies (7%)
	SCE – Samtse College of Education (8%)
	CST – College of Science and Technology (14%)
	SHER – Sherubtse College [Humanities] (18%)
	CNR – College of Natural Resources (16%)
	PCE – Paro College of Education (8%)
	GCIT – Gyalpozing College of Information Technology (6%)
	GCBS – Gaeddu College of Business Studies (16%)
Staff type:	Teaching staff (67%)
	Non-teaching staff (33%)
Years of service:	0 – 4 years (39%)
	5+ years (61%)

Analysis of the staff responses followed the same rules as analysis of the student responses, meaning that analysis for most categories was based on a Likert-scale response in which the positively and negatively scored questions were aligned in SPSS. For each category, independent variables were tested using a MANOVA. All independent variables were analyzed against each category. Significant findings from the analysis came from Categories 5 and 6, as discussed below.

Category 1: Staff Perception of Student Health and Wellbeing

Staff across all colleges perceive that students have positive self-esteem. However, staff also perceive students to be depressed. The mean score for the question 'Overall, I think that students feel that they have positive self-esteem' was 6.84/10.

Category 2: Staff Perception of Student Relationships

Staff reported that generally students get along well with others, with a mean score of 6.44 out of 10. However, female staff recorded a higher mean score indicating they are more likely to perceive students as not getting along with people (6.21/10) compared to their male colleagues (6.12/10).

Category 3: Staff Perception of Student Capabilities

An above average number of staff believed that students had a disagreeable nature. Teaching staff recorded a higher mean score in answer to these questions, indicating they believe students are more disagreeable in nature (5.92/10) compared to their non-teaching colleagues (5.73/10). This was not a statistically significant difference between staff types. Both teaching and non-teaching staff felt that students were confident 'in their ability to solve problems that they might face in life' (6.54/10).

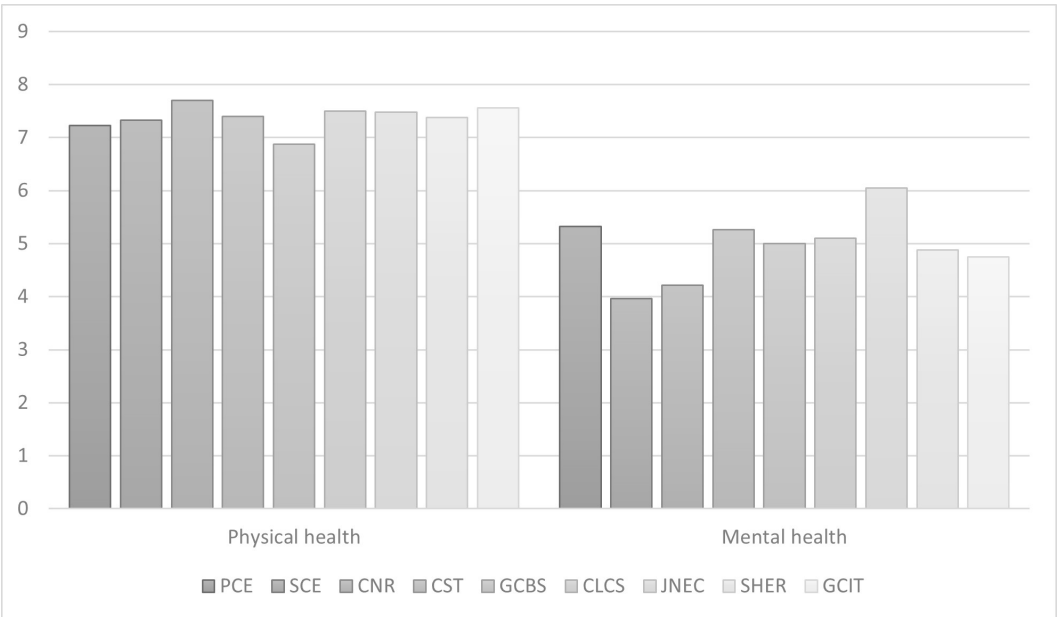
Category 4: Staff Perception of Student Stress

Staff perceived students to be anxious, with a mean score of 6 out of 10. There was also a difference in perception between younger staff and those with more experience. RUB staff who have been with the university for less than a year recorded a higher mean score (5.11/10) on their perception that students employ avoidance strategies to deal with stressful situations. However, this was not statistically significant.

Category 5: Staff Health and Wellbeing

Staff from all colleges reported positivity around their physical health, but scored negatively in regards to their mental health. Three questions were analyzed together in this category by running MANOVA against each of the 4 independent variables. A significant finding using Pillai's Trace of <0.01 was recorded when analyzing Category 5 (*Staff Health & Wellbeing*) and the independent variable (A) *College of Employment*. Staff from all colleges recorded a mean score of 7.36 out of 10 for their physical health, but a mean score of 4.90 out of 10 on how stressful their lives were. Staff from JNEC recorded the highest levels of stress while SCE recorded the lowest. A significant finding using Pillai's Trace of <0.01 was recorded. This finding highlights a disparity between mental and physical health of staff working at the RUB, as can be seen in figure 4 below.

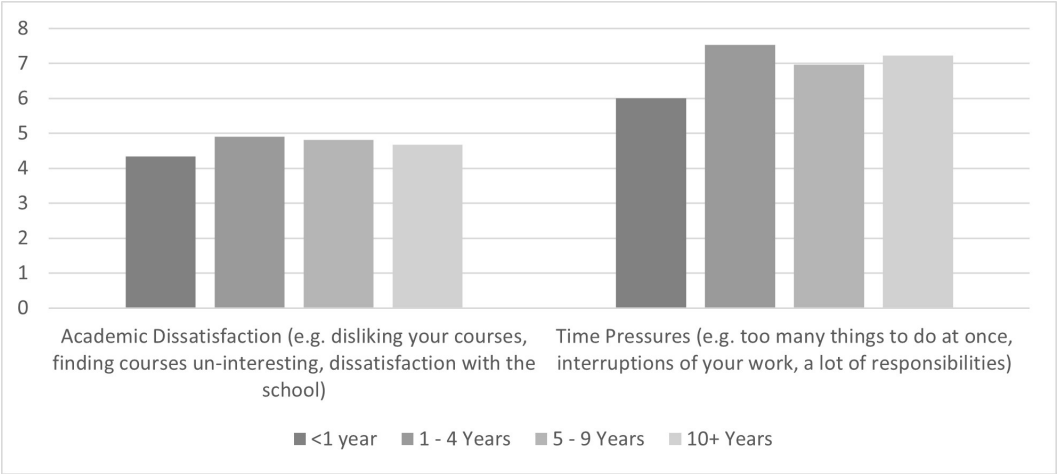
Figure 4. Staff health and wellbeing, categorized by college



Category 6: Staff Job Satisfaction

The results of the survey from this category highlights a disparity between staff job satisfaction and having the time to complete the work assigned to them. Staff having worked at a college between 0–4 years recorded the highest mean score for time pressures and job dissatisfaction; this result highlights that staff who at the infancy in their careers feel more time pressures that directly impact how they feel about their satisfaction with their work. A significant finding using Pillai's Trace of 0.00 was recorded when analyzing Category 6 (*Staff Job Satisfaction*) and independent variable (A) *College of Employment*. A significant finding using Pillai's Trace of 0.01 was also recorded when analyzing the same category with (D) *Years of Service*. Staff from all 9 colleges recorded a mean score of 4.72 out of 10 for being dissatisfied with their school/work, but a mean score of 7.10 out of 10 was recorded for time pressures.

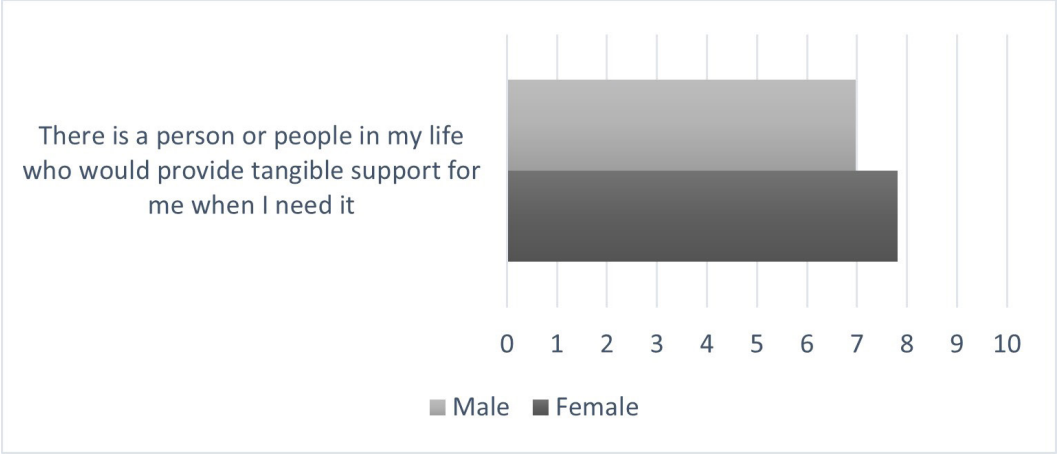
Figure 5. Staff job satisfaction, categorized by years of service



Category 7: Staff Support Networks

Female RUB staff were more likely to have a support network, as compared to their male colleagues. This can be seen in Figure 6 below.

Figure 6. Staff response on support networks



Category 8: Staff Perception of Substance Misuse and Suicidal Ideation

The majority of RUB staff members (81%) responded that they did not know anyone in their college that had contemplated or attempted suicide. Staff were asked whether they knew someone in their college who misuses alcohol, drugs and/or tobacco – in total 13% said 'Yes,' 46% said 'Maybe,' and 41% said 'No'.

Category 9: Staff Identification of Mental Health Challenges for Bhutanese Youth

When staff were asked to identify serious challenges facing Bhutanese youth today – in an open-answer format – four themes emerged from the data. The themes that emerged were life issues; addiction, mental health, and substance misuse; identity and social stigma; and, 'being weak'. Each of these themes will be elaborated below.

For some staff, the serious challenges facing the youth of Bhutan centered around life issues relating to family, relationships, unemployment, and peer pressure. Staff articulated that family problems including poor parenting, divorce, domestic abuse, lack of support, and pressure to succeed are a serious challenge for Bhutanese youths. For example, staff participants expressed thoughts such as "*In my opinion the root causes of youth issues and challenges in Bhutan… is the lack of proper parental care*" and "*The most serious challenges are a lack of family support*." Staff mentioned that in connection with family problems, romantic relationships was an issue. Staff also raised the challenges that youths face when seeking employment and also the pressures from those around them to drink alcohol and/or to take drugs.

The second theme that emerged from the data was most staff expressed that issues including substance misuse, addiction, and mental health posed the biggest challenges to Bhutanese youths. For substance misuse, drugs and alcohol were the main areas that came up along with smart phone and gaming addiction. For mental health, conditions such as anxiety and depression formed most of the responses. Some examples from the data include responses such as "*Depression, anxiety, gaming addiction; leads to attention deficiency and aggressive youths*" and "*Depression due to some kind of relationship problems (with family, friends and lovers)*."

The third theme to emerge from the data gave an insight in to how staff at the RUB view the issues associated with youth identity in Bhutan and the social stigma associated with speaking openly about issues that might be affecting them. Some staff viewed identity issues for Bhutanese youths to be connected with low self-esteem, self-doubt, lack of self-awareness, and low self-confidence. For example, one respondent wrote, "*They cannot differentiate what is good and what is not, some cannot take their own decisions [because of] low self-esteem; they feel they cannot do, they are not good at it, etc.*" Some staff reflected that identity issues are exacerbated by the social stigma that exists in Bhutan around mental health and other issues. One respondent wrote, "*Their biggest challenge is not openly showing or discussing their emotions [because of] confusion/conflict in balancing modern vs. traditional values*."

The fourth and final theme to emerge from data centered on a minority of staff expressing that being mentally weak was the biggest challenge facing the youth of today in Bhutan. For example, respondents wrote that "*Their biggest issue is being emotionally weak and getting influenced very easily*" and "*Most of our youth give-up easily when faced with a problem, as they have a mental health issue*." There was an undertone within this theme that mental health conditions were not a problem when they – the staff – were young. Comparing themselves with the youth of today, some staff believe that today's youth have become less resilient and mentally weaker.

Overall, the data analyzed in this category demonstrates a complex picture of what staff at the RUB believe are the biggest challenges facing the youth of Bhutan today. The four themes showcase a rather mixed picture of opinions that span a wide area. For most staff, anxiety and depression are one of the biggest challenges along with substance misuse and addiction. For other staff, family and relationship problems pose more of a challenge, coupled with a stigma within Bhutanese society that prevents people from being able to speak out about their issues.

Category 10: Staff Perception of the Happiness of Students in Bhutan

When staff were asked about the happiness of Bhutanese youth today – in an open-answer format – three themes emerged from the data. The themes that emerged were benefits of higher education; future prospects; and, society and culture. Each of these themes will be elaborated below.

The first theme that emerged from the data showed that most staff felt student happiness was connected to the free education provided by the Bhutanese government. This included financial subsidies for some courses and scholarships given to Bhutanese youths to attend university. Some examples from the respondents include, *"They are happy. Everything is taken care [of]...hostel, food, education...they are loved, cared and listened to"* and *"I think they are quite happy, because there are very few things to worry about during their studies."* Some staff felt that with good campus facilities coupled with on-site support from teachers meant students happiness levels were, overall, very good. Staff also felt that the student lifestyle in Bhutan also elevated their happiness; namely the community feel, socializing with peers and the natural freedoms that come with studying at university.

The second theme that emerged from the staff data found that students worry about their future prospects in regards to employment after graduating. For example, one respondent wrote, "*Overall, students are happy when they qualify for a scholarship, but slowly they would not because they begin to think about their future and getting jobs. And there are so many negative influences about previous graduates being left unemployed."* The staff who talked about happiness of students linked it with the challenges they face once they complete their studies, namely increased competition in the job market, lack of opportunities, and financial pressures to provide for their families.

The third and final theme that emerged was linked with student happiness and its link with Bhutanese society and culture. Some staff articulated that the Bhutanese way of life gives students the ability to share openly how they feel while being part of a society that together solve problems. For example, one respondent wrote, "*In my opinion the college students are happy in Bhutan because they groom, guide and make every youth better prepared for the future and making them shift their vision in line with the values of Gross National Happiness (GNH)."* Another respondent wrote, "*Yes,* [Bhutanese youth are happy] *because you get to learn so many things and as all are Bhutanese there is feeling of oneness among them*." However, some staff views also aligned themselves to how they viewed pressures for students associated with being a part of Bhutanese society. Other responses included, "*Students these days face a lot of social pressure. Pressure to belong to a crowd. Pressure to look good*" and *"There is pressure to use substances, with little accurate education about the effects. Students also say they have no one they can talk to or depend on."*

Overall, the qualitative data provided an insight into how the RUB staff view student happiness. As can be gleaned from the quotes provided, a mixed picture has developed. On the one hand, staff feel that as students receive a free education to study at university as well as good support and facilities on campus, that this equates to overall happiness. However, staff also expressed concern for students' future employment prospects and wider societal pressures that the youth of Bhutan experience today.

Analysis and Comparison of Students and Staff Responses

For nearly every comparison, staff were generally more pessimistic about students than students were about themselves. None of the differences were deemed to be statistically significant when most questions were analyzed together for each category by running a MANOVA against each of the 4 independent variables. Staff tend to view students as being slightly more depressed than students view themselves to be. However, the mean results for the health and wellbeing category for both student and staff were close in value. Comparing students and staff results also indicate that students perceive their ability to get on well with others somewhat differently to staff, who view them as less capable to get along well with others than they perceive themselves to be. When looking at the mean scores for this category this trend continues as students scored a mean of 6.97 for this category while staff score 6.71. Although these mean scores are not significantly different

from each other, it does still indicate that staff have a less positive view of student relationships. It is evident that generally staff view students to be less capable than the students perceive themselves to be. Furthermore, the mean score from students from the category was 6.29, whereas the staff survey generated a mean of 5.98 which indicates a difference between student and staff perceptions of student capabilities. However, results also show that staff perceive students to have slightly less anxiety than students view themselves to have.

Comparing the qualitative data sets drew up a mixed picture of results from staff and student views on happiness and mental wellbeing. The most popular response from students in relation to their own happiness centered on the theme of free education. Most of the students that responded to the survey felt their happiness was connected to the free education provided the Bhutanese Government. This was also a common refrain from the analysis of the staff responses. However, a number of students felt that their happiness was dependent upon the facilities provided by the colleges, which some deemed inadequate. Staff did not express any views that attributed happiness to inadequate campus facilities or poor quality of teaching. Staff did report that unhappiness for students was linked to job opportunities and the competitive market that graduates enter in to when leaving university. Students also commonly reported their concerns about lack of job prospects that ultimately effected their happiness whilst at college.

Students and staff were asked about the serious challenges facing the youth of Bhutan. A high number of students noted depression as one of the most serious challenges facing their generation, which was commonly linked to substance misuse. A high number of staff also reported depression and anxiety to be the most serious challenge to Bhutanese youths, concurring the sentiments expressed by the student responses. Staff linked depression and anxiety to family and relationship issues as well as substance misuse, addiction, and the social stigma of talking openly about their feelings.

Discussion: Happiness and Wellbeing in Bhutanese Education and Society

Using the EVED framework, our analysis of the survey results identifies a number of elements within and without Bhutanese higher education that enable or misalign the promotion of happiness and wellbeing as institutional values.

The first element using the EVED framework are the socio-economic factors that surrounds higher education. One of the major areas of concern for students and staff alike was the anxiety of securing employment after graduation. This anxiety about the future is a somewhat new phenomenon in Bhutan. Before modern education and a modern economy took root in Bhutan in the late 20th century, there was not much choice in terms of employment or education. Most Bhutanese were subsistence farmers and lived their lives hyper-locally. When a modern education system was established in 1959, the explicit purpose of such was human capital development and the prototypes of colleges that would later become consolidated into the RUB existed only within ministries of the Royal Government as employee-feeder organizations. That scenario has completely changed in the 21st century, with employment or vocation not pre-ordained and the future-self insecure. It is certainly a new phenomenon for schools in Bhutan to focus on anything other than academic cognitive skills (Schuelka, Kezang Sherab & Tsering Y. Nidup, 2019), and this is reflected in our survey in the general dissatisfaction from the students about the facilities and activities that their colleges had to offer that would increase their wellbeing. Youth in Bhutan face the highest unemployment rates and Bhutan finds itself in a situation where the more educated one becomes, the more likely they are to be out work (National Statistics Bureau, 2018). As can be seen in the results of this survey, many students still believe strongly in the narrative of education as a means for social advancement. This belief, based on a narrative myth and not necessarily reality, can actually do more harm in terms of happiness and wellbeing when expectations and scripts do not come to fruition (Kezang Sherab & Schuelka, forthcoming).

The second element identified using the EVED framework is the importance of community. The results of the survey indicate that both students and staff at the RUB have strong wellbeing

safety nets and community support. Indeed, this is a strength that exists in Bhutan as a whole. GNH did not simply create happiness and wellbeing out of thin air for the Bhutanese. Rather, it was a reflection of the societal values and cultural norms that already existed. Because of its Buddhist roots, Bhutanese culture features a strong emphasis on harmony. For example, during the COVID-19 pandemic, there was a robust centralized response that received the support and compliance of all Bhutanese citizens. On social media and public health campaigns, the notion of *gyenkhu*, which transliterally means "our responsibility" in Dzongkha, was widely shared and reflected the complex Bhutanese notion of thinking about their roles and responsibility in society and in how their actions influenced others and the environment.

However rosy *gyenkhu* and a conscientious culture may be, it can also be difficult to traverse as a young person trying to express themselves and their identities. Within a small, close-knit, and homogenous community, it is difficult to express difference when there is much social pressure to remain the same. This was clearly expressed in the results of our survey. In Bhutan, because of rapid growth and change, there are significant generational gaps that create tension. Youth find it difficult to reconcile what they are learning in school to what their illiterate and agrarian grandparents believe (Kezang Sherab & Schuelka, forthcoming). So, too, it is difficult for older generations to relate to the challenges that today's Bhutanese youth face. We believe that this is reflected in our survey results in the differences between RUB staff perceptions of students' wellbeing. While many staff responses were sympathetic to challenges faced by modern Bhutanese youth, a significant number of the responses tended to take on a tone of indignation that today's youth 'had it easy' and lamented the corruption of modern Bhutanese youth. In the results of the survey, many staff felt that students 'being weak' was a concern.

The third and fourth elements identified using the EVED framework are materials and teaching. When asked about student happiness, staff and students agreed that students in Bhutan are happy and attributed this to their free education. However, staff also noted facilities to be a positive contributor to their happiness, while students named poor facilities as one of the top reasons for their unhappiness. Furthermore, when students were asked about what academic support they would like, a significant number of respondents cited poor quality teaching which is not something that was mentioned by staff.

Staff and students seemed to share very similar views on mental health challenges and reasons why people experience anxiety and depression. For staff, there was a sense that students need to talk more openly about their issues but at the same time there was a recognition on why that might be difficult. Some staff blamed parents for not being supportive enough to their children and recognized the need for students to receive better parenting. Overall, most staff said that the RUB has all the facilities a student needs to live well and succeed. However, at the same time staff recognized the challenges that students face when they leave university.

Conclusion

By using the EVED framework to highlight various elements that inform the value of happiness in Bhutanese higher education, it can be seen that there is never just simply any *one* factor that needs to be addressed. In a complex system, multiple elements need to be addressed in order to make sustainable and systemic change. In this case, happiness in Bhutanese higher education cannot only be taught didactically in a classroom setting, or through policy alone, but it involves addressing community, attitudinal, cultural, and socio-economic factors. Promoting GNH in Bhutanese higher education is a recognition of not only individual lived experiences, but also deliberately putting in place enabling elements across the institutional system. This fully supports the meaning and vision of GNH as a whole.

When asked about the most serious mental health challenges facing the youth of Bhutan, many students were able to provide a response and articulate what they think might cause these issues – substance misuse, employment issues, family/college pressures, among others. However,

a significant number of respondents simply noted 'depression' when asked about this, providing no further explanation. The results from this question, alongside the other qualitative responses, suggest that students are generally non-dismissive, and have a good perception, of mental health and wellbeing issues. However, their understanding often relies upon personal experience. Those who provided details of their own experiences of mental health and wellbeing issues tended to also demonstrate a far greater understanding.

The staff are aware of mental health conditions, substance misuse and addiction, and can articulate what might cause these challenges. There were some outdated views on what mental health issues are – that they are only for the weak minded – but, generally speaking, staff were mostly empathetic of the needs of the next generation. They recognize job opportunities are poor and family/relationship/financial issues can cause people to suffer. When asked about stress, staff felt overall they did not have much of it. However, other results such as time pressures seemed to contradict this sentiment.

Independent variables were analysed against survey answers: College of study / employment; Age; Gender; Year of study (students) / Years of employment (staff); Non-academic / academic (staff). There were no significant findings from these demographic factors. However, it was clear from the data that the less time staff had worked at RUB, the more stressed they were. This could be seen as normal given it takes time to get the hang of a new job and younger academic staff often are given more to do; but, generally speaking, outdated views – mental health challenges equate to being weak – tended to be from older, more experienced, staff members. The majority of staff (non-teaching and teaching) had comparable answers about mental health challenges and what typically makes students happy.

As a consequence of this study and larger project, student support services at the RUB colleges were integrated into one center called a 'Happiness and Wellbeing Centre'. Prior to this study, different campuses were providing several student wellbeing support services like yoga, mindfulness, and academic skills coordinated by different sources and different experts, hence the activities were not monitored and failed to be sustained in many of the campuses. Therefore, this project provided the opportunity to bridge this gap and integrate all the existing wellbeing support activities under one roof and with the intent to promote GNH more integrally. The results of the survey have reiterated the importance of community support and the role of different stakeholders, both regional and national, in enhancing wellbeing and career guidance that need to further integrate higher education with the socio-economic realities of the community.

Notes

[1] This research was funded through a European Commission Erasmus+ Capacity Building in the Field of Higher Education grant. The full project is titled "Enhancing Mental Health, Counselling, and Wellbeing Support for University Students in Bhutan" (598255-EPP-1-2018-1-BT-EPPKA2-CBHE-JP). The project partners are the Royal University of Bhutan, University of Birmingham (UK), Vrije Universiteit Brussel (Belgium), and Maieutica Cooperativa de Ensino Superior (Portugal).

[2] Bhutanese names do not feature family or surnames. Rather, Bhutanese children are named using one or two given names (often given by a Lama or revered Buddhist practitioner), and there is no distinction between 'first names' and 'last names' nor any sense of gendered naming conventions. Therefore, as argued in Schuelka & Maxwell (2016), Bhutanese scholars should be cited and referenced with their full given name and alphabetized according to the letter of their first (or only) given name.

References

Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), pp.77-101. https://doi.org/10.1191/1478088706qp063oa

Centre for Bhutan Studies (2016). *A Compass Towards a Just and Harmonious Society: 2015 GNH Survey Report.* Thimphu: Centre for Bhutan Studies and GNH Research.

Creswell, J.W. (2014). *Research Design: Qualitative, quantitative, and mixed methods approaches.* Thousand Oaks, CA: SAGE.

Field, T., Diego, M., Pelaez, M., Deeds, O. & Delgado, J. (2012). Depression and related problems in university students. *College Student Journal, 46*(1), pp.193–202.

Gündogdu, M.H. (2010). Life orientations among university students. *Egitim ve Bilim*, *35*(157), p.192-199.

Hasson, D. & Arnetz, B. B., (2005). Validation and findings comparing VAS vs. Likert Scales for psychosocial measurements. *International Electronic Journal of Health Education*, *8*, pp. 178-192.

Jamieson, S. (2004) Likert scales: how to (ab)use them? *Medical Education*, *38*(12), pp. 1217-1218. doi: 10.1111/j.1365-2929.2004.02012.x

Kezang Sherab & Schuelka, M.J. (forthcoming). Educating for Gross National Happiness: The challenges and opportunities of educational policy and culture in Bhutan. In G. Fry & H. Chun (Eds.), *Happiness Education.* London: Routledge.

National Statistics Bureau. (2018). *2017 Population and Housing Census of Bhutan: National Report.* Thimphu: National Statistics Bureau of Bhutan.

Pema Thinley (2016). Overview and 'heart essence' of the Bhutanese education system. In M.J. Schuelka & T.W. Maxwell (Eds.), *Education in Bhutan: Culture, schooling, and Gross National Happiness*. Singapore: Springer, pp. 19-37. https://doi.org/10.1007/978-981-10-1649-3_2

Rickinson, B. (1998). The relationship between undergraduate student counselling and successful degree completion. *Studies in Higher Education*, *23*(1), pp.95–102. https://doi.org/10.1080/03075079812331380522

Schofield, J.W. (2016). Higher education in Bhutan: Progress and challenges. In M.J. Schuelka & T.W. Maxwell (Eds.), *Education in Bhutan: Culture, schooling, and Gross National Happiness*. Singapore: Springer, pp. 73-90. https://doi.org/10.1007/978-981-10-1649-3_5

Schuelka, M.J. (2017). Learning at the top of the world: Education policy construction and meaning in Bhutan. In T.D. Jules & P. Ressler (Eds.), *Re-reading Educational Policy and Practice in Small and Micro States.*. Bern: Peter Lang, pp. 217-236.

Schuelka, M.J. (forthcoming). Inclusion as a value in a complex educational system: A values and design evaluation of inclusive education in Bhutan. *International Journal of Inclusive Education.*

Schuelka, M.J. & Kezang Sherab. (forthcoming). *Reform and Alignment in Education Systems: The Educational Values Evaluation and Design Framework.* Fora Education.

Schuelka, M.J., Kezang Sherab & Tsering Y. Nidup (2019). Gross national happiness, British values, and non-cognitive skills: the role and perspective of teachers in Bhutan and England. *Educational Review*, *71*(6), pp. 748-766. https://doi.org/10.1080/00131911.2018.1474175

Schuelka, M.J. & Maxwell, T.W. (2016). Education in Bhutan: Introduction. In M.J.

Schuelka & T.W. Maxwell (Eds.), *Education in Bhutan: Culture, schooling, and Gross National Happiness*. Singapore: Springer, pp. 1-15.https://doi.org/10.1007/978-981-10-1649-3_1

Sonam Kinga. (2005). Youth and Unemployment in Bhutan. In Lham Dorji & Sonam Kinga (Eds.) *Youth in Bhutan: Education, employment.* Thimphu, Bhutan: The Centre for Bhutan Studies, pp. 33-79.

Sullivan, G.M., & Artino, A.R., Jr (2013). Analyzing and interpreting data from likert-type scales. *Journal of Graduate Medical Education*, *5*(4), pp. 541–542. https://doi.org/10.4300/JGME-5-4-18

Williams, G.M., Pendlebury, H., Thomas, K. & Smith, A.P. (2017). The Student Well-Being Process Questionnaire (Student WPQ). *Psychology, 8*(11), pp.1748-1761. https://doi.org/10.4236/psych.2017.811115.

Willis, P. (2003). Foot soldiers of modernity: The dialectics of cultural consumption and the 21st century school. *Harvard Educational Review, 73*(3), pp.390–415. https://doi.org/10.17763/haer.73.3.0w5086336u305184

Willits, F.K., Theodori, G.L. & Luloff, A.E. (2016). Another look at Likert scales. *Journal of Rural Social Sciences*, *31*(3), pp.126–139.

Revealing The Pictures of Research Culture In Vietnamese Higher Education Institutions

Nguyen Hoang Thien[a]
Ho Chi Minh City University of Education

Abstract: *This article aims to reveal the features of research culture in Vietnamese universities, through various indicators. It shows that among factors impacting the formation of research culture in Vietnamese universities are state-related ones, including policies, regulations, norms and traditions for university research. The state-related factors have contributed to bettering the qualifications of lecturers, recognizing faculty's research works with financial and non-financial rewards, strengthening the cooperation between universities with external research partners, and increasing the number of publications. Yet, at the same time, different problems stem from the existence of some state-related factors including the nation's tradition of spending less on higher education than on basic education and less on universities than on research institutes, the lack of autonomy among universities, the almost ultimate power of the university rector, and the use of the historically-negotiated recurrent approach for allocating research funding to universities. Given the fact that Vietnam's higher education is highly regulated by the state, changes to research culture in universities must accompany changes to the state-related factors believed to influence the formation of research culture.*

Keywords*: university research, research culture, state-related factors, regulations, traditions*

Introduction

Research is one of the significant missions of universities, and generally, it is also one of the obligations of university faculty, in addition to teaching and serving the community (Center for Postsecondary Research, 2015). By and large, universities in developed countries have a long-established record of research, while the majority of those in developing countries focus more on teaching activities, and as a consequence, remain frail in terms of research (Sanyal & Varghese, 2006). Concerning Vietnam, research in the country used to be supported and controlled by the government mainly through a few hundred public research institutes that operated independently of higher education institutions, following the Soviet model (Nguyen, 2013). Since the 1990s, the government has encouraged universities to enhance their research capacity, which has been exhibited in various policies and activities (Nguyen, 2016). In 2005, the Ministry of Education and Training (MOET) launched the 2006–2020 Higher Education Reform Agenda (Pham, 2010). This agenda is the strategy and ambition of the government in making changes to help the higher education system in Vietnam develop, some of which included the formation of a tier of "research-oriented" universities, and a critical increment in the number of academics with doctoral degrees. This agenda highlighted the requirement for a more grounded pledge of research as well (Le & Hayden, 2017). In 2013 the first law on higher education in Vietnam took effect (National Assembly of Vietnam, 2012), marking one of the milestones in Vietnam's higher education. Higher Education Law is another policy document that has effects on research in Vietnamese higher education institutions (Nguyen, 2020). This law reinforces what was highlighted in the 2006–2020 Higher Education Reform Agenda about the requirement for Vietnam to have a group of universities eligible for attaining international rankings. As regulated by the law, components are applied to help enhance research performance inside higher

a Correspondence can be directed to: hoangthien@ier.edu.vn

education organizations, such as providing funding and different awards to academics with research published in peer-reviewed international journals (Pham & Hayden, 2019). It also strengthens the requirement for more institutional autonomy through the establishment of governing boards, known as university councils (*Hoi dong Dai hoc*) in the case of public universities (Le & Hayden, 2017). This is a significant premise and a legal basis for the decrease of state regulation, which is expected to help universities, especially public ones, to be more autonomous in how they are run, with the authority to make decisions and be responsible for their different activities, including research (UNESCO, 2014).

Among various ways of understanding the research aspect of universities are cultural approaches. Cultural analysis can help improve the administrative action of organizations (Austin, 1990) and can result in a deep understanding of organizations, governance, and working life (Hurtado et al., 2012). However, research culture and other cultural matters that lead to the improvement or deterioration of research productivity in certain educational contexts are paid scant attention (Salazar-Clemeña & Almonte-Acosta, 2007). Culture forms from rules, beliefs, customs, and assumptions of members of an organization, becoming a collective activity or a system of shared meaning (Deem & Lucas, 2007; Morgan, 2006; Robbins & Judge, 2006). The research culture of universities can be viewed in the same way. It is the common features found in the research aspect of the universities, which are made up of visible factors such as norms, rules and regulations, and less visible ones, such as customs, beliefs, and assumptions (Schein, 2010; Zha & Shen, 2018). Among various factors, such as the economic and social conditions of the country and its national culture, the culture of a university is shaped and influenced by what the government does toward education, and how (Smerek, 2010; Lacatus, 2013). In the context of Vietnam, given the state's "over-centralized" control of higher education (London, 2011), the influence of the state in forming common features of research in universities is not only obvious but also likely to be tremendous. Therefore, studying Vietnamese higher education cannot ignore the state's role in this sector.

Several studies relate to the state's impacts on research culture in Vietnamese universities, such as the role of research committees (Salmi & Pham, 2019; Pham, 2017), traditions of cooperation with external partners for research enhancement (Harman & Nguyen, 2010; Spoo & Dao, 2010), and the research status of Vietnamese universities, mainly through the quantity and quality of international articles produced (Nguyen, 2020; Trinh et al., 2020; Trung et al., 2020). However, although different aspects of research culture are mentioned sporadically in different studies, the literature lacks works that provide a comprehensive feature of research culture in Vietnamese universities. There is also a lack of research showing how the State influences and contributes to the formation of common characteristics of university research in Vietnam. This study will therefore connect the different aspects of research culture in Vietnamese universities as mentioned in different studies to form a systematic picture of such culture in Vietnamese higher education institutions. At the same time, this study will review what state-related factors have contributed to forming a research culture in Vietnamese universities. To reveal the reality of research culture in Vietnamese higher education institutions, this study aims to address two questions: "What are the features of research culture in Vietnamese universities?" and "What state-related factors have influenced the formation of these features?"

Research Methodology and Analytical Framework

This paper is developed based on the analysis of research on topics relevant to university research in Vietnam as well as government policies and regulations on university research, such as the 2006–2020 Higher Education Reform Agenda, the 2012 Higher Education Law, the Amendment of Higher Education Law 2018, the 2013 Law on Science and Technology, Project 322, Project 911, Project 89, and Decree 99/2014/ND-CP which introduces regulations on investment to develop science and technology potential of higher education institutions. The state of research culture in Vietnamese higher education institutions depicted here is mainly focused on public universities since they accounted for 172 out of 237 universities, not counting those in the security and defense

sectors in the 2018-2019 academic year (MOET, 2019). Moreover, many private institutions generally appear to follow the practices of public universities instead of taking advantage of their autonomy in making decisions on various institutional matters. Thus, there are more similarities between these sectors of higher education in Vietnam than disparities (Salmi & Pham, 2019).

Culture is a complex concept, so different researchers such as Smith, Dugan & Trompenaars (1996), Steenkamp (2001), and Hofstede, Hofstede & Minkov (2010) have tried to develop a framework to narrow it down while studying this theme and its related matters. Salazar-Clemeña and Almonte-Acosta (2007), while investigating the research culture of higher education institutions, also operationalize indicators of research culture from various researchers. In order to understand the research culture of Vietnamese universities, this study used the indicators introduced by Salazar-Clemeña and Almonte-Acosta (2007, p. 4) as a framework. These indicators were previously used to explore a similar topic in the Philippines, and also to study research-related matters at Mexican universities (Hernandez & Reyes, 2014).

Although adopting this framework, this study integrated the dimension of "Departmental culture and working conditions" in the dimension of "Institutional research policies and agenda". As regulated by Vietnam's Higher Education Law of 2012, in Vietnamese public higher education institutions, many aspects classified by Salazar-Clemeña and Almonte-Acosta (2007) in the dimension of "Departmental culture and working conditions," such as giving faculty opportunities to improve and practice their research capacity and establishing criteria for recruiting academics (p. 4), are also part of the state and the university's general policy rather than of only departments themselves (National Assembly of Vietnam, 2012). These adapted indicators with specific aspects are provided in Table 1.

Table 1. The analytical framework of the research

Indicators	Specific aspects
Institutional research policies and agendas	Research agendas of the universities, including programs and schemes to incentivize and sustain research productivity among academics and graduate students Criteria for employing academics
Budget for research	The funds for research The ability of the universities to attract external sources and get research grants
Infrastructure	The existence of various services and facilities to support research
Collaboration with and access to research professionals in other institutions	The ability to offer ways of linking external partners such as other institutions, experts, and firms to strengthen power for research development
Policies and guidelines on research benefits and incentives	Regulations and procedures on the giving of rewards with financial and non-financial value for research
Research committee	The body that checks the kinds of research undertaken and examines moral matters involved
Publications	The quality and quantity of research conducted by the academics, which can be evidenced in various aspects such as the quantity of research published in journals.

Reference: Salazar-Clemeña & Almonte-Acosta (2007)

After providing the highlights of university research mentioned in various studies and state documents, reflected through the indicators that Salazar-Clemeña and Almonte-Acosta (2007) provided, this study examines what state-related factors have influenced the formation of these features.

Research Culture in Vietnamese Universities

Institutional Research Policies and Agendas

In helping higher education institutions improve the quality of academic staff, the state implemented Project 322 and Project 911, which were established in 2000 and 2010 respectively (The Prime Minister of Government, 2002, 2010), by awarding scholarships to lecturers participating in doctoral training programs abroad. In addition, in 2014, the government issued Decree 99/2014/ND-CP, which guides universities in establishing strong research groups and funding for lecturers attending international conferences, among other things (The Prime Minister of Government, 2014). However, practical applications can have many variations. Nguyen (2016), in her work on managing human resources for research in four leading universities in Vietnam, indicated that when it comes to strategies for developing academics' research skills and ability, these institutions have been exceptionally enthused about overhauling academics' formal education. Yet, they have rarely provided expert advancement courses in this regard. These organizations also lack effective policies on appraising research execution, which weakens the incentive for academics to do research.

In financial terms, in Vietnam, a full-time lecturer is paid a base salary, and the Ministry of Home Affairs imposes pay scales for government employees, including permanent staff of public higher education institutions (Nguyen, 2016). On November 12, 2019, the National Assembly of Vietnam issued Decree 86/2019/QH14, which regulates the new salary for government staff including university lecturers in public institutions of higher education. This Decree was expected to take effect on July 01, 2020. The minimum salary of university lecturers was to slightly increase from the existing minimum of about 3,486,000 Vietnamese Dong (VND) (approximate to 151 US dollars [USD]) to 3,760,000 VND (approximate to 163 USD) (National Assembly of Vietnam, 2019). However, due to the effect of Covid-19 pandemic on the state's budget, the National Assembly postponed the implementation of the Decree until July 2022 (Communist Party of Vietnam Online Newspaper, 2020). For now, lecturers are receiving salaries based on the pay scales for government employees established in Decree 204/2004/ND-CP, issued in December 2004 (MOET, 2020b). While it is hard to gauge the total income that faculty members receive from different types of business, including part-time contracts, official information shows that pay rates in the domain of education and training in Vietnam for those with advanced educational qualifications are marginally lower than those in different areas (Le & Hayden, 2017). However, in recent years, a number of universities have also had a reward program for staff with articles published in Scopus/Web of Science-indexed journals, with rewards much greater than the average monthly salary (Cao-Nguyen, 2019; Minh-Giang, 2019). Concerning graduate students, by and large, although doctoral students have to pay higher tuition fees than bachelor's and master's students, Vietnamese graduate programs provide them with almost no financial support system. Neither do they provide doctoral students with graduate assistantships, grants, credits, and the recognition of their work status (World Bank, 2020a). Ton Duc Thang University and Ho Chi Minh City International University (a member of Vietnam National University, Ho Chi Minh City) are rare cases of policies on scholarships for graduate students, in the form of tuition fee support, in which the highest scholarship is a 100% tuition reduction (Ho Chi Minh City International University, 2021; Ton Duc Thang University, 2021).

The Amendment of Higher Education Law 2018 emphasizes attracting, using, and treating human resources appropriately, to improve the quality of lecturers and develop them toward becoming doctoral degree holders, as well as leading professors in higher education institutions. This amendment also stipulates that higher education institutions will give priority to recruiting candidates with doctoral degrees as lecturers (National Assembly of Vietnam, 2018). Although policies exist to employ competent academics, research accomplishments are not always included in the criteria for recruitment in institutions. Some institutions also lack policies on welcoming outstanding overseas individuals (Nguyen, 2016; Pham & Nguyen, 2020). In 2019, Project 89 was launched to train and improve the capacity of lecturers and managers of higher education institutions. Accordingly, the project aims to provide doctoral training for about 10% of university lecturers, of

which 7% of lecturers are trained full-time abroad and 3% of lecturers are domestically trained in programs cooperated between Vietnamese and international universities that meet regional and international quality standards. Project 89 also aims to attract at least 1,500 scholars and individuals with doctoral qualifications to Vietnamese higher education institutions (The Prime Minister of Government, 2019). This new project is expected to address the limitations of previous ones in the sense that universities will not only have more staff with doctoral degrees but will also be able to attract and employ them after they complete their doctoral programs (Nguyen, 2020). Since this is a newly issued document, it will certainly require more time to be able to observe and assess its results in reality.

Budget for Research

In the Amendment of Higher Education Law 2018, the government emphasizes the allocation of budgets and resources to higher education on the principles of competition, equality, and efficiency, through a variety of forms, including research and development spending and ordering research projects from universities. The state also encourages and has preferential policies for organizations, businesses, and individuals to invest in science and technology activities at higher education institutions, such as tax exemptions and reductions (National Assembly of Vietnam, 2018). In reality, Vietnam has mainly focused on allocating high levels of its public resources to basic education, while higher education receives scant attention. In 2018 only 15.01% of public expenditure on education was allocated to the sector of higher education (Salmi & Pham, 2019). Furthermore, the Vietnamese government contributed only 0.25% of its gross domestic product (GDP) to higher education, which is not adequate for the provision of quality teaching and research (Vo & Laking, 2020). In addition, the budget for education and training on all levels has been cut gradually since 2017. For example, 14.20% of the country's budget expenditure was spent on all fields related to education and training in 2018, compared with 14.03% in 2019 (Pham-Nghia & Quang-Duc, 2020).

In Vietnam, the Ministry of Science and Technology is responsible for allocating funding to research in universities after receiving money from the state (Nguyen & Meek, 2016). Every year, the government invests about 2% of its budget in scientific research (0.5% of the GDP); however, the Ministry of Science and Technology only gets from 8 to 10% of this 2%. Therefore, the real funding for scientific research at Vietnamese universities is very limited (Ngo & Pham, 2019). The portion for university research is far less given that the amount of funding from the Ministry of Science and Technology is allocated not only to universities but also other institutes, and especially when much of the Ministry's research funding is preserved for government research institutes (World Bank, 2019; Nguyen, 2020). When measured per capita, the funding for each faculty member invested in scientific research is very small. At Vietnam National University, Ho Chi Minh City, one of the two national universities in Vietnam, a lecturer only receives a research grant of 16 million VND a year (approximate to 700 USD) (Ha-Anh, 2019). Although government spending on university research is limited, it is the principal financial source for research in universities since institutions of higher education in Vietnam attract insignificant funding from outside sources (Harman & Nguyen, 2010; Salmi & Pham, 2019).

Since universities are financially dependent on the government, the government is able to decide if the universities can successfully build their research capacity or not. The role of the government involves considerably raising the research budget, protecting the process of allocating funding from political scrutiny and intervention, and keeping funding steady over time (World Bank, 2020a). Another feature of the budget for research in Vietnam is that although Vietnam made the transition to a market economy (World Bank, 2020b), the old rules of the state-controlled economy are still the basis for research and development activities. The research of universities is closely "watched" by the university and state authority "to ensure consistency with the ideology and principles of socialism" (Vo & Laking, 2020, p. 1095). Besides the fact that research topics must have "suitable" ideology and principles, researchers' use of the funding they receive is tightly supervised by their

universities and the state (Ngo & Pham, 2019). Moreover, "Vietnam still follows historically-negotiated recurrent budget allocation rather than the more objective and transparent formula-based funding or performance-based funding mechanisms that are increasingly used globally" (World Bank, 2019, p. 5). This means that the provision of yearly funding from the government for universities is based on previous years' allocation patterns rather than on universities' real demands and performance.

Infrastructure

Article 40 of the 2012 Higher Education Law states that institutions of higher education must build laboratories and research facilities to provide training and scientific research (National Assembly of Vietnam, 2012). Decree 99/2014/ND-CP also emphasizes the provision of facilities for research activities in Vietnamese universities, including building modern specialized laboratories and library systems, journals, information technology infrastructure and databases on science and technology; purchasing intellectual property and copyrights to access foreign science and technology databases; transferring and importing technology and supporting technology consistent with the law (The Prime Minister of Government, 2014). In compliance with other regulations issued, in the 2000s the state has invested in infrastructure development programs and some improvements to the infrastructure of the universities have been made (Le & Hayden, 2017). However, this has not always been possible. In reality, many institutions must accommodate an increasing number of students but face difficulty in expanding their campuses, as they are located centrally in large cities that have almost no unoccupied land (World Bank, 2020a). With narrow premises and outdated equipment, it is very challenging for universities to better the quality of training and research (Le, 2015).

Likewise, the World Bank (2020a) reveals that current information and communication technology infrastructure systems in Vietnamese institutions are outdated, inefficient, and asynchronous. Moreover, there is a lack of high-performance computing facilities for supporting advanced research. Connections with VinaRen, the National Research and Education Network, are absent in many institutions, which prevents academics from linking with international research communities. Even national universities (Vietnam National University, Hanoi and Vietnam National University, Ho Chi Minh City), as well as regional universities including Hue University, the University of Danang, and Thai Nguyen University in Vietnam, have to face these issues although they have better laboratories, workshops, and equipment than many other institutions. Besides, it is not easy for faculty and students at Vietnamese universities, including their graduate research programs, to access the resources and facilities in key national laboratories. The fact that most of these laboratories are in Ho Chi Minh City and Hanoi, the law requires that individuals and organizations pay user fees. Yet most Vietnamese graduate programs do not have funding to support learners in research (The Ministry of Science and Technology, 2008; World Bank, 2020a). Access to resources such as books and magazines is also limited because university libraries not only have very limited resources but also lack a tradition of sharing resources with one another (Tran, Mai & Luu, 2017). Furthermore, Pham (2018) found that only 10% of Vietnamese university libraries are linked to major international academic resources such as ScienceDirect or Elsevier. However, the infrastructure of universities is being upgraded by the state, universities themselves, and other stakeholders. For instance, the World Bank has financed a 295 million USD credit to fund modern infrastructure, cutting-edge equipment, and knowledge transfers at Vietnam National University-Hanoi, Vietnam National University-Ho Chi Minh City, and the University of Danang (World Bank, 2020b).

With respect to administrative support for research at universities, an examination in some Asian nations by Huang (2018) found that very few respondents in his research strongly agreed or agreed that the staff at their organizations provided them with support. Among the groups of participants, a huge extent of the individuals in China (60.6%) and in Singapore (55.5%) showed strong with the statement that their universities receive support from the staff. The percentage of participants from other countries and regions who had the same responses is less than 50%, which includes Taiwan (48.4 %), Malaysia (46.2%), Japan (45.6%), and Cambodia (38%). The proportion of

respondents choosing "strongly agree" and "agree" in Vietnam is the least, at only 32.7%. Likewise, Nguyen and Meek (2016) showed that the universities in their research have not professionalized their administration of research.

Collaboration with and Access to Research Professionals in Other Institutions

The ability to offer ways of linking to external partners to strengthen research development has gradually received attention from the government. Compared to the 2012 Higher Education Law, the Amendment of Higher Education Law 2018 added details related to collaboration in university research. The amendment encourages international cooperation and integration to develop Vietnam's higher education on regional and international levels (National Assembly of Vietnam, 2012, 2018). However, collaboration with institutions and experts in research is mainly reflected through publications (Nguyen, Ho-Le & Le, 2017, Nguyen et al, 2020). The analysis of papers published in Web of Science-indexed journals from January 1, 2001, to December 31, 2015, shows that about 97% of the scientific publications from Vietnam are multiauthored by both national (domestic) and international scholars. However, the rate of national collaboration is only around 16% of the total output, whereas international collaboration makes up 77% (Nguyen et al., 2017). This rate is high, compared to the average percentage of scientific output featured by international co-authors that Ribeiro, et al. (2018) calculated based on statistics of Web of Science-indexed papers in 2015, (21.3%). Based on the number of articles in the field of social sciences and humanities published in Scopus/ Web of Science-indexed journals and journals recognized for quality by the National Foundation for Science and Technology Development (NAFOSTED), Nguyen et al. (2020) also conclude that international cooperation in scientific research via co-authoring in Vietnam increased from 2008 to 2018.

In 2013 the Law on Science and Technology was issued with regulations stating the obligations for transferring or using the results of scientific and technological activities of organizations and individuals in these fields. The Law also provides legal bases to incentivize technology transfer such as tax deductions and low loans for this activity (National Assembly of Vietnam, 2013). With the enforcement of this Law, research and development activities with the participation of different stakeholders are encouraged. Also, the Amendment of Higher Education Law 2018 stipulates that higher education institutions must promote cooperation with enterprises and science and technology organizations, and encourage agencies, organizations and enterprises to receive and create opportunities for learners and lecturers to practice scientific research and technology transfer (National Assembly of Vietnam, 2018). As a result, in addition to their team, businesses have gradually cooperated with experts and scientists at research institutes and universities to solve business-development problems (Ha-Linh, 2020). This reflects a change compared to about one decade ago when partnerships between businesses and Vietnamese institutions of higher education and research institutes were rare (Fatseas, 2010; Ca & Hung, 2011). It is also worth noting that although academics have offered enterprises assistance with business development, there is generally a lack of funding for academic research from the business sector (Nguyen, 2020). Vietnam's higher education institutions lack close linkages, and its education, is still a "closed" system when it comes to collaborations with businesses. (Kunnari, Tien & Nguyen, 2019).

Policies and Guidelines on Research Benefits and Incentives

Regarding rewards for research in universities, Decree 99/2014/ND-CP was issued in 2014, with regulations and guidelines on investment in developing science and technology in academic institutions, to help universities improve in this area (The Prime Minister of Government, 2014). This decree regulates investment contents in science and technology, such as human resources, spending on science and technology activities in higher education institutions (e.g., organizing conferences and seminars), and funding published articles in prestigious international scientific journals. According to

this decree, lecturers, leading scientists, or talented young scientists will enjoy certain financial and non-financial priorities. For instance, academics who have an article published in a scientific journal that is rated at least 1 (the highest-ranking is 3) by the national body that grants professorship titles, the *Hoi dong Chuc danh Giao su Nha nuoc*, receives a teaching credit of 20 hours. Apart from that, MOET has decided to reward individuals from institutions it manages, who have articles published in Web of Science-indexed journals. As a result of this decision, MOET spent more than 6.1 billion VND (approximate to 260,000 USD) in 2018, on the authors of 1,718 articles published in Web of Science-indexed journals. The minimum award for an article was 2 million VND (approximate to 86 USD) (Han-Tran, 2019). In 2020, up to 10.8 billion VND (approximate 468,000 USD) was awarded to the authors of 3,627 articles published in such journals (Minh-Giang, 2021).

Some universities have implemented these guidelines with consideration of their financial situations and development strategies. For example, Ho Chi Minh City University of Economics has announced a maximum grant of 200 million VND (approximate to 8,600 USD) for a Scopus/Web of Science-indexed article (Minh-Giang, 2019). This amount at Ho Chi Minh City University of Technology and Education and Ho Chi Minh City Open University is 100 million VND (approximate to 4,300 USD) (Minh-Giang, 2019). These amounts are considerable when the average salary of faculty members in the public sector ranges from about 151 USD to 520 USD a month (Cao-Nguyen, 2019). Yet, whether this kind of award is popular among universities is still in question since most universities do not publicly share related information.

Additionally, the effectiveness of faculty's research-related rewards and their associated mechanisms are a matter of concern and in need of further exploration. Nguyen (2016) revealed that many participants are worried that some criteria used to assess the research performance of academics are too easy to meet and that the reward mechanisms can only distinguish those who do research from those who do not, while they fail to reflect the differences between good performers and average ones. The problem of lecturers "buying" publications in Vietnamese universities, to meet their job requirements or get a promotion or reward, is also attributable to the research-related reward mechanism (Dang-Nguyen, 2020).

Research Committee

Vietnam has not yet developed a unified national framework focused on ethical issues in research with the exception of medical research. There are no legal documents that mention these matters and no agency to deal with them except for the National Professorship Committee (*Hoi dong Giao su Nha nuoc*). However, this board only regulates professorial candidates. For individuals other than professional candidates in the context of higher education, the ethical issues in research that they face are mainly mentioned in the regulations for doctorate students (Pham, 2013), especially in Chapter V of Regulations on Doctorate Enrollment and Training. For example, doctorate dissertations are required to properly cite and refer to sources of research results of other authors, if any (MOET, 2017).

At the institutional level, scientific councils (*Hoi dong Khoa hoc truong*), and academic boards (*Hoi dong Dao tao*) are present in almost all Vietnamese public higher education institutions as a part of their organizational structures (Salmi & Pham, 2019). The university rector establishes this body to give academic advice on relevant matters in the institution. Article 19 of the Higher Education Law of 2012 also has regulations on the functions of this body including, for instance, creating guidelines on research and training exercises and developing research plans (National Assembly of Vietnam, 2012). At the departmental level, there are also faculty councils (*Hoi dong Khoa*). A faculty council represents the academic staff of a department and takes responsibility for academic matters including research and teaching. Although these academic councils work as counselling groups for

the university leadership; however, as indicated by Pham (2017), their position is restricted to the point that it is uncommon for there to be any contradictory ideas between academic councils and the university leadership.

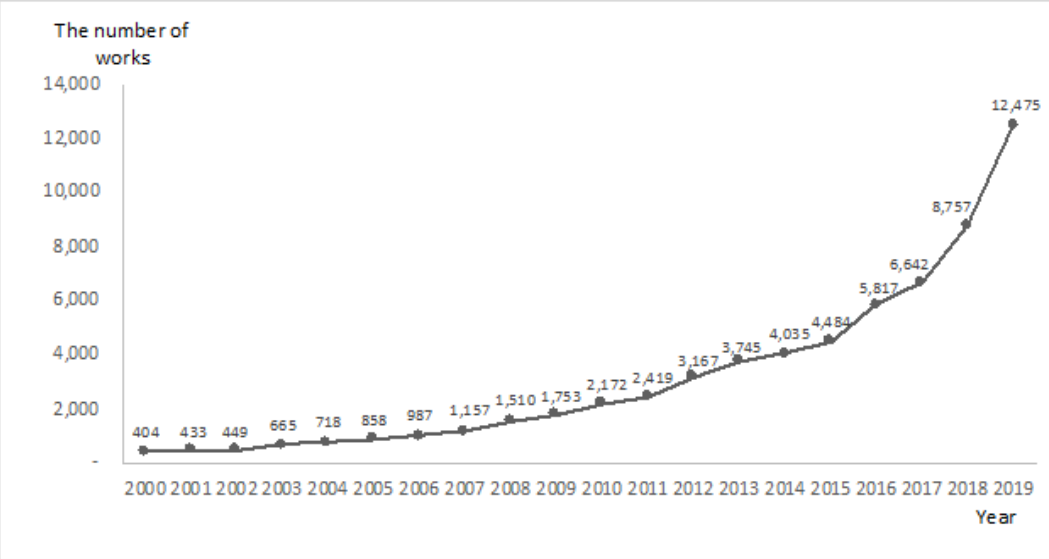
Besides academic councils within universities, a research office also plays the role of a unit that manages and supports research. The effectiveness of this type of office in supporting research activities in Vietnamese universities has not been revealed on a large scale. Nguyen and Meek (2016), when examining research in four key universities in Vietnam, however, uncovered that the role of the research office seems unclear. This kind of office fails to develop its functions to the fullest extent especially in the sense that it is operated as an "organizer" and a "controller" rather than as a "planner" and a "leader." There seems to be a lack of an effective system that can help research behaviors be standardized and formalized.

Publications

Some decades ago, no Vietnamese universities were recognized for their quality of teaching and research by any rankings of either top Asian universities or global universities (Vallely & Wilkinson, 2008). Vallely and Wilkinson (2008) accentuated that higher education institutions in Vietnam are secluded from global flows of knowledge and greatly lack research publications. In this regard, Vietnam seems to linger a long way behind its Southeast and East Asian neighbors, and considerably further behind when contrasted with developed nations. Since the mid-2000s, thanks to the dissemination of information from some leading Vietnamese scientists who studied in Western countries and returned to work in Vietnam, Vietnamese scholars have become familiar with academic databases from Western nations, such as the Clarivate's Web of Science and Elsevier's Scopus (Pham, 2019; Trinh et al., 2020). Additionally, the international world-class university initiatives, which emphasize the number of publications in peer-reviewed journals, also contribute to increasing interest in publications among Vietnamese academics (Salmi & Pham, 2019). The quantity of publications of universities is also on the rise due to new regulations for doctoral training. Since 2017, the utilization of peer-reviewed international journals in Vietnam shifted from optional to required in some cases when a doctoral student is required to have at least one paper published in a Scopus/Web of Science-indexed journal for graduation. Among various criteria, it is also required that a lecturer must have one paper, at minimum, to be published in this kind of journal as the first or corresponding author to be eligible for being a doctoral supervisor (MOET, 2017). In addition, policies on research benefits, especially on rewarding the appearance of articles in international journals, have contributed to an increase in publications by academics at Vietnamese universities. Banking University of Ho Chi Minh City, Ho Chi Minh City University of Technology and Education, and Ho Chi Minh City Open University found that increased financial rewards for articles in journals indexed in Scopus or Web of Science have increased the number of articles in such journals written by academics at their institutions *(*Minh-Giang, 2019).

Due to these changes, Vietnamese higher education institutions have gained considerable ground in expanding the number of research publications (Minh-Giang, 2019, 2021; Nguyen, 2020). During 2011–2019, Vietnam published 33,474 Web of Science-indexed English articles, achieving an average growth rate of 22% annually (Nguyen, 2020). The rise in the number of articles in Web of Science-indexed journals can also be seen from the list of authors rewarded for publishing articles in this type of journal by MOET. From 28 universities with a total of 1,718 articles published in 2018, the number grew to 34 universities with a total of 3,627 articles by 2020 (Han-Tran, 2019; Minh-Giang, 2021). Publication growth is also evident in data on articles in Scopus-indexed journals from 2000 to 2019, as Figure 1 shows (Scimago, 2020).

Figure 1. The number of works published by Vietnam as recorded in the Scopus-database for years 2000-2019



Reference: Scimago (2020)

As for the number of articles in various fields, academics from the natural and applied sciences, or science, technology, engineering and mathematics (STEM) subjects, have produced most of the publications. In contrast, papers in the social sciences and humanities are much lower (Le, 2016; Vuong & Tran, 2019). The rate of publications produced by Vietnamese academics still varies greatly from one university to the next. From 2011 to 2019, only 66 (among more than 200 Vietnamese universities) had research published in Web of Science-indexed English journals, while the top ten universities in this list accounted for 50% of the total Web of Science-indexed English research output for the country (MOET, 2019; Nguyen, 2020). In terms of citations, despite a vast increase in research output in Vietnam in recent years, its number of citable records per 1 million citizens in 2017 was lower than the number in Indonesia, Malaysia, Singapore, and Thailand and only higher than that of the Philippines (World Bank, 2020a). It is also revealed that with regards to quality and effect as estimated by the h-index, Vietnam was at the bottom of the list compared with other Southeast Asian countries, including Indonesia, Malaysia, the Philippines, Singapore, and Thailand (World Bank, 2020a).

Discussion

Research culture in Vietnamese universities has many characteristics, reflected through indicators compiled by Salazar-Clemeña and Almonte-Acosta (2007). Among factors contributing to the formation of research culture in Vietnamese universities are state-related ones, concerning what the government does toward education, and how. The state of Vietnam has issued many policies and legal documents for improving research in universities, to serve the development of the country after a period of economic and social stabilization following the war's end in 1975 (Nguyen, 2020), and to respond to the international world-class university initiatives that emphasize research and publications (Salmi & Pham, 2019). State policies and regulations cover almost every aspect of university research, from human resources training to publications. Besides, the state has not stopped updating legal documents and issuing new ones. For example, the Amendment of Higher Education Law 2018 added provisions to prioritize the recruitment of lecturers with doctoral qualifications, as well as professors to promote research capabilities of universities, something

that the 2012 Higher Education Law did not mention (National Assembly of Vietnam, 2012, 2018). Undeniably, the research culture of Vietnamese universities has changed due to the influence of these policies and documents. Many lecturers are allowed to study abroad in doctoral programs to improve their expertise; lecturers are rewarded for their research work, and collaboration with external partners gradually takes shape, mainly in relation to publications. However, some policies and documents related to university research remain inconsistent. For instance, the Amendment of Higher Education Law 2018 stipulates that universities have autonomy in academic aspects, but Article 42 of this Law still affirms that the government regulates science and technology activities in higher education institutions (National Assembly of Vietnam, 2018). In addition, several policies also lead to problems in research that are of public concern, such as those related to rewarding lecturers for having articles published in Scopus/Web of Science-indexed journals and using publications as one of the criteria for promoting and rewarding lecturers. This is something the state and other stakeholders must consider because it can create a "publish or perish" culture that threatens research ethics. Chasing articles for rankings, awards and promotions can cause institutions and individuals to violate ethical issues. Reportedly, some universities have paid fees to academics not affiliated with them for including their names as author- institutions in articles to increase the number of these "paying" institutions' publications, contributing to raising their rankings (Minh-Giang, 2019). This is considered as one of the "toxic" elements in academic culture, threatening the development of the country's higher education system (Yang, 2016).

In addition to rules and regulations, norms and traditions of the state for universities also contribute to features of the research culture in Vietnamese universities, such as university autonomy (Dao & Hayden, 2015; Nguyen, 2020). Basically, autonomy for universities is no different from any other organization (Vo & Laking, 2020). As Anderson and Johnson (1998) define it, autonomy is "the freedom of an institution to run its own affairs without direction or influence from any level of government" (p. 8). The autonomy of universities is distinguished by the aspect of academic freedom, which involves the right to determine the content, as well as methods, of its teaching and research (Vo & Laking, 2020). The Vietnamese government has issued various policy documents that have further enhanced the autonomy of universities. Importantly, Resolution 77 allows universities to be fully self-financing instead of relying on state funding. Accordingly, universities are free to set and increase tuition fees within a limit set by the state and use these funds for their activities (Government of Vietnam, 2014). The Amendment of Higher Education Law 2018 also entitles the higher education institution to exercise autonomy in various aspects including academic and professional practice, organizational structure and personnel, and finance and property (National Assembly of Vietnam, 2018). Regardless of the government issuing policy documents to grant more autonomy to universities, various studies affirm that Vietnamese universities are still confronted with the lack of autonomy that has existed for a long time in the history of Vietnamese tertiary education (Dao & Hayden, 2015; Le & Hayden, 2017; Nguyen, 2020; World Bank, 2020a). Until now, there have been only 23 public higher education institutions (out of more than 170) that have experienced greater degrees of institutional autonomy, due to the "self-financing" mechanism. But to maintain self-financing status, universities must meet certain conditions, such as setting enrolment targets that comply with state regulations and setting aside at least 25% of revenues for their capital funds as well as complying with the tuition fee ceiling (Government of Vietnam, 2014). As a result, this mechanism does "little to increase universities' substantive academic or management autonomy," instead placing a heavier burden on students and their families, while removing the cost of the university from the state budget (Vo & Laking, 2020, p. 1094). Salmi and Pham (2019) also shared similar ideas that the state has given higher education institutions more autonomy, but the autonomy granted to them is conditional, depending on capabilities and the results of their university rankings/accreditation. In other words, autonomy is still "a favor rather than a right" (p. 111). The lack of autonomy is said to hinder the introduction of financial rewarding measures for academics that have good achievements in their work since universities must comply with salary regulations based on the employment status of academics as they are doing (Nguyen, 2016). The

use of universities' capital and assets in joint projects with external partners to raise money for their institutions is also challenging, as the process is subject to many complex regulations (Pham, 2020). The lack of autonomy certainly affects the general development of the research aspect of universities as autonomy is required for them in "charting their own paths to excellence" in research (Altbach & Salmi, 2011, p. 27). Another point worthy of attention is that problems related to autonomy are also believed to come from the universities themselves. Financial resources are so weak and the management capacity of some university leaders is so limited that it is almost impossible to run universities as autonomous entities (MOET, 2020c). Also, university autonomy is governed not only by Higher Education Law but also by other laws, such as the Law on Public Property, the Law on Public Investment, the Law on State Budget, and the Law on Public Officials and Officers, some contents of which are not always aligned (Tran-Huynh, 2021).

Under the 2012 Higher Education Law, relevant line ministries or state agencies were responsible for the appointment of university rectors (National Assembly of Vietnam, 2012). However, Article 20 of the 2018 amendment to the law stipulates that rectors of public higher-education institutions are decided by university councils. Although this seems to give more autonomy to universities, the nominated candidate must be recognized by the "managing body of the university" (National Assembly of Vietnam, 2018). Hence the rector, appointed with the "assent" of the body that manages the institution (Vo & Laking, 2020, p. 1084), is still granted nearly ultimate authority. Provided that the rector holds fast to MOET guidelines, or the directions given by other line ministries or state instrumentalities, this person can make decisions with little respect to the desires of other different stakeholders such as lecturers and students (Salmi & Pham, 2019). For this reason, concerning research committees, although the Higher Education Law of 2012 provides room for academic councils to apply their leadership over a wide scope of scholarly issues, a large portion of their impact is in general limited to screening research proposals and to advising on the distribution of the university research funding (Salmi & Pham, 2019). This is similar to the presence and operation of councils at departmental levels whose role is blurred. Most academic affairs related to departments are decided by the deans, and then the deans will report directly to the rector and vice versa. The rector, with almost absolute authority, usually assigns tasks to departments through the deans (Hayden & Lam, 2006). With these characteristics, academic councils are unable to perform well in the function of advising or countering the university, but rather they turn into bodies that "counsel themselves" (Pham, 2017).

Various features of university research culture in Vietnam are also caused by the state's tradition of spending on higher education. Traditionally, Vietnam has spent less on higher education than on basic education and less on universities than on research institutes; these traditions have contributed to the paucity of financial resources available to fund research activities in universities (World Bank, 2019; Nguyen, 2020). Also, old norms are being used for subsidizing higher education, including the reality that many universities receive state funding based on historically-negotiated recurrent budget allocation – what they got in the past they will similarly get for the present and future. This creates several issues, including producing research results in the absence of standards of excellence or pertinence, as well as inadequate motivating forces to pull in extra wellsprings of financing from public-private associations and/or private credit markets (Dang, 2019; Thuy-Le, 2018). The absence of a tradition of establishing relationships with external partners causes various problems for research development in Vietnam including the low degree of research and technology transfer (Dang, 2019). Furthermore, the advancement of strong physical research infrastructure has been hindered by an absence of investment from industry in university research (Nguyen, 2013), which may also dissatisfy and disenchant qualified researchers (Weiler, Guri-Rosenblit & Sawyerr, 2008). In addition, during a time when there are many obstacles to face-to-face group activities due to Covid-19, many universities in the world have turned to online platforms as a panacea for this situation to ensure the continuity of academic activities (Pokhrel & Chhetri, 2021). However, with the current conditions related to the quality and quantity of the infrastructure, Vietnamese higher education institutions face many difficulties operating in this way (World Bank, 2020a). In this

centralized management culture, researchers also appear to be "watched" too intently on how they utilize their research funding while there is a lack of clear and explicit guidance on the ways that research funding may be spent. To some extent, the close supervision helps in the management of funding, but it also gives the appearance that researchers are not trusted, which probably decreases innovation and contributes to the low levels of job satisfaction reported by scholars (Pham, 2013). Hence, this norm should be changed so that researchers can focus on doing research as their main task rather than having to spend too much time thinking about how to abide by rigid financial rules (Nguyen & Meek, 2016).

Conclusion

State-related factors, such as policies and regulations for university research, as well as norms and traditions of the state for some aspects of university research, have contributed to the formation of various features in university research in Vietnam. The state has created many policies and legal documents that have been designed to improve university research. These are updated and changed as necessary to suit Vietnam's needs and respond to external influences. As a result, the research culture in Vietnamese universities has undeniably improved in recent years. Lecturers receive support to improve their qualifications; they are rewarded for their research works; the number of publications originating at Vietnamese universities has increased; and universities have begun to collaborate on research with external partners, including both individuals and organizations.

On the other hand, some of the government's policies and documents offer conflicting guidance. This makes it difficult and confusing for universities to institute policies that would promote research, such as improving salaries for faculty and using capital and assets in joint ventures (Pham, 2020). Additionally, the policies and regulations are often ineffective because there is little verification of whether universities implement them (MOET, 2020a). Besides, although various rules and regulations have been implemented to encourage the development of university research, some long-standing norms and traditions of the state for aspects of research have limited this improvement. These state-related factors include the nation's tradition of spending less on higher education than on basic education and less on universities than on research institutes independent of them, the lack of autonomy among universities, the almost ultimate power of the university rector, and the use of the historically-negotiated recurrent approach for allocating research funding to universities with too much supervision for researchers' use of funding. Different problems stem from these factors, such as the lack of budget for research and ethics-related matters. Although these state-related factors cannot fully explain the existence of all the characteristics of the research culture of Vietnamese universities, the impact of these factors cannot be overshadowed, given the fact that Vietnam's higher education is highly regulated by the state, which has many different policies and legal documents covering almost all aspects of research. This reality ensures that changes to research culture in universities must accompany changes to the state-related factors believed to influence the formation of research culture's features.

To develop a research culture in Vietnamese universities, the state should develop more consistent regulations relating to the autonomy of universities and support universities in achieving autonomy. Besides, as a gap exists between the introduction of up-to-date policies or legal documents for research development at universities and the effectiveness of implementing them, the state must have a monitoring mechanism for the implementation of state policies and regulations, with content about recognizing successful cases and improving ineffective cases. The state also must adjust documents related to university research that perpetuate various inconsistencies. Issues related to research ethics also need attention through considering the provision of the guiding documents for universities and the establishment of an agency in charge of them. Greater state investment and encouragement of stakeholder participation are needed to develop the research infrastructure in Vietnam. The initial focus should be on universities that already have research-oriented personnel and policies. Also, the state should consider adopting different funding patterns, based on a range of

strategic and competitive criteria such as performance funding, commonly used in the Netherlands and the United Kingdom and full-costing mechanisms for funding allocation, widely used in the United States, Australia, and the United Kingdom (Jongbloed, 2001; Dill & van Vught, 2010). These adjustments are obviously challenging as some norms, beliefs, and traditions have existed for a long time and become deeply ingrained in individuals and organizations. Yet, the development of university research in Vietnam requires such changes.

References

Altbach, P. G., & Salmi, J. (2011). *The Road to Academic Excellence: The making of world-class research universities*. Available at https://openknowledge.worldbank.org/bitstream/handle/10986/2357/646680PUB0acad00Box361543B00PUBLIC0.pdf?sequence=1&isAllowed=y [Accessed 18 February 2021].

Anderson, D., & Johnson, R. (1998). *University Autonomy in Twenty Countries*. Canberra: Department of Employment, Education, Training and Youth Affairs.

Austin, A. E. (1990). Faculty cultures, faculty values. In W. G. Tierney (Ed.) *New Directions for Institutional Research*. San Francisco: Jossey-Bass, pp. 35–45. doi; 10.1002/ir.37019906807

Ca, T. N., & Hung, N. V. (2011). Vietnam: Current debates on the transformation of academic institutions. In B. Göransson and C. Brundenius (Eds.) *Universities in Transition. Insight and Innovation in International Development*. New York: Springer-Verlag, pp.119–142. doi:10.1007/978-1-4419-7509-6_7

Cao-Nguyen. (2019). *Chi tiet bang luong giao vien, giang vien thoi gian toi* [Salaries of teachers and lecturers in the future]. Available at https://giaoduc.net.vn/giao-duc-24h/chi-tiet-bang-luong-giao-vien-giang-vien-thoi-gian-toi-post204831.gd [Accessed 15 July 2020] [in Vietnamese].

Center for Postsecondary Research. (2015). *Carnegie Classification of Institutions of Higher Education*. Bloomington: Indiana University School of Education.

Communist Party of Vietnam Online Newspaper. (2020). *Hoan tang luong co so la can thiet* [Delaying increasing average salaries is necessary]. Available at https://dangcongsan.vn/thoi-su/hoan-tang-luong-co-so-la-can-thiet-555336.html [Accessed 15 March 2021] [in Vietnamese].

Dang, T. (2019). *The Need for Academic Reform in Vietnamese Higher Education (VHE) to Align with Employers' Expectations.* Available at https://dune.une.edu/theses/210 [Accessed 12 May 2020].

Dang-Nguyen (2020). *"Thi truong ngam" mua ban bai bao khoa hoc* ["Black market" for scientific papers]. Available at https://thanhnien.vn/giao-duc/thi-truong-ngam-mua-ban-bai-bao-khoa-hoc-1265279.html [Accessed 22 February 2021] [in Vietnamese].

Dao, V. K., & Hayden, M. (2015). Higher education governance reform in Vietnam. In K. M. Joshi and S. Paivandi (Eds.) *Global Higher Education: Issues in Governance.* Delhi: B. R. Publishing Corporation, pp. 315–338.

Deem, R., & Lucas, L. (2007). Research and teaching cultures in two contrasting UK policy contexts: Academic life in education departments in five English and Scottish universities. *Higher Education*, *54*(1), pp. 115–133. doi:10 1007/s10734-006-9010-z.

Dill, D. D., & van Vught, F. A. (2010). *National Innovation and the Academic Research Enterprise: Public Policy in Global Perspective*. Baltimore, MD: Johns Hopkins University Press.

Fatseas, M. (2010). Research-industry cooperation supporting development in Vietnam: The challenge of translating policy into practice. In G. Harman, M. Hayden and T. N. Pham (Eds.) *Reforming Higher Education in Vietnam*. Netherlands: Springer, pp. 103–115. doi: 10.1007/978-90-481-3694-0_7

Government of Vietnam. (2014). *Nghi Quyet ve thi diem doi moi co che hoat dong doi voi cac co so giao duc dai hoc cong lap giai doan 2014–2017* [Resolution on piloting the renewed operational mechanism of public higher education institutions from 2014–2017]. Available at http://chinhphu.

vn/portal/page/portal/chinhphu/hethongvanban?class_id=509&mode=detail&document_id=177020 [Accessed 14 March 2021] [in Vietnamese].

Ha-Anh. (2019). *Ngan sach cho nghien cuu thap hon dai hoc nuoc ngoai* [Research budget in Vietnam is lower than that in other countries]. Available at https://thanhnien.vn/giao-duc/ngan-sach-cho-nghien-cuu-thap-hon-dai-hoc-nuoc-ngoai-250-lan-1041554.html [Accessed 15 February 2021] [in Vietnamese].

Ha-Linh. (2020). *Thuc day doanh nghiep dau tu cho nghien cuu va phat trien* [Fostering investment in research and development from businesses]. Available at https://nhandan.com.vn/tin-tuc-kinh-te/thuc-day-doanh-nghiep-dau-tu-cho-nghien-cuu-va-phat-trien-449712/ [Accessed 15 February 2021] [in Vietnamese]. doi: 10.46223/HCMCOUJS.econ.vi.15.2.247.2020

Han-Tran. (2019). *Bo GD-DT chi thuong toi thieu 2 trieu dong/bai bao khoa hoc quoc te* [MOET allocates at least 2 million per one paper published in international journals]. Available at https://thanhnien.vn/giao-duc/bo-gd-dt-chi-thuong-toi-thieu-2-trieu-dongbai-bao-khoa-hoc-quoc-te-1100364.html [Accessed 25 February 2021] [in Vietnamese].

Harman, G., & Nguyen, T. B. N. (2010). The research role of Vietnam's universities. In G. Harman, M. Hayden, and T. N. Pham (Eds.) *Reforming Higher Education in Vietnam*. Netherlands: Springer, pp. 87–102. doi: 10.1007/978-90-481-3694-0_6

Hayden, M., & Lam, T. (2006). A 2020 vision for higher education in Vietnam. *International Higher Education*, *44*(Summer), pp. 11–13. doi:10.6017/ihe.2006.44.7913.

Hernandez, M. E., & Reyes, C. M. (2014). Research culture in higher education: The case of a foreign language department in Mexico. *Profile Issues in Teachers' Professional Development*, *16*(2), pp. 135–150. doi:10.15446/profile.v16n2.40819.

Ho Chi Minh City International University (2021). *Thong tin tuyen sinh* [Admission information]. Available at https://oga.hcmiu.edu.vn/tuyensinh/ [Accessed 22 February 2021] [in Vietnamese].

Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). *Cultures and Organizations: Software of the Mind*. New York/London: McGraw-Hill.

Huang, F. (2018). *What are the challenges facing the Asian academic profession?* Available at https://apo.org.au/sites/default/files/resource-files/2018-01/apo-nid135086.pdf [Accessed 10 August 2020].

Hurtado, S., Alvarez, C. L., Guillermo-Wann, C., Cuellar, M., & Arellano, L. (2012). A model for diverse learning environments: The scholarship on creating and assessing conditions for student success. In J. C. Smart and M. B. Paulsen (Eds.) *Higher Education: Handbook of Theory and Research*. Netherlands: Springer, pp. 41–122. doi: 10.1007/978-94-007-2950-6_2

Jongbloed, B. (2001). *Performance-based Funding in Higher Education: An international survey*. Available at https://bridges.monash.edu/articles/journal_contribution/Performance-based_funding_in_higher_education_an_international_survey/4234334 [Accessed 14 March 2021].

Kunnari, I., Tien, H. T. H., & Nguyen, T. L. (2019). *Rethinking Learning Towards Education 4.0*. Available at https://unlimited.hamk.fi/ammatillinen-osaaminen-ja-opetus/rethinking-learning-education-4-0 [Accessed 22 February 2021].

Lacatus, M. (2013). Organizational culture in contemporary university. *Procedia – Social and Behavioral Sciences*, *76*(2013), pp. 421–425. doi:10.1016/j.sbspro.2013.04.139.

Le, P. (2015). *Co so vat chat ky thuat phuc vu nghien cuu va dao tao dai hoc con yeu kem* [Facilities and infrastructure for research in training in universities are weak]. Available at https://dantri.com.vn/giao-duc-huong-nghiep/co-so-vat-chat-ky-thuat-phuc-vu-nghien-cuu-va-dao-tao-dh-con-yeu-kem-20151106222348355.htm [Accessed 15 February 2021] [in Vietnamese].

Le, T. K. A. (2016). *Developing the academy in Vietnam: An investigation of the formation of academic identity by university lecturers in Vietnam*. Unpublished Doctoral Dissertation. Southern Cross University.

Le, T. K. A., & Hayden, M. (2017). The Road ahead for the higher education sector in Vietnam. *Journal of International and Comparative Education*, *6*(2), pp. 77–89. doi:10.14425/jice.2017.6.2.77.

London, J. (2011). *Education in Vietnam*. Singapore: Institute of Southest Asian Studies. doi: 10.1355/9789814279062

Minh-Giang. (2019). *Bai bao cong bo quoc te: Khoi sac nho thuong "khung"* [Papers in international journals: Growing due to "giant" rewards]. Available at https://tuoitre.vn/bai-bao-cong-bo-quoc-te-khoi-sac-nho-thuong-khung-20191230204248167.htm [Accessed 22 September 2020] [in Vietnamese].

Minh-Giang. (2021). *Gan 11 ti dong khen thuong bai bao khoa hoc quoc te nam 2020* [About 11 billion spent for rewarding papers in international journals in 2020]. Available at https://tuoitre.vn/gan-11-ti-dong-khen-thuong-bai-bao-khoa-hoc-quoc-te-nam-2020-20210113151942728.htm [Accessed 25 February 2021] [in Vietnamese].

Morgan, G. (2006). *Images of Organization*. New Delhi: Sage Publication.

National Assembly of Vietnam. (2012). *Luat Giao duc Dai hoc* [The 2012 Higher Education Law]. Available at http://vanban.chinhphu.vn/portal/page/portal/chinhphu/hethongvanban?class_id=1&_page=1&mode=detail&document_id=163054 [Accessed 10 August 2020] [in Vietnamese].

National Assembly of Vietnam. (2013). *Luat Khoa hoc va Cong nghe* [The 2013 Law on Science and Technology]. Available at https://thuvienphapluat.vn/van-ban/cong-nghe-thong-tin/Luat-khoa-hoc-va-cong-nghe-nam-2013-197387.aspx [Accessed 22 September 2020] [in Vietnamese].

National Assembly of Vietnam. (2018). *Nghị quyết số 34/2018/QH14 luật sửa đổi, bổ sung một số điều của luật giáo dục đại học* [Decree no 34/2018/QH14 on changing and adding some articles from Higher Education Law, issued on 18/6/2012]. Available at https://thuvienphapluat.vn/van-ban/ giao-duc/Luat-Giao-duc-dai-hoc-sua-doi-388254.aspx [Accessed 15 Sept 2019] [in Vietnamese].

National Assembly of Vietnam. (2019). *Nghi quyet so 86/2019/QH14 ve du toan ngan sach nha nuoc nam 2020* [Decree no 86/2019/QH14 on State budget estimate 2020]. Available at https://thuvienphapluat.vn/van-ban/Tai-chinh-nha-nuoc/Nghi-quyet-86-2019-QH14-du-toan-ngan-sach-nha-nuoc-nam-2020-429560.aspx [Accessed 30 March 2021] [in Vietnamese].

Ngo, T. T. H. & Pham, T. L. A. (2019). *Thao go kho khan trong nghien cuu khoa hoc tai cac truong dai hoc Vietnam* [To remove difficulties in scientific research at Vitnam universities]. Available at https://tapchitaichinh.vn/nghien-cuu-trao-doi/thao-go-kho-khan-trong-nghien-cuu-khoa-hoc-tai-cac-truong-dai-hoc-viet-nam-302883.html [Accessed 10 March 2021] [in Vietnamese].

Nguyen, T. L. H. (2013). The challenges of developing research resources for leading Vietnamese universities. *Higher Education Management and Policy*, *24*(2), pp. 115–130. doi:10.1787/hemp-24-5k3w5pdwd7g4.

Nguyen, T. L. H. (2016). Building human resources management capacity for university research: The case at four leading Vietnamese universities. *Higher Education, 71*(2), pp. 231–251. doi:10.1007/s10734-015-9898-2.

Nguyen, T. L. H. (2020). A review of university research development in Vietnam from 1986 to 2019. In L. H. Phan and B. N. Doan (Eds.) *Higher Education in Market-oriented Socialist Vietnam: New Players, Discourses, and Practices*. Cham: Palgrave Macmillan, pp. 63–86. doi: 10.1007/978-3-030-46912-2_4

Nguyen, T. V., Ho-Le, T. P., & Le, U. V. (2017). International collaboration in scientific research in Vietnam: An analysis of patterns and impact. *Scientometrics*, *110*(2), pp. 1035–1051. doi: 10.1007/s11192-016-2201-1.

Nguyen, H., & Meek, V. (2016). Key problems in organizing and structuring university research in Vietnam: The lack of an effective research "behaviour formalization" system. *Minerva, 54*(1), pp. 45–73. doi:10.1007/s11024-016-9289-6.

Nguyen, T. H. T., Tran, T., Dau, T. T., Nguyen, T. S. H., Nguyen, T. H., & Ho, M. T. (2020). How scientific research changes the Vietnamese higher education landscape: Evidence from social sciences and humanities between 2008 and 2019. *F1000Research, 9*(152), pp. 1–11. doi:10.12688/f1000research.21790.1.

Pham, H. H. (2018). *Dai hoc "bon cham khong"* ["4.0" Universities]. Available at http://antgct.cand.com.vn/Nguoi-trong-cuoc/Dai-hoc-bon-cham-khong-517499/ [Accessed 18 September 2020] [in Vietnamese].

Pham, H. H. (2019). *Sử dụng công cụ đo lường khoa học (bibliometrics) trong ngành toán tai Việt Nam*. Using scientific measurement tools (bibliometrics) in mathematical science in Vietnam. Availabe at http://rpe.phuxuan.edu.vn/phong-van-gs-ngo- viet-trung-ve-viec-su-dung-cong-cu-do-luong-khoa-hoc-bibliometrics- trong-nganh-toan-tai-viet-nam/ [Accessed 14 March 2021] [in Vietnamese].

Pham, T. L. (2013). Case study: The effectiveness of research and innovation management at policy and institutional levels in Vietnam. In A. Olsson and L. Meek (Eds.) *Effectiveness of Research and Innovation Management at Policy and Institutional Levels in Cambodia, Malaysia, Thailand and Vietnam*. Paris: OECD, pp. 140–162.

Pham, T. L. (2017). *Hoi dong khoa hoc truong dai hoc: Vi sao vai tro mo nhat?* [Academic councils in universities: Why are they so invisible?]. Available at https://tiasang.com.vn/-giao-duc/HDKH-truong-dai-hoc-Vi-sao-vai-tro-mo-nhat--10500 [Accessed 17 September 2020] [in Vietnamese].

Pham, T. N. (2010). The higher education reform agenda: A vision for 2020. In G. Harman, M. Hayden, and T. N. Pham (Eds.) *Reforming Higher Education in Vietnam: Challenges and Priorities: Higher Education Dynamics.* Dordrecht, the Netherlands: Springer, pp. 51–64. doi: 10.1007/978-90-481-3694-0_4

Pham, V. T. (2020). *Tai chinh cho cac truong dai hoc cong lap khi thuc hien co che tu chu* [Finance for public universities when they are granted with autonomy]. Available at https://tapchitaichinh.vn/nghien-cuu-trao-doi/tai-chinh-cho-cac-truong-dai-hoc-cong-lap-khi-thuc-hien-co-che-tu-chu-318052.html [Accessed 14 March 2021] [in Vietnamese].

Pham, L. T., & Hayden, M. (2019). Research in Vietnam: The experience of the humanities and social sciences. *Journal of International and Comparative Education, 8*(1), pp. 27–40. doi:10.14425/jice.2019.8.1.27.

Pham,T. H., & Nguyen, H. C. (2020). Academic staff quality and the role of quality assurance mechanisms: The Vietnamese case. *Quality in Higher Education, 26*(3), pp. 262–283. doi:10.1080/13538322.2020.1761603.

Pham-Nghia & Quang-Duc. (2020). *Tang chi ngan sach cho giao duc dao tao va khoa hoc cong nghe* [Increase budget spending on education, training and science and technology]. Available at http://dbndhatinh.vn/dbnd/portal/folder/ky-hop-quoc-hoi-16/news/tang-chi-ngan-sach-cho-giao-duc-dao-tao-va-khoa-hoc-cong-nghe.html [Accessed 10 March 2021] [in Vietnamese].

Pokhrel, S. & Chhetri, R. A. (2021). Literature review on impact of COVID-19 pandemic on teaching and learning. *Higher Education for the Future*, *8*(1), pp. 133–141. doi:10.1177/2347631120983481.

Ribeiro, L. C., Rapini, M. S., Silva, L. A., & Albuquerque, E. M. (2018). Growth patterns of the network of international collaboration in science. *Scientometrics*, *114*(1), pp. 159–179. doi:10.1007/s11192-017-2573-x.

Robbins, S., & Judge, T. (2006). *Organizational Behavior*. San Diego: Prentice Hall.

Salazar-Clemeña, R. M., & Almonte-Acosta, S. A. (2007). *Developing Research Culture in Philippine Higher Education Institutions: Perspectives of university faculty*. Available at http://unesdoc.unesco.org/images/0015/001578/157869e.pdf [Accessed 28 May 2020].

Salmi, J., & Pham, L. T. (2019). Academic governance and leadership in Vietnam: Trends and challenges. *Journal of International and Comparative Education*, *8*(2), pp. 103–118. doi:10.14425/jice.2019.8.2.103.

Sanyal, B. C., & Varghese, N. V. (2006). *Research Capacity in Higher Education Sector in Developing Countries.* UNESCO: Paris.

Schein, E. H. (2010). *Organizational Culture and Leadership*. San Francisco, CA: Jossey-Bass.

Scimago. (2020). *Country Rankings*. Available at https://www.scimagojr.com/countryrank.php [Accessed 23 February 2021].

Smerek, R. E. (2010). Cultural perspectives of academia: Toward a model of cultural complexity. In J. C. Smart (Ed.) *Higher education: Handbook of Theory and Research*. Netherlands: Springer: Science+Business, pp. 381–423. doi: 10.1007/978-90-481-8598-6_10

Smith, P., Dugan, S., Trompenaars, F. (1996). National culture and the values of organizational employees – A dimensional analysis across 43 nations. *Journal of Cross-cultural Psychology*, *27*(2), pp. 231–64. doi:10.1177/0022022196272006.

Spoo, R.. & Dao, A. T. (2010). Intellectual property and Vietnam's higher education system. In G. Harman, M. Hayden, and P. T. Nghi (Eds.) *Reforming Higher Education in Vietnam: Challenges and Priorities*. Dordrecht, the Netherlands: Springer, pp.117–128. doi: 10.1007/978-90-481-3694-0_8

Steenkamp, J. (2001). The role of national culture in international marketing research. *International Marketing Review*, *18*(1), pp. 30–44. doi:10.1108/02651330110381970.

The Ministry of Education and Training (MOET). (2017). *Circular 08/2017/TT-BGDĐT. Regulation on doctorate enrollment and training*. Available at

https://en.naric.edu.vn/static/files/Document/08-2017-TT-BGD%C4%90T.pdf [Accessed 15 September 2020].

The Ministry of Education and Training (MOET). (2019). *So lieu thong ke giao duc dai hoc nam hoc 2017–2018* [Statistics on higher education in the academic year 2017-2018]. Available at https://moet.gov.vn/thong-ke/Pages/thong-ko-giao-duc-dai-hoc.aspx?ItemID=5877 [Accessed 10 June 2020] [in Vietnamese].

The Ministry of Education and Training (MOET). (2020a). *Khai mo "diem nghen" tu chinh sach den thuc tien tu chu dai hoc* [Open the "bottleneck" from university autonomy policy to practice]. Available at https://moet.gov.vn/giaoducquocdan/giao-duc-dai-hoc/Pages/default.aspx?ItemID=7095 [Accessed 14 March 2021] [in Vietnamese].

The Ministry of Education and Training (MOET). (2020b). *Thong tu quy dinh ma so, tieu chuan chuc danh nghe nghiep, bo nhiem va xep luong doi voi vien chuc giang day trong cac co so giao duc dai hoc cong lap* [Circular 40/2020/TT-BGDDT by the Ministry of Education and Training: Codes, professional title standards, appointment and salary rating for teaching staff in public higher education institutions]. Available at https://luatvietnam.vn/giao-duc/thong-tu-40-2020-xep-luong-vien-chuc-giang-day-trong-dai-hoc-cong-lap-192983-d1.html [Accessed 14 March 2021] [in Vietnamese].

The Ministry of Education and Training (MOET). (2020c). *Tu chu trong giao duc dai hoc: Thuc trang, kho khan va giai phap* [Autonomy in education: Current situations, challenges and solutions] Available at https://moet.gov.vn/giaoducquocdan/giao-duc-dai-hoc/Pages/default.aspx?ItemID=7082 [Accessed 14 March 2021] [in Vietnamese].

The Ministry of Science and Technology. (2008). *Quyet dinh ban hanh quy che to chuc va hoat dong cua phong thi nghiem trong diem* [Decision 08/2008/QĐ-BKHCN by the Ministry of Science and Technology: Promulgating the regulations on organization and operation of the key laboratories]. Availale at https://thuvienphapluat.vn/van-ban/Bo-may-hanh-chinh/Quyet-dinh-08-2008-QD-BKHCN-Quy-che-to-chuc-va-hoat-dong-cua-phong-thi-nghiem-trong-diem-68604.aspx [Accessed 14 March 2021] [in Vietnamese].

The Prime Minister of Government. (2002). *Quyet dinh ve viec phe duyet de an "Dao tao can bo khoa hoc, ky thuat tai cac co so nuoc ngoai bang ngan sach nha nuoc"* [Decision on approving the project on "Training scientific and technical cadres at foreign establishments with the state budge]. Available at https://thuvienphapluat.vn/van-ban/Tai-chinh-nha-nuoc/Quyet-dinh-322-2000-QD-TTg-De-an-Dao-tao-can-bo-khoa-hoc-ky-thuat-tai-nuoc-ngoai-bang-ngan-sach-nha-nuoc-8543.aspx [Accessed 22 February 2021] [in Vietnamese].

The Prime Minister of Government. (2010). *Quyet dinh phe duyet de an dao tao giang vien co trinh do trien si cho cac truong dai hoc, cao dang giai doan 2010-2010* [Decision on approving the scheme on doctoral training for university and college lecturers during 2010-2020]. Available

at https://vanbanphapluat.co/decision-no-911-qd-ttg-approving-the-scheme-on-doctoral-training-for-university [Accessed 22 February 2021] [in Vietnamese].

The Prime Minister of Government. (2014). *Nghi dinh quy dinh viec dau tu phat trien tiem luc va khuyen khich hoat dong khoa hoc va cong nghe trong cac co so giao duc dai hoc* [Decree about investing in developing the potential of universities and encouraging research and technology activities in universities]. Available at https://thuvienphapluat.vn/van-ban/dau-tu/nghi-dinh-99-2014-nd-cp-dau-tu-phat-trien-tiem-luc-khuyen-khich-khoa-hoc-cong-nghe-co-so-giao-duc-dai-hoc-255274.aspx [Accessed 10 August 2020] [in Vietnamese].

The Prime Minister of Government. (2019). *Quyet dinh phe duyet de an nang cao nang luc doi ngu giang vien, can bo quan ly cac co so giao duc dai hoc dap ung yeu cau doi moi can ban toan dien giao duc va dao tao giai doan 2019-2030* [Decision 89/QĐ-TTg by the Prime Minister: Approving the Project on Enhancing the capabilities of Higher Education Institutions' leaders, managers, and lecturers to meet the demands of comprehensively innovating Vietnam's education and training in the period 2019–2030]. Available at https://thuvienphapluat.vn/van-ban/bo-may-hanh-chinh/Quyet-dinh-89-QD-TTg-2019-Nang-cao-nang-luc-giang-vien-can-bo-quan-ly-co-so-giao-duc-dai-hoc-405475.aspx [Accessed 14 November 2020] [in Vietnamese].

Thuy-Le. (2018). *Ngan sach cho giao duc dai hoc can duoc phan bo theo don dat hang cua nha nuoc* [Reseach budget for universities needs to be allocated based on the state's demands]. Available at http://baokiemtoannhanuoc.vn/giao-duc/ngan-sach-cho-giao-duc-dai-hoc-can-duoc-phan-bo-theo-don-dat-hang-cua-nha-nuoc-140037 [Accessed 25 February 2021] [in Vietnamese].

Ton Duc Thang University (2021). *Graduate admission*. Available at https://admission.tdtu.edu.vn/en/graduate/information/apply-for-scholarships [22 February 2021].

Tran, T. G., Mai, V. G., & Luu, T. V. (2017). He thong quan ly thu vien phuc vu chien luoc dao tao chat luong cao tai truong dai học [Library management system serving high-quality training strategy at universities]. *Tap chi Thu vien Viet Nam [Journal of Vietnamese Libraries]*, *5*(2017), pp. 30–36.

Tran-Huynh. (2021). *Tu chu dai hoc da co luat nhung vuong du thu* [University autonomy is regulated but still faces different obstacles]. Available at https://tuoitre.vn/tu-chu-dai-hoc-da-co-luat-nhung-vuong-du-thu-20201126211350175.htm [Accessed 25 February 2021] [in Vietnamese].

Trinh, T. P. T., Tran, T., Le, T. T. H., Nguyen, T. T., & Pham, H. H. (2020). Factors impacting international-indexed publishing among Vietnamese educational researchers. *Learned Publishing*, *33*(4), pp. 419–429. doi:10.1002/leap.1323.

Trung, T., Thao, P. T. T., Cuong, M. L., Linh, K. H., & Hiep, H. P. (2020). Research as a base for sustainable development of universities: Using the Delphi method to explore factors affecting international publishing among Vietnamese academic staff. *Sustainability*, *12*(8), pp. 1–16. doi:10.3390/su12083449.

UNESCO. (2014). *Governance Reforms in Higher Education: A study of institutional autonomy in Asian countries*. Available at https://unesdoc.unesco.org/ark:/48223/pf0000227242 [Accessed 9 June 2020].

Vallely, T. J., & Wilkinson, B. (2008). *Vietnamese Higher Education: Crisis and Response (Memorandum, Higher Education Task Force)*. Cambridge, MA: Harvard Kennedy School.

Vo, M. T. H., & Laking, R. (2020). An institutional study of autonomisation of public universities in Vietnam. *Higher Education, 79*(5), pp. 1079–1097. doi:10.1007/s10734-019-00457-6.

Vuong, Q. H., & Tran, T. (2019). *The Vietnamese Social Sciences at a Fork in the Road*. Warsaw: Sciendo. doi: 10.2478/9783110686081

Weiler, H. N., Guri-Rosenblit, S., & Sawyerr, A. (2008). Universities as centres of research and knowledge creation: An endangered species? A summary report. In H. Vessuri and U. Teichler (Eds.) *Universities as Centres of Research and Knowledge Creation: An Endangered Species? (Global Perspectives on Higher Education)*. Rotterdam/Taipei: Sense Publishers, pp. 15–32. doi: 10.1163/9789087904807_003

World Bank. (2019). *Vietnam National University Development Project* (P166656) - *Project information document/Integrated safeguards data sheet (PID/ISDS)*. Available at http://documents1.

worldbank.org/curated/en/459571551067350328/pdf/Concept-Project-Information-Document-Integrated-Safeguards-Data-Sheet-Vietnam-National-University-Development-Project-P166656.pdf [Accessed 14 March 2021].

World Bank. (2020a). *Improving the Performance of Higher Education in Vietnam*. Available at https://elibrary.worldbank.org/doi/abs/10.1596/33681 [Accessed 22 July 2020].

World Bank. (2020b). *Vietnam: New WB support for higher education and urban development*. Available at https://www.worldbank.org/en/news/press-release/2020/06/30/vietnam-new-wb-support-for-higher-education-and-urban-development [Accessed 14 March 2021].

Yang, R. (2016). Cultural challenges facing East Asian higher education: A preliminary assessment. In C. Collins, J. Hawkins, M. Lee and D. Neubauer (Eds.) *The Palgrave Handbook of Asia Pacific Higher Education*. New York: Palgrave Macmillan, pp. 227–245. doi: 10.1057/978-1-137-48739-1_16

Zha, Q. & Shen, W. (2018). The paradox of academic freedom in the Chinese context. *History of Education Quarterly*, *58*(3), pp. 447–452. doi:10.1017/heq.2018.22.

BOOK REVIEW

Course Syllabi in Faculties of Education: Bodies of Knowledge and their Discontents, International and Comparative Perspectives. By: André Elias Mazawi, Michelle Stack (Eds) (2020), 288 pages. ISBN: 9781350094253. London: Bloomsbury Academic.

This is a complex volume where the contributors express divergent and sometimes contradictory views. That makes it difficult to give a simple and comprehensive review. At the most elementary level, one author claims that critical thinking is crucial to the project of teacher preparation, while another argues that the term "critical thinking" is a prime candidate for inclusion in the game of bullshit bingo.

The title of the volume gives no hint that this is really a work of polemic. In fact, it is uniformly (and this is one of the few things that the contributors seem to agree on) a critical review of the syllabi of teacher preparation programmes with a view to decolonising the curriculum and introducing an anti-racist, anti-sexist, anti-ableist, alternative perspective. And rather than dealing with syllabi, as documents, it attempts to describe syllabi as performed, or "embodied" in the classroom, a rather more slippery concept.

The position of the book in the series, Bloomsbury Critical Education, perhaps gives a better view of the authorial (or editorial) stance than the title. The introduction to the series states that,

> The series will comprise books wherein authors contend forthrightly with the inextricability of power/knowledge relations.

One might have wished that they had been a little less forthright and had done more to extricate and analyse some of those power/knowledge relations.

Each chapter addresses a serious issue that is crucially important to the preparation of professional teachers, and to education more generally. But each chapter does it inadequately, and in such a way that it is hard to describe the content of the chapters. For example, Opini and Neeganagwedgin (p.214) say, "We are educators with global Indigenous ancestral roots". I do not know what to make of that; it is either a claim that anybody can make truthfully, or it is code and a euphemism for something that is not explained. The sense that the book is preaching to the converted, and that claims can be asserted, but do not need to be analysed or supported, is very strong throughout.

Lack of analysis, and willingness to assume that a case has been made without considering alternative explanations, comes with a sense of invulnerability and self-protection. It is probably very colonial, white, and male of me to impose a normativity of universalising logic onto a text that is supposed to be multifaceted and self-contradictory. And frankly, I would be inclined to accept that argument, if I thought that suspension of disbelief would allow me to learn anything about decolonising the curriculum.

To take an example, a chapter titled "The Geopolitics of Knowledge and 'the Abyssal Line': Mapping Teacher Education Syllabi in Canada" explores how much of the "canon" represented in the reading lists of those syllabi is indigenous. Under-representation of indigenous knowledge is described as "cognitive injustice", a position that is not clarified, but looks a little like a claim for equal time in the curriculum, which has proved so troublesome in other circumstances.

However, the method of the study is fairly clear. A list of 545 articles, chapters and websites was compiled from the reading lists of 19 teacher education courses, of which only 16 are related

to indigenous knowledge. The authors conclude that, "Note that even collectively, these are a small percentage of the total 545 readings for the teacher education program, making up only 0.03 (sic) percent of the full list". The actual figure is 3 per cent, and is misreported by a factor of 100. It is certainly a small fraction, though not as small as claimed, but there is no explanation of what we should expect it to be, or why.

But to continue with the mapping project, the authors note that they faced a methodological challenge, in that "it is often impossible to identify a geographical location of the major academic publishers such as Routledge and Taylor and Francis" (p. 55). As their account makes clear, these are actually two brands of a single company which has its roots and headquarters in the UK, as well as a strong presence in the US. Perhaps this could be a chance for a discussion of the role of international capital in the selection of knowledge that is deemed to be of value. Or alternatively, they might be wanting to look at the role and location of knowledge gatekeepers, the editors and reviewers used by international publishers. But the answer is much simpler than that: "We have solved this problem by choosing 'United States' as the location for Routledge, and 'United Kingdom' as the location for Taylor and Francis" (p.55). I am sure it will surprise nobody that the chapter concludes that the bulk of material used in these programmes was published in the US, and to a lesser extent the UK.

I do not mean to imply that the question of who has access to publishing, and how submissions to publications are evaluated, is unimportant. But it is time that we could move beyond this kind of circular argument to do something concrete about opening up the academic world to multiple voices and include, and critically examine, perspectives that have previously been under-represented. Similarly, it is important for everybody to learn history in a way that makes clear what injustices have been imposed by majorities on minorities, but understanding how that is best done requires something more than this assertion.

What is absent from this volume is a discussion of, or even a clear statement of, what makes a specific approach "indigenous", or why some aspects of international knowledge are condemned for universalising, and colonising indigenous spaces, while others are seen as an appropriate corrective to parochialism and patriarchy.

The crux of the problem can be found in Article 26 of the Universal Declaration of Human Rights: "Everyone has the right to education... Education shall be directed to the full development of the human personality and to the strengthening of respect for human rights and fundamental freedoms... Parents have a prior right to choose the kind of education that shall be given to their children". This Article in fact defines two rights: the right of the child to an education that fully develops his or her personality, and a right of the parent to choose an education that ensures cultural continuity. Although not necessarily in conflict, there is always the possibility that the parents and their children have different needs. Where such dissonance occurs, simply labelling one "indigenous" and the other "western" or "universal" does nothing to help untangle the "inextricable power / knowledge relationships".

In setting out their stall in the introductory chapter, the editors refer to "understanding and analyzing the complexity in the world, in people, and in human experiences" (p.28). Yet that is precisely what this volume fails to do. Having disparate chapters offering partial pictures and contradictory claims may present the complexity, but it adds little to the analysis or understanding.

David A. Turner
Beijing Normal University