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What PISA Tells us about Student-Centered Teaching and Student Outcomes

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Introduction

Throughout much of Asia, education is seen as the only path to success. Parental expectation, fear of failure, competition and pride are fueling Asia’s academic ascension (Breitenstein 2013). Confucian Heritage Cultures (CHC) across Asian countries like China, Korea, Japan, Hong Kong, Singapore and Vietnam share characteristics of a collectivist society and value harmony, which have high regard for education and teachers. The teacher is a respected mentor, a guru and an authority figure (Biggs & Watkins 2001). They resume the role as mentor far more than Western teachers (Levinsohn 2007). The status of teachers in Asia (e.g., China) was given the highest level of public respect (Coughlan 2013). In fact, according to the 2018 Global Teacher Status Index, a large-scale public survey on 35 countries, Asian countries took nearly all the top ten positions in the index. Most notably were China (No. 1), Malaysia (No. 2), and Taiwan (No. 3), where teacher is ranked highest in status. Other Asian countries in the top ten list were Indonesia (No. 5), South Korea (No. 6), India (No. 8) and Singapore (No. 10) (Dolton et al. 2018).

Generally, there are two main perspectives about Asian students’ approaches to learning. The first argues that Asian students are rote/surface learners; learning is by memorization, not by understanding (e.g., Ballard & Clancy 1994; Robertson et al. 2000). Students are considered as “receptacles” and “filled” with the content delivered by their teachers. Teachers and/or texts are viewed as the definitive source of knowledge, while students are passive, quiet and non-participative in class. Such a surface approach to learning is deemed ineffective (Robertson et al. 2000). The second perspective submits that Asian students are very successful at learning as they consistently outperform their Western counterparts in international examinations (Jensen et al. 2012). As mentioned by Pham and Pham in Chapter 10 of this handbook, many Asian learners achieved excellent performance in PISA reading, maths and science assessments. Pham and Pham argue that if Asian students only deploy rote approach to learning in preparation for PISA, they should have achieved lower scores in these international assessments. This paradox has driven many researchers from a range of theoretical perspectives (e.g., Cheng 2000; Watkins & Biggs 2001) to start reconstructing the stereotyped views on Asian learners. Researchers want to understand how students from Confucian heritage were able to obtain impressive
performance on international tests (Cheng & Wan 2016) and to do so it is crucial to understand the philosophical paradigm that underpins Asian teaching and learning. Confucius or KongZi (孔子) was the first educational and political revolutionary in Chinese antiquity around 500 bc (Chuang 2007). Many scholars believe that Confucius played a major role in constructing the society, with a cross-border influence upon generations, eras and regions (Cho & Lee 2001; Pun 2001). In fact, Confucian education tradition has evolved over 2,000 years and is greatly valued in East Asia (e.g., China, Hong Kong, Japan, Korea) and Southeast Asia (e.g., Singapore, Vietnam; Ho 2017; Rao & Chan 2010).

Philosophies of teaching and learning through Asian lenses

Confucianism is centered on the teaching and learning of ren (仁), which is the exhibition of true and supreme level of human behaviors (Bonnie 2010). Confucian heritage cultures have high regard for education and believe that academic success plays a significant role in upward social mobility. Confucian values promote a strong work ethic that gives practical expression both to this high regard for education and to this commitment to the cultivation of the self (Mason 2014). A sense of respect for teachers is also part of the traditional ethics practiced by the Asian society, as teachers play important roles in imparting knowledge, morality and values in education. Apart from the influence of Confucian philosophies, teaching and learning practices in Asia were also influenced by other philosophies such as Indian philosophies and Islamic philosophies. Indian philosophies are largely based on religious thoughts, beliefs and faith, and the goal of teaching and learning was to achieve both spiritual and intellectual development (Ravi 2015). Teacher, or guru in Sanskrit, is considered to be of supreme importance in education (Kiran 2017). Today, Indian educational system still largely depends on this didactic approach to teaching and learning. For example, in most of the medical schools of India, it is mainly taught by means of didactic lectures, tutorials and practical classes. Such a system is teacher-centered with minimal active participation from the students (Ghosh 2007). In addition, some Muslim majority countries in Asia are also influenced by Islamic philosophies of teaching and learning. The history of education in Malaysia and Indonesia, for instance, has started with the emergence of ‘Pondok’ schools (known as Pesantran in Indonesia) as well as Arabic and religious schools. The influence of Islamic values is evident in the national education philosophy of these countries (Che Noraini & Hassan 2008). Teachers are considered semi-prophets who continued learning and teaching throughout their whole voyage of life (Tahir et al. 2011). From the Islamic perspective, the teacher has an ethical duty as a muhibbi (an educator), not only as a mu’allim (an instructor or a transmitter of knowledge). This implies that teachers not only play a significant role in nurturing students’ intellectual development but also have the duty to build their personality and character. For a multi-ethnic, multi-religious country like Malaysia, the influence of various philosophies including Islamic, Confucianism and Indian is inevitable, since Chinese is the second largest population and Indian is the third in this Muslim majority country (Tengku Sarina 2012). The various philosophies share similar emphasis on the key roles played by teachers in education.

In general, most Asian education philosophies still hold on to the concept of teaching. There is a general belief that teaching and learning in the Asian context mainly relies on book learning and memorization (Lin 2009). The teacher is regarded as an authority figure who will transmit knowledge to learners, who then put in an effort to engage in rote learning with the primary goal of doing well in standardized examinations (Ho 2017). These beliefs reflect an oversimplified interpretation of Asian teaching and learning philosophy, which is contrary to the constructivist paradigm that places more emphasis on the roles of the learners. Constructivists
see learners as active agents in the process of learning (Olusegun 2015), whereby knowledge cannot be simply transmitted by teachers as it needs to be constructed by learners. Constructivism is rooted in the work of Dewey (1916), Vygotsky (1962), Bruner (1966), Piaget (1980), and Von Glaserfeld (1995). Dewey (1916), for instance, advocated progressive education that promotes a more student-centered approach to education. He was the first to describe the close link between knowledge and action of teachers and students. Dewey’s (1929) philosophies of learning have promoted inquiry-based instruction and “learning by doing.” This is in line with Bruner’s (1966, p. 88) view that

one is able to approach learning as task of discovering something rather than “learning about it,” to that degree there will be a tendency for the child to work with the autonomy of self-reward, more properly, be rewarded by discovery itself.

As such, learning is not just a stimulus-response phenomenon. It is a process that requires learners to be engaged in activities like projects, experiments and real-world problem-solving to construct their knowledge. To do so, teachers have to put students at the center of the teaching and learning and ground their educational practices in the students’ needs and capacities. Such a principle does not seem to be in line with Confucianism. Confucius is often perceived as a representative of rote learning and of the authoritative role of the teacher. Such perception, according to Hall and Ames (1987), does not accurately described the real Confucianism. Zhao (2013) further explained that Confucius did not stand for memorization of textual information and mere rote learning. Asian students do understand information contained within the text or supplied by the teacher (Pham 2010a). The meaning of “knowledge” in the Chinese language, 学问, is written by two words; one is “learn” (学) and the other is “question” (问) in English, which can be interpreted as that the knowledge is gained through observing and questioning, not through memorization (Kennedy 2002).

Confucius also calls for self-reflection on oneself during learning, as learning (学) and reflection (思) are closely intertwined. One who learns without reflection cannot adequately understand what has been learned, and one who relies on reflection without learning will be lacking in knowledge to reflect meaningfully, since knowledge is gained through learning. Confucius believed that students are not passive learners as they need to engage in self-reflection and practices (Liu 2013; McEnroe 2014). This is in line with the knowledge construction principles proposed by Constructivists. During self-reflection, learners will engage in higher-order thinking processes to understand one’s own knowledge, limitations and biases (Zhao 2013). Reflection promotes critical thinking, understanding of own shortcomings and reducing tendencies toward emotional biases, which are important for self-improvement. Learning becomes more effective when self-reflection is involved. This suggests that Asian students are not merely passive receptacles of information since the Confucian model of learning requires them to be actively involved in introspection or self-reflection. This is in line with Islamic scholars’ views that teaching is not about transmitting knowledge. Learners should be provided with mental tools to comprehend what is being learned. For instance, Ibn Al’ Arabi, student of Al-Ghazali, one of the famous Islamic scholars, suggested that simply giving information to students without teaching them how to further develop and evaluate the information would not help in learning (Tengu Sarina 2012).

Students in Confucian cultures do not engage in shallow memorization as it might appear. Memorizing may result in deep learning, albeit this approach is contrary to the Constructivist approach of learning. Meaningful or deep memorization, based on reflective repetition, is an important strategy in learning anything complex, and this is a strategy used frequently in Asian...
teaching. It is a process of learning by induction or the generation of concepts and the inference of higher-level principles through repeated practicing and memorization of empirical examples (Kember & Gow 1989; Watkins & Biggs 1996). Confucius said “Study without thought is labor lost; thought without study is dangerous” (McEnroe 2014, para. 1). He saw learning as a highly personal and individual activity, and once learning occurs it can be repeated by the student to achieve mastery of knowledge and skills. The use of memorization, rehearsal and repetition is to coordinate the complex and synthetic expression. It does not necessarily indicate a surface approach to learning, as argued by Biggs (1996). This is in line with Dewey’s (1916, 1929) views that learning is not an end by itself but rather an ongoing process from practice to theory and from theory to practice. Confucian philosophies do support individual learning and active learning methods (Chuang 2007).

In Chapter 10 of this Handbook, Pham and Pham mention that Asian civilization has a rich arena of philosophical and ethical-social-political thought. Asian teachers tend to believe that they master a profound body of knowledge and can transmit this knowledge to students and it is their responsibilities to evaluate students’ progress. Pham and Pham found that to engage Asian students in learning, there must be a good balance between verbal interactions and quiet learning culture. Another important note was that the important role of a group leader was a necessary condition to form effective teamwork. There are needs to develop practical pedagogical and assessment practices that could incorporate diverse intellectual heritages during the teaching and learning processes.

**Student-centered learning and teaching in higher education**

Higher education institutions (HEIs) in Asia have joined the global race to promote quality higher education to better prepare students for meeting the demand of the fourth industrial revolution and an increasingly globalized world (Mok & Cheung 2011; Tran & Swierczek 2009). A quality educational approach may be classified as student-centered when the focus of the education is on active learning to develop students’ higher order skills and knowledge in meeting the demands of the 21st-century workforce (Santhiram Raman 2016; Kamariah Abu Bakar et al. 2012). In the early 2000s, education reform focusing on student-centered learning (SCL), curriculum reform, technology and other aspects were implemented by countries under the Association of Southeast Asian Nations (ASEAN). Similar to the Bologna process in the EU, the ten ASEAN member countries are in the process of redesigning their education to address the critical needs for rapid workforce development in the region. Education must be redesigned to move away from the industrial model of the last century into a network and ecosystem model that focus on student-centered, collaborative, and constructivist learning (Macaranas 2017). The ASEAN Work Plan on Education (2016–2020) was drawn to promote people-centered government policy in the region, while SCL in higher education is being championed by the ASEAN University Network (AUN) (Baviera & Maramis 2017). Through participative and active learning models, it is hoped that students will be more engaged in SCL, which allows for greater responsibility, accountability and autonomy (CADE Universiti Sains Malaysia 2019).

For instance, Malaysia as one of the ASEAN members is committed to SCLT in higher education. Driven by top-down policies on student-centered approaches (i.e., National Higher Education Action Plan (2007–2010); National Higher Education Strategic Plan beyond 2020), local HEIs including research-intensive universities such as Universiti Malaysia (UM), Universiti Sains Malaysia (USM), Universiti Kabangsaan Malaysia (UKM), Universiti Putra Malaysia (UPM) and Universiti Teknologi Malaysia (UTM) are promoting student-centered learning and teaching (SCLT). Teaching and learning in these institutions aim at meeting the student’s needs,
Developments in Asian higher education

Table 35.1 SCL activities for higher education

<table>
<thead>
<tr>
<th>Outside the Classroom</th>
<th>In the Classroom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent projects</td>
<td>Buzz groups (short discussion in twos)</td>
</tr>
<tr>
<td>Group discussion</td>
<td>Pyramids/snowballing (buzz groups continuing the discussion into larger group)</td>
</tr>
<tr>
<td>Peer mentoring of other students</td>
<td>Crossovers (mixing students into groups by letter/number allocations)</td>
</tr>
<tr>
<td>Debates</td>
<td>Rounds (giving turns to individual students to talk)</td>
</tr>
<tr>
<td>Field trips</td>
<td>Quizzes</td>
</tr>
<tr>
<td>Reflective diaries, learning journals</td>
<td>Student class presentations</td>
</tr>
<tr>
<td>Computer-assisted learning</td>
<td>Role-playing</td>
</tr>
<tr>
<td>Projects</td>
<td>Poster presentations</td>
</tr>
<tr>
<td>Writing newspaper articles</td>
<td>Student producing mind maps in class</td>
</tr>
<tr>
<td>Problem-based learning (PBL)</td>
<td>Problem-based learning (PBL) – less complex problems</td>
</tr>
<tr>
<td>Case study</td>
<td>Case study (simpler case)</td>
</tr>
<tr>
<td>Modular approach</td>
<td></td>
</tr>
</tbody>
</table>

Source: CADE Universiti Sains Malaysia (2019).

abilities, interests and learning styles, with the lecturer acting as a facilitator. Modules on SCLT and training of staff have been carried out to support the implementation of student-centered instruction. Table 35.1 shows some examples of activities that are being promoted to enhance SCL in and outside of the classroom (CADE Universiti Sains Malaysia 2019).

Development of student-centered learning across Asia

Pedagogical reform is needed to prepare the workforce to meet the demands and expectations of a global knowledge-based economy, which requires students to be lifelong learners who are self-directed, adaptable and creative (Lennon 2010). Realizing the importance of SCL approach in education, reforms have taken place in Asia. Through meta-analyses, systematic literature reviews were carried out to synthesize and evaluate the policy and state SCL practices in selected Asian countries. The reviews covered studies published from 2010 onwards. Meta-analyses allow the results of different studies to be evaluated and synthesize to draw an overview of SCL practices. These findings are summarized in Table 35.2.

The findings presented in Table 35.1 show that Asia has witnessed a paradigm shift toward SCL (Jacobs & Toh-Heng 2013). In fact, SCL is the fastest growing and most heavily emphasized aspect of curriculum development and teaching methodology in education reform across the region (Jones 2001). However, its implementation and impact varied across different parts of Asia. In the following section, findings from three countries in the East Asia region, namely China, Japan and Korea, will be discussed first, followed by findings from Vietnam, Malaysia and Singapore, which are countries located in the Southeast Asia region.

China

In the 1990s, there were growing concerns about Chinese education that the heavily examination-centered education is not only harmful to students’ psychological well-being but also ineffective in cultivating the skills and dispositions that are necessary for competition in the global information society (Ministry of Education 2002; Tan & Hairon 2016). A process of curriculum reform
Table 35.2 Overview of student-centered learning practices in selected Asian countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Region</th>
<th>Source</th>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>East Asia</td>
<td>• Li and Du (2015)</td>
<td>• China launched the quality education reform policy at the turn of the century</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Lu and Liu (2016)</td>
<td>• SCL is being promoted under the curriculum reform</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Ministry of Education (2002)</td>
<td>• Still faces significant challenges due to the nation’s examination-oriented evaluation system</td>
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<tr>
<td></td>
<td></td>
<td>• Tsegay (2015)</td>
<td>• Most university lecturers are conservative with regard to student autonomy</td>
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<tr>
<td></td>
<td></td>
<td>• Wang (2010)</td>
<td>• Participation of students is not equal; some are dominant while others are passive</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Zhong (2010)</td>
<td>• Interaction of students is highly influenced by the experiences and perceptions of lecturers toward SCLT</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>• Trainings of lecturers are crucial</td>
</tr>
<tr>
<td>Japan</td>
<td>East Asia</td>
<td>• Ito (2017)</td>
<td>• Active learning started gaining recognition in Japanese higher education around 2010.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• LeTendre (2017)</td>
<td>The importance of active learning in higher education was emphasized by MEXT under the Transformation of Undergraduate Education and National Project (2012–2015)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Mizokami (2014)</td>
<td>• The concept of “active learning” is not clearly defined</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• The Japan Times (2013)</td>
<td>• Most university lecturers do not have profound understanding of SCLT and still rely on teacher-centered lectures</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Yamada and Yamada (2018)</td>
<td>• However, there seems to be a gradual shift toward active learning approaches</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• There is a lack of coherency and systemic transformation in the education ecosystem (elementary school, middle school, higher education)</td>
</tr>
<tr>
<td>Korea</td>
<td>East Asia</td>
<td>• DeWael sche (2015)</td>
<td>• Education blueprint released in 1999, among others, focused on establishing SCL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Choi and Rhee (2013)</td>
<td>• SCL rarely occurs in practice as teacher-dominated classrooms remain common</td>
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<tr>
<td></td>
<td></td>
<td>• Dailey (2010)</td>
<td>• Korean students are generally uncomfortable in non-traditional classrooms</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Kim (2015)</td>
<td>• Teacher is expected to have complete control over the teaching and learning processes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Lee and Sriraman (2013)</td>
<td>• Some degree of teacher-centered methods is still required in large classes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• SCLT is likely to be met with considerable resistance, at least in the initial stage</td>
</tr>
<tr>
<td>Vietnam</td>
<td>Southeast Asia</td>
<td>• Global Partnership for Education (2018)</td>
<td>• Higher Education Reform Agenda (HERA), Educational Development Strategic Plan (EDSP) (2014–2019) and an Education for ALL Action Plan (2003–2015) were carried out to revamp the country’s education system</td>
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<tr>
<td></td>
<td></td>
<td>• Pham (2010b)</td>
<td></td>
</tr>
</tbody>
</table>
### Table 35.2 (Continued)

<table>
<thead>
<tr>
<th>Country</th>
<th>Region</th>
<th>Source</th>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaysia</td>
<td>Southeast Asia</td>
<td>Chen and Chang (2014)</td>
<td>• Many reforms have failed because an SCL approach was rejected</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Grapragasem et al. (2014)</td>
<td>• Student-centered approach is considered new and radical</td>
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<td></td>
<td></td>
<td>Mahamood et al. (2009)</td>
<td>• It appears hard to sweep away traditional practices and implant SCL at higher education institutions</td>
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<td></td>
<td></td>
<td>Nurahimah et al. (2013)</td>
<td>• The Ministry of Education (MOE) launched a National Education Blueprint (NEB) in 2012 and the government has also developed strategies and plans to transform higher education</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Siti Zuraidah et al. (2015)</td>
<td>• HEIs are at the stage of transforming from teacher-centered teaching in the classroom to a more learner-centered teaching environment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tengku Sarina (2012)</td>
<td>• The process has been slow due to lack of guidelines provided</td>
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<td></td>
<td></td>
<td>Yap (2016)</td>
<td>• Lecturers used a mixed of teacher centered and student-centered approaches</td>
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<td></td>
<td></td>
<td></td>
<td>• In general, lecturers are doing well at implementing SCL</td>
</tr>
<tr>
<td>Singapore</td>
<td>Southeast Asia</td>
<td>Gopinathan (2001)</td>
<td>• A major curriculum review in 1997 led to the education reforms toward SCL approach in teaching and learning was carried out in a transformational and systemic manner</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maxwell (2017)</td>
<td>• The entire ecosystem and educational paradigm of Singapore’s education system were altered</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tan et al. (2017)</td>
<td>• The “Thinking schools, Learning Nations (TSLN)” was a pivotal policy shift toward 21st-century education</td>
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<td></td>
<td></td>
<td></td>
<td>• Model of Teacher Education for the 21st century (TE21) emphasizes the critical importance of learner-centeredness</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>• Higher education has undergone a pedagogical shift with new approaches to improve student motivation and autonomy</td>
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<td></td>
<td></td>
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<td>• Lecturers and tutors play important role in providing a conducive environment for SCL</td>
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<td></td>
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<td></td>
<td>• Staff development programs are crucial</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>• The cohesive education system support students as active participants, autonomous, proactive and constructive learning from elementary to higher education</td>
</tr>
</tbody>
</table>

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1 In Japan, MEXT refers to the Ministry of Education, Culture, Sports, Science and Technology. MEXT has conducted a survey called “Survey for Educational Reform Situation in Japanese Universities” on 776 four-year universities and colleges, with a response rate of 99%.
with the goal of transforming Chinese education from traditional exam-oriented education to SCL has begun. China launched the quality education reform policy at the turn of the century (Ministry of Education 2002). Central to the reform are curricular changes that aim at reducing student workload, cultivating higher-order thinking skills and encouraging all-around development (Feng 2004). With respect to pedagogical change, traditional lecturing and rote learning are to give way to student-centered teaching approaches as the learner’s autonomy is being emphasized in the reform (Wang 2010; Lu & Liu 2016). The reform to embrace SCL approaches in teaching and learning in China still faced significant challenges. Even though students were able to share ideas and experiences, learn collaboratively and apply content-based knowledge into real-world problems after the implementation of SCLT, a major problem with regards to recognizing every student and embracing them to the class interaction equally still exists. Tsegay (2015) found that some students are dominant, while others rarely participate in the class interaction. The interaction of students is highly influenced by the experience and perception of lecturers toward students’ participation. Findings from Li and Du (2015) showed that although university lecturers have realized the value of SCL, they still prefer direct guidance in the educational process and are conservative when it comes to student autonomy (ibid.). Professional development must be a priority to realize education reform. To implement a SCL approach, the government and institutions should provide adequate training opportunities for lecturers (Zhong 2010).

Japan

In the late 1990s, the University Council of Japan submitted a report titled *A Vision for the University of the 21st Century and Future Reform Measures*, which built upon the progress of university reform. The reforms called for a more student-centered approach in teaching and learning, as Japanese education had become too rigid, uniform and exam-centered during that time. Student-centered teaching and active learning was promoted by the Ministry of Education (MOE). The concept of “active learning,” however, was not easy to be translated into Japanese. Although the term has a Japanese translation (*noudouteki/syutaiteki na gakusyū*), it does not convey the nuance of “active learning.” A borrowed term, *akutibu lāningu*, was used. This implies that active learning is not a norm in Japanese education culture. However, this learning approach gradually gained recognition in Japanese higher education around 2010 (Mizokami 2014) and became increasingly popular after it was emphasized in the 2012 comprehensive report, *Qualitative Transformation of Undergraduate Education* by the Central Council for Education. Active learning was again emphasized in the national project (2012–2015), *Improving Higher Education for Industrial Needs* (IHEN), funded by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) (Ito 2017). Despite the policy advocacy, implementation of active learning in higher education faced many challenges. A majority of the university lecturers are not trained as education scholars but rather consider themselves as discipline-specific experts. Due to a lack of profound understanding of the educational approach, lecturers perceived SCL and active learning as set of instructional methods instead of an overarching pedagogical methodology (Ito 2017).

According to survey conducted by MEXT, in 2015 about 41.6% of four-year universities and colleges have carried out workshops to promote active learning method among lecturers, as compared to merely 26.9% in 2013 (Yamada & Yamada 2018). Many Japanese universities and colleges have gradually started to introduce active learning methods (Yamada & Yamada 2018). For instance, the Center for Research and Development of Higher Education at the University of Tokyo have promoted active learning through ICT integration. However, the drive for SCLT seems to be lacking at the school levels. According to LeTendre (2017), MEXT’s emphasis on
active learning is very confusing to the elementary and middle school teachers, which hinders its implementation. There is a lack of clarity on the part of MEXT as to just what “active learning” is about. As a whole, Japanese universities remain far behind other countries in improving their university teaching, as too many universities in Japan are still relying on teacher-centered lectures as the main pedagogical approach (The Japan Times 2013) and there is a lack of coherency and systemic transformation in the country’s education ecosystem.

**Korea**

The traditional Korean classroom is teacher centered, and this kind of teaching approach has its historical roots set in Confucianism. An education blueprint, *The Five-Year Plan for Educational Development*, was established and released in 1999. The reform plan focused on establishing student-centered education, among others (Lee 2001). The student-centered curriculum focuses on fostering individual talents, aptitudes and creativity to prepare students for the globalization and knowledge economy. What the Ministry of Education hopes to achieve rarely occurs in practice as teacher-dominated classrooms remain common in Korea (DeWaelsche 2015). Both lecturers and students are more accustomed to the teacher-centered approach, which is compatible with the traditional view of education and teachers’ traditional role. Allowing the class to be student centered and working in small groups is a concern for teachers, not only because the role of the teacher becomes unfamiliar, but also because in Korean culture, which is rooted in Confucianism, the teacher is expected to have complete control over the teaching and learning processes, and when students are working together in groups, this control no longer exists (Dailey 2010). In addition, Korean students are generally uncomfortable with communicative tasks where they are expected to think critically and share original ideas with classmates in non-traditional classroom settings (Choi & Rhee 2013). Studies showed that students expressed “burdened and anxious” feelings about the approach, which seemed to result from the unexpected and considerable amount of group tasks. Hence, when implementing SCLT, particularly in large classes, some degree of teacher-centered methods is required so that students can become accustomed to the approach (Kim 2015). There seems to be cultural barriers when implementing the SCL approach in Korean higher education. Korean education culture is deeply rooted in Confucian philosophies that promote rote learning for exam preparation, a tendency toward teacher-centered lessons and an authority-reverent culture (Cho 2004). A paradigm shift toward student-centeredness is an uphill task for both lecturers and students, as the approach is likely to be met with considerable resistance, at least in the initial stage.

**Vietnam**

A number of factors such as didactic instructional methods, inadequate professional preparation of teachers and heavy teaching loads are impacting the quality of education in Vietnamese HEIs. To address these issues, reform efforts have been outlined in the Higher Education Reform Agenda (HERA), which serves as a roadmap for reform to be made by year 2020. In addition, the Vietnamese government has also introduced the *Educational Development Strategic Plan* (EDSP) (2014–2019) and the *Education for ALL Action Plan* (2003–2015) to revamp the country’s education system (Global Partnership for Education 2018). The introduction of a learner-centered approach was considered to be a necessary reform to provide an education for all due to its aim of meeting the learning needs of all learners. However, despite the apparent influence of the learner-centered approach that the Vietnamese Ministry of Education and Training is trying to encourage, learning that occurs in the classroom is still very much teacher centered.
The implementation of SCLT was hindered by various cultural barriers and local infrastructure conditions (Pham 2010a). Many reforms have failed because a SCL approach was rejected by the education community. Taking into account that Vietnam is a society that is culturally oriented toward collectivism rather than individualism, a student-centered approach is considered new and radical. It appears hard to sweep away traditional practice and implement SCL in HEIs in Vietnam. In the Vietnamese context—a teacher-centered culture where unquestioning respect for teachers has long been a dominant attitude—students learn from the teachers as the source of knowledge. It is crucial to address the mismatches between principles of SCL and the local cultural values. A lack of conceptual understanding also weakened the process of change and ensure that it occurred only at the surface level. Professional development needs to be provided for the lecturers so that they are aware of the disadvantages of the traditional teacher-centered approach (Pham 2010a) and willing to take the first step toward change.

**Malaysia**

The Ministry of Education (MOE) of Malaysia has developed and launched a new *National Education Blueprint* (NEB) in 2012 and the government has also developed strategies and plans (i.e., National Higher Education Action Plan (2007–2010); National Higher Education Strategic Plan beyond 2020) to ensure that HEIs undertake change and achieve excellence to face the competition posed by the global education market (Grapragasem et al. 2014). HEIs are at the stage of transforming toward learner-centered teaching environments. The process has been slow due to lack of guidelines provided (Yap 2016). Several studies indicated that Malaysian lecturers at HEIs employed various methodologies, involving the traditional teacher-centered approaches or a mixture of teacher-centered and student-centered approaches such as direct lectures, discussions and tutorials in their teaching (e.g., Mahamood 2009). Lecturers’ partial adoption of SCL may have been due to the pressure of government demand rather than as being representative of their own belief that the approach can contribute to learning among students. This led the university lecturers to integrate teacher-centered strategies together with a student-centered approach (Tengku Sarina 2012). Nevertheless, recent studies showed that university lecturers are doing well at implementing SCL (Chen & Chang 2014; Siti Zuraidah Md Osman et al. 2015). They are aware of the active facilitating role-played by the lecturers to ensure SCL takes place. They do not promote rote learning and utilize some dimensions of higher-order thinking skills (HOTS) as part of their SCL approaches (Nurahimah et al. 2013). However, there are still university lecturers who prefer to prescribe how learning takes place rather than allow learners to control their own learning. There are still lecturers who find it difficult to use an SCL approach when teaching large classes as they feel that they do not have enough experience in using this approach (Siti Zuraidah Md Osman et al. 2015). As a result, some lecturers prefer the traditional approach, especially in terms of assessment procedures, compared to SCL practices (i.e., portfolios, peer assessment, reflective writing) (Nurahimah et al. 2013).

**Singapore**

Initially, the Singaporean educational system was typical of Asia, highly scripted and uniform across all levels. The pedagogy of those early years was very much aligned with a teacher-centered approach. Facing rapid globalization, the knowledge-based economy and increasing global competition, the Ministry of Education (MOE) in Singapore undertook a major curriculum review in 1997 to rethink its goals and directions for the future. Realizing that a responsive education system requires a whole system reform, Singapore’s education system, from preschool to
Developments in Asian higher education

university levels, has undergone what was described as a “big bang,” where the entire system was reviewed and reformed (Gopinathan 2001). A major strategy in this reform was to put in place and implement the many pieces of strategies and structures to systematically drive and support the vision for student-centeredness in education. This strategy is a key factor that contributes to the success of whole system education reform in Singapore. In other words, for reform to take place successfully in higher education, changes need to be made at the foundation level. A concerted attempt at reforming the education in Singapore is found in *Thinking Schools, Learning Nations* (TSLN), launched in 1997. TSLN was a pivotal policy shift toward 21st-century education that aimed to prepare Singapore’s students for the future (Tan et al. 2017). The whole education system has adopted a more student-centered approach to learning, which focuses on quality of learning rather than quantity of learning (Maxwell 2017).

The education reform has also brought sweeping changes to teaching approaches at all levels of education. Recognizing the important roles played by the teachers in SCLT, a *Model of Teacher Education for the 21st Century* (TE²¹) was implemented. This model was underpinned by learner-centered values that put students at the center of the teachers’ work (Tan et al. 2017). Teaching in higher education has also undergone a pedagogical shift with new approaches to improve student motivation and autonomy. For instance, at the National University of Singapore (NUS), the medical curriculum represents a hybrid curriculum with a fundamental paradigm shift from teacher-centered, discipline-based teaching and learning to a more student-centered, self-directed, active learning environment. In addition, the implementation of problem-based learning (PBL) at the university also represents a major shift from traditional teacher-centered instruction to SCL (Gwee & Tan 2001). Most students were able to display highly effective communication and creative thinking skills during tutorials and presentations. This underscored the need to create more opportunities for self-expression and self-teaching and learning. In this respect, lecturers and tutors at the university play a major role in providing a conducive environment for SCL for all students. The introduction of tailored staff development programs, hence, is crucial in supporting and promoting the implementation of SCLT at the university level. As a whole, Singapore has laid a strong foundation for SCL, which includes primary and secondary education, teacher education and tertiary education. The systemic revolution in education toward student-centered education is the key to Singapore success in education.

Among the country cases presented in Table 35.2, Singapore has the most comprehensive and systemic approach in implementing SCLT, whereby reforms were carried out from elementary to higher education levels. Education reform in Singapore since the late 1990s has brought sweeping changes to the country’s approach to teaching, learning and the curriculum in an effort to promote a more student-centered and value-centric education system. The country’s education reform policy is coherently carried out and alignment between government, schools, universities and teachers can be achieved. The entire ecosystem and educational paradigm of Singapore’s education system is moving toward SCLT. The entire ecosystem supports students’ active participants, autonomous, proactive and constructive learning from elementary to higher education. This is a key factor that contributes to the success of education reform in the country. In addition, the country’s success also massively depends on a high-quality teacher workforce. Asia is home to some of the top education systems and universities in the world. Many countries in the region have carried out educational reforms to improve the quality of its education, tying learning to new and emerging needs. Central to this region’s education reform is a focus on the SCL paradigm. Despite the strong education reform policy toward SCL, the implementation of SCLT in most Asian countries still faced many challenges, as documented by past studies (Pham 2011; Shin & Crookes 2005). It is particularly challenging to make a paradigm shift in countries like China, Japan, Korea, and Vietnam, where Confucian culture is deeply rooted in its
teaching and learning philosophies and practices. When interacting in class, lecturers must create a conducive learning environment that can provide opportunities for students to play an active role in learning. However, as Confucian culture places great emphasis on hierarchical relationships, students are taught to accept and listen to their teachers as authority figures and definitive knowledge sources. As a result, they may not have the skills to engage in intellectual discourse with their lecturers who are regarded as authority figures. Power sharing needs to occur in the classroom to drive student-centered instruction in higher education so that students can take more responsibility for their own learning, and the role of the lecturer can be shifted from one that leads to one that facilitates learning.

**Conclusion**

In countries where Confucianism is deeply rooted, the adoption of SCL principles and practices has to be done within its sociocultural context and with careful consideration. It is more feasible to modify and adapt some of the pedagogical principles of SCL, making them more culturally appropriate to the local context, than to make a complete change to the pedagogical approach. For example, students in Confucian culture do not just engage in shallow memorization as it might appear. Meaningful or deep memorization, based on reflective repetition, is an effective strategy used by many Asian learners to master complex concepts. Hence, hybrid pedagogies that merge the principals of constructivism with the Asian cultural values can be developed. Students can use memorization and reflective repetition strategy to learn key concepts and later reinforce their understanding through independent projects or case study. To promote active learning among Asian students, there must also be a good balance between quiet learning culture and verbal interactions, which could combine self-reading time with online discussions and small group work. Students’ communication skills should also be enhanced through the infusion of soft skills in the university courses to promote more active academic discussions during the learning processes. In addition, a judicious mixture of both didactic lectures and a constructivist approach may be helpful in coaching undergraduates, particularly during their first year of study (Ghosh 2007). Didactic lectures remain valuable for giving students an overview of a particular area of study, especially during their first year of study (Ghosh 2007).

Even though many Asian countries still face challenges in implementing SCLT, Singapore has managed to transform its whole education system, from elementary to higher education, to cohesively support and promote SCL. The country’s strong policy advocacy and systemic transformation toward SCLT have led to its success in education reform. This suggests that to promote SCL in higher education, changes need to be made in the whole education ecosystem, particularly at the school level, so that students and teachers can embrace SCL as early as possible. Singapore’s success in transforming its education system toward SCLT can also be attributed to the country’s high-quality teacher workforce, which is a key driver in education reform. Primary and secondary teachers play important roles in laying a strong foundation for SCL before students enroll in tertiary education. University students will be more ready for SCLT if they have already been immersed in the SCL approach since primary education and are equipped with critical skills such as communication skills, problem-solving skills and self-regulated learning skills to engage in SCL activities at the university level. To ensure the sustainability of SCLT in higher education, lecturers and tutors have to undergo professional development such as training programs, workshops and seminars on SCL pedagogy. Modules on SCLT which are customized to the different programs (e.g., medical, science, engineering, social sciences, humanities) can also be developed at the university level for staff training purposes. Infrastructure and resources development is also an area that should not be overlooked,
Developments in Asian higher education

as educational technology infrastructure, educational tools, classroom design, learning space and resources (i.e., modules, online resources) are important in promoting SCLT. In conclusion, many Asian countries are already in the process of making a paradigm shift toward SCL through education reform. The strong advocacy and policy development for SCLT is a positive sign in educational transformation. Nevertheless, most Asian countries are making slow progress due to a number of cultural and non-cultural barriers. Findings from the country cases and literature reviews suggest that education reforms toward SCLT in Asian higher education requires systemic transformation of the whole education ecosystem (as in the case of Singapore), implementation of hybrid pedagogies that merges Constructivist principles with Confucius values, continuous staff training and infrastructure and resources development.

Notes
1 As of 2019, ASEAN consists of 10 Southeast Asian countries: Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam.
2 The Model of Teacher Education for the 21st Century (TE21) is a transformative endeavor that guides the design, delivery and evaluation of teacher training programs to provide the best education to aspiring and serving teachers to become 21st-century teaching professionals. The model is underpinned by learner-centered values that put learner at the center of teachers’ work.

References


Developments in Asian higher education


