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Approaches to Preparing Students for the Future

Summary

Volume 3 of the ELIS Research Digest has focused on the future language needs of Singapore with reference to the speaking and writing of English and how schools and teachers can contribute to ensuring that our students leave school with useful and usable communication skills for use in the global market place. This final issue in the volume looks at what skills need to be taught in the schools, the English language varieties that teachers might adopt in preparing students for the future and what teaching approaches might be appropriate. Some consideration is given to how teachers might be prepared for the task of facilitating students' learning of the required skills. The first issue looked at how technological changes have resulted in the need for new literacies that students must learn to survive in the new landscape. The second issue reported on some of the scenarios that have been predicted for the future of English as an international language in Southeast Asia and the world at large and how these may impact the language needs of Singapore students. The third issue looked at the future communication needs of workers in Singapore and how these needs can be prepared for while students are still at school.

Introduction

The Ministry of Education in Singapore has produced a number of documents guiding our understanding of 21st century competencies (Ministry of Education, 2015) and how these relate to preparing students for the future. The descriptors cover three main areas:

- Civic Literacy, Global Awareness & Cross-cultural Skills
- Critical and Inventive Thinking
- Communication, Collaboration and Information Skills

While language cuts across all three areas listed above, the most relevant of the three to this Digest is *Communication, Collaboration and Information Skills*. Annex C of the webpage (Ministry of Education, 2015) details the features of this area as follows:

> *With the Internet Revolution, information is often literally just a click away. It is important that our young know what questions to ask, how to sieve information and extract that which is relevant and useful. At the same time, they need to be discerning so that they can shield themselves from harm, while adopting ethical practices in cyberspace. The workplace of the 21st Century requires our young to be able to work together in a respectful manner to share responsibilities and make decisions with one another to meet group goals. Importantly, they should also be able to communicate their ideas clearly and effectively.* (Ministry of Education, 2015, Annex C)

The excerpt indicates that even in the information age, our students need to learn how to communicate effectively with each other in order to work and collaborate together in a respectful manner. To do this, students need to have good language skills to express their ideas in ways appropriate to their audience in terms of content and socially appropriate language forms. This issue of the Digest will look at what is meant by 21st century competencies, and how teachers need to adopt new approaches so as to prepare their students to become competent 21st century communicators.

Skills for the 21st century

One issue with regard to terminology in the literature needs to be raised here. Writers in this area often use both '21st century competencies' and '21st century skills' interchangeably and, as Ananiadou

and Claro (2009) pointed out, the terms have not always been clearly defined in the literature. They saw 'skill' as the ability to perform a particular task or solve a problem while 'competence' was the ability to apply learning to defined contexts. Competence was not limited to knowledge; it also covered the technical, interpersonal and ethical, and was thus much broader than skill. However, they emphasized that there was no fixed set of 21st century competencies agreed to by researchers or countries.

While noting the reservations of some scholars who felt that a focus on content cover was more important and that a focus on 21st century competencies would simply widen the gap between the able and less able, Ananiadou and Claro (2009) believed that both the home and the school should help the young develop the required values to use the potential of modern technology appropriately and to learn the related information and communication skills. Unfortunately, for some students, this type of preparation was not available at home and it had to be provided entirely by the schools. As a result, it was important that the development of these skills among students be made part of the national curricula and become the core of what all teachers cared about.

From their study of the programmes of the OECD countries, Ananiadou and Claro (2009) pointed to two gaps in the development of 21st century competencies in schools. One was the lack of assessment systems that included 21st century competencies and the other was the general lack of teacher training programmes relevant to these skills at both the pre-service and in-service levels. They felt that such programmes needed not only to give the teachers the skills necessary to help students develop the required competencies but also to convince the teachers that such competencies were indeed worthwhile. (See the Whole School Approach to Effective Communication in English or WSA-EC for an example of such an approach, English Language Institute of Singapore, 2016.)

A study by Casner-Lotto and Barrington (2006) looked at the skills students needed in a different way by surveying American industry to determine what skills it required and whether new entrants to industry had those skills. They divided the skills into basic skills and applied skills. The basic skills were learnt in school and included English language (spoken), writing in English and reading comprehension. Applied skills involved being able to use the basic skills for particular purposes and contexts, thus combining cognitive abilities and social skills, and these applied skills included written communications and oral communications (including being able to deal with cultural diversity). Both the basic and applied sets of skills were considered important but, when asked in a survey to rank skills in terms of critical importance for the 21st century, American industry invariably listed applied skills in the top five. The survey also indicated that the respondents did not believe that even new entrants with a college diploma had the required level of applied skills such as good communication in speech and writing. This lack of good communication skills could, for example, result in an inability to do projects, particularly in collaborative groupings, another requirement for the 21st century. Entrants were particularly deficient in written communication skills with poor spelling and weak PowerPoint and emailing skills.

> *In fact, five of the ten "very important" skills on the Deficiency List are related to communication ability (Written Communications, Oral Communications, Reading Comprehension, English Language (spoken), and Teamwork/Collaboration).* (Casner-Lotto & Barrington, 2006, p. 42)

Casner-Lotto and Barrington (2006) stressed that, although it was clear that education could not be simply about the preparation of students for work, such preparation remained an important part of the overall purpose of education. At the same time, it should perhaps be noted that a gap in skills for working in an international setting was not a new phenomenon. Some 30 years ago, Jenkins and Hinds (1987) reported that students had indicated that they had not been properly prepared for international business. The group they worked with had, for example, not learnt of the variety with which different cultures approached business letter writing, an area that was important to them if they were to be good intercultural communicators.

Failure to communicate well could lead to a loss of business in the new economy according to Carnevale and Smith (2013). The economy was now focused on service industries that provided customers with options. The new workers had to be

able to produce products customized to the needs or wants of individual customers. Moreover, the workers needed to know how to communicate with those customers. Carnevale and Smith (2013) were focused on the situation in the United States but these changes have also been noted in the case of other economies including that of Singapore. (See Osman-Gani & Chan, 2009, discussed later.)

According to Carnevale and Smith (2013), the United States spent some 11% of its GDP on human capital development and skills training. Of that amount, some 41% was spent on primary and secondary education, which focused on basic skills and this was the level that the bulk of training took place. However, new skills were now required such as creativity and problem-solving skills to deal with the variety of customer wants. Moreover, the new worker had to show empathy for the customer through good communication skills while providing a consistently high level of service (Carnevale & Smith, 2013, pp. 491-493).

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Carnevale and Smith (2013) detailed the reading and writing skills (including computer based work) as essential, pointing out that these were often the modes for first contact with customers. Workers needed these skills to find information and to synthesize and present it. They also emphasized the need for oral communication skills including the ability to understand and value the communication styles of others. As businesses moved to a global level, so the communication skills required went from a local to a national to a world-class standard. They suggested that 55% of jobs already required high levels of customer service and English language skills with five of the top twelve most valued skills being communicative skills related to language. They proposed that the aim had to be for students to learn the basic skills and then turn those into deeper capabilities that allowed them to become more flexible and adaptable with skills suitable for the 21st century. While the best way for doing this was not yet fully understood, they believed that it was already known that the learning was easier when the skills were introduced in a practical framework and relevant context.

McCalman (2014) emphasized the need for today's students to be prepared with intercultural communication competence in order to become a useful part of the increasingly global workforce. A global awareness built into the curriculum would, she felt, involve strategies and plans that would prepare both teachers and students for the intercultural context. She lamented that most Caucasian children in the United States tended to have little interaction with those from other cultures until tertiary education, a fact that she thought ill prepared them for the future global workforce. (See Chong & Cheah, 2010, below for a report of a similar thing in Singapore.) Also, the teachers' decisions in the classroom could affect the attitudes of children towards their own cultures, that of others, and the lives and cultures of peoples around the world. For the students to develop competence in communicating with others, they needed to know who they were communicating with, to have the desire to communicate, to use the appropriate language and to be sensitive to the cultural factors influencing the interpretation of the message.

Osman-Gani and Chan (2009) indicated that, among other things, Singapore businesses needed to be more globally orientated. They pointed out it was a matter of national survival that Singapore thus focus on the development of new talent and skills in preparation for the future global economy. The future would see continuing globalization and thus the sourcing of talent from anywhere in the world. Moreover, a growing number of Singaporeans were already involved in the expansion of Singaporean businesses overseas and had to travel to different countries. It was thus necessary that the workforce develop intercultural communication skills.

Kang (2012) studied a group of Korean students and their families who had come to Singapore to study English and Mandarin Chinese. The reasons for studying these two languages were pragmatic as they saw these as necessary for future opportunities, i.e. the two languages had economic capital. English was seen as a standard requirement for everyone. (The belief that English was a basic requirement in the global marketplace was behind the Malaysian government's decision to reemphasize the learning of English in schools in

1996 – Kayad, 2015.) While an ability to communicate in Mandarin was not an absolute necessity, combined with a knowledge of English, it would ensure that the speaker stood out in the marketplace, especially in Asia where Mandarin was growing in importance.

Kang (2012) reported that the young Korean students in Singapore soon developed an ability to communicate in Singlish, which caused some concern for their parents. However, the students saw it as a version of English that was easier to master and to use and, in specific contexts, useful for communicating and bonding with their Singaporean friends and contacts. Even so, they were aware that it was not appropriate for all circumstances and even commented on the fact that, unfortunately, not all Singaporeans could switch to other more context appropriate forms when necessary. In their use of Singlish, the Korean students were representative of a new type of transnational, an individual prepared to live and work in countries other than their own, that could adapt to local language norms without taking on the local identity.

Kang (2012) suggested that similarly there should be an emphasis in school on the development of skills in English language forms that were appropriate to cultural contexts rather than only on the development of abilities in the elite forms of English. The pragmatic value of a language such as English related more to its economic capital than to the ethnonational identities of the speakers. The new transnational should be able to use language in a way that was sensitive to cultural and linguistic differences in the local context in the same way as the Korean students had.

Instructional models in language learning

Matsuda and Friedrich (2011) pointed out that the teaching of an international language such as English, i.e. a language used for communication between people who otherwise did not have a common language, had to be different from the teaching of foreign languages. Using content and pedagogy based on the language dominant in the United States and United Kingdom would not properly prepare students to use English as a means of global communication with people from other countries. Unfortunately, this message left teachers wondering what then they should teach.

Matsuda and Friedrich (2011) proposed some approaches that could help though they cautioned that the actual solutions would depend on context and all they were giving were general principles.

The first question to deal with was which English variety should be used as the instructional model as it was not possible to teach students all available varieties of English. English as an International Language (or EIL) was not a particular variety of English. It referred to the use of English to facilitate communication across nations and cultures and the variety to be used as the instructional model in any particular situation would depend on the people involved and the context, a concept similar to what the Singapore *English Language Syllabus 2010* (Curriculum Planning & Development Division, 2008) called PACC or Purpose, Audience, Context and Culture. Since EIL was not a variety of English, it could not be taught but students could still be prepared to use English in international situations.

In choosing a language variety to teach, Matsuda and Friedrich (2011) claimed there were three possible solutions:

1. An international variety not related to any particular region or country
2. The learners'/teachers' own variety of English
3. An established variety of English

The problem with the first solution was that no such variety existed and was not likely to exist. There was nobody that could codify such a variety and then enforce it worldwide. Even if such a variety was established, over time usage would change the language and the changes would not be uniform globally.

The second solution was a possibility where the learner or teacher variety had become established or 'nativized' such as Indian, Nigerian or Singapore English. (Such varieties were referred to as *institutionalized varieties of English* or IVEs by Higgins, 2003.) However, in some areas (Japan, Vietnam, for example), there was not yet an established local model that could be used for this purpose.

The third option, their preferred option, was to use an established variety. The possible choices could include American and British varieties but other possible varieties included Australian, Canadian, Indian, Singaporean, South African and Tanzanian.

The choice would depend on the goals of the course, student needs, the availability of materials, the teachers' skills and society's attitude to the variety. Mckay and Brown (2016) agreed the variety chosen should be made based on these criteria but noted that the choice was often also a political rather than just an educational one.

To avoid the possibility that the variety chosen as the instructional model became a de facto standard that excluded the legitimacy of other varieties, Matsuda and Friedrich (2011) suggested that the teaching of the model be combined with the presentation of other varieties in class and that the issues related to language choice and multiculturalism should be included in the programme. For example, the students could learn a range of strategies to use in multicultural situations: asking for clarification, using non-verbal communication, showing cultural sensitivity, and avoiding the use of terms peculiar to one's own variety without explanation were some they listed. (See also Mckay & Brown, 2016.) Students needed to read texts from other cultures so that they learnt about English language varieties. Students also needed to be given preparation in presenting their own culture to others. Such training in EIL should be woven into the teaching and not be just an interesting add-on.

For example, the students could learn a range of strategies to use in multicultural situations: asking for clarification, using non-verbal communication, showing cultural sensitivity, and avoiding the use of terms peculiar to one's own variety without explanation were some they listed.

In Singapore, the instructional model to be taught in schools was defined in the *English language syllabus 2001 for primary and secondary schools* (Curriculum Planning & Development Division, 2001) and the *English Language Syllabus 2010* (Curriculum Planning & Development Division, 2008) as 'internationally acceptable English (Standard English)'. This was further defined as the formal register of English used in different parts of the world and which was 'grammatical, fluent and appropriate for purpose, audience, context and culture' (See, for example, Curriculum Planning & Development Division, 2008, p. 14). This left open the possibility of the use of different formal examples of English from around the world.

Importantly, Matsuda and Friedrich (2011) emphasized that the choice of the instructional model should be related to the purpose of the learning. Thus, if the learners were learning English as part of their preparation to go to Singapore to do business, it would be appropriate for them to learn the English that is used in business in Singapore as well as that used in social contexts.

The choice needed to be made carefully as the appropriate varieties may not always be obvious. Matsuda and Friedrich (2011) gave the example of foreign engineering students at an Australian university who, it was found, had little contact with Australian English. Few of their lecturers were Australian and they spent most of their social lives in the company of other foreign students. Their need was to be at least aware of other varieties of English and, perhaps more importantly, the cultures associated with those varieties and, thus, the social meanings used by the speakers.

Although it had been claimed that accepting multiple varieties of English would lead to people not understanding each other, Bamgbose (1998) argued strongly that this would not be the case. Moreover, 'non-native varieties' such as Singapore English and Indian English were not transitional forms on the way to more closely approximating 'native varieties'. He believed that the status of these varieties would be dependent on a number of factors but that the two most important were codification and acceptance. Codification involved the variety being described in grammar books, dictionaries and other reference books. Acceptance was achieved when examining bodies accepted the use of the variety. These factors could be interrelated with codification affecting what was seen as acceptable by the examination authorities.

In contrast to Matsuda and Friedrich (2011), Alptekin (2002) argued that it was possible to have a model or multiple models of English as an International Language. The models should be from successful bilinguals with an intercultural knowledge. However, like Matsuda and Friedrich (2011), Alptekin (2002) suggested that, to develop the intercultural communicative competence of learners, they should be equipped with an understanding of language and cultural differences be-

tween individuals and how to cope with such differences. Learners should be prepared to feel comfortable in both the local and global situations.

In two related studies of how far Indians and Malays in Singapore saw themselves as owners of English language standards, Rubdy, McKay, Alsagoff, and Bokhorst-Heng (2008) and Bokhorst-Heng, Alsagoff, McKay, and Rubdy (2007) noted that Indians in Singapore were seen as more likely than other groups to use English as an intra-community language as there was no common Indian language spoken by the whole group. While the group originally came from different parts of India and thus spoke different languages, Tamil was the only official Indian language. The Malay group, on the other hand, had their own common language, Malay, which was also an official language. In both studies, the researchers examined the ownership of English felt by four dyads or pairs of Singaporean Indians or Malays. Those in each dyad were similar in terms of social background (upper middle or lower middle social status) and age (old or young). Each dyad was given a set of sentences and then left alone to discuss which were grammatically correct and, if not correct, what the correction should be. An analysis of the discussion by the dyads indicated that the older respondents were more likely to look to standards outside themselves. The younger respondents appeared to behave more like 'owners' of the language, being more willing to decide on grammaticality based on their own intuition. The upper middle status respondents were generally more confident in their decisions while the old, lower middle status dyad were the most likely to leave questions unanswered. Rubdy et al. (2008) saw the greater sense of ownership among the young as an indication of the growing ownership of English by Singaporeans. It was found the Malay group were less likely to 'own' English and to see the standard as exonormative. However, even within this group, there was again some indication that the younger dyads were more willing to depend on their own intuition.

Rubdy et al. (2008) suggested that there was a possibility of a growing divide within Singapore between the 'cosmopolitans', who had an international outlook and had helped cement economic links to the global market, and the 'heartlanders', whose interests remained local. They also noted the different possible approaches to using an exonormative standard (a standard from somewhere else such as, for example, British or American English) by the older dyads or an endonormative standard (a local standard) such as Singapore Standard English (SSE) by the younger dyads.

It may be worth finishing this section with a point from Higgins (2003). She pointed out that it was quite common to find people in countries such as India and Singapore who found pretentious the use of exonormative pronunciation standards such as the British *Received Pronunciation* (RP) and did not wish to emulate them. They preferred to retain their own variety and social identity even though at the same time, in many cases, they deferred to the 'prestige' varieties. Levis (2005) also suggested that individuals could feel pressured not to copy the pronunciation of others too closely as this might be seen as disloyalty to their own ethnic or social grouping. Levis (2005) also noted how ethnicity was often associated with the ability to speak a language well. In Taiwan, less qualified white Spanish or French nationals might be preferred as teachers compared to well qualified Taiwanese teachers.

This kind of prejudice is not only true in Taiwan. Lu (2016) commented that there had been a lot of discussion of how well Singaporean students had done in the 2015 Programme for International Student Assessment (PISA) results, topping maths and science. However, little had been said about Singapore topping reading – in English. Despite this performance, as late as in 1998, advertisements for English teachers for a private school still stipulated that only 'native-speaking Caucasians' needed to apply.

In summary, the writers suggest that the instructional model used in teaching English should depend on the reason for the students learning it. Generally, the model should be one of those included in the 'native' or 'nativized' English varieties, such as American, Indian or Singapore English. However, the students should also be introduced to other varieties of English and various cultures and learn how to repair breakdowns in communication when people from different cultures spoke to each other.

Teaching approaches

As the demand for new skills and competencies grows, teachers everywhere will need to consider how they can help prepare students for the new world beyond school and the changes taking place there. This is particularly true of Singapore as dependent as she is on international trade.

The results from the PISA 2015 testing in which Singapore headed reading, maths and science evidenced the strength of Singapore's current school system. Boylan (2016) argued that East Asia (including Singapore) topped the PISA results every time because of four factors: culture, teacher quality, the use of evidence and a collective push. He believed that, in the region, there was a belief that success came about through personal effort rather than innate ability, and that what was required was hard work. Also, teachers were respected and were given the time to learn and to research their own teaching as in 'lesson study' in Japan. They also used research evidence from outside the region and introduced new approaches that worked. Finally, he reported that the successful systems of East Asia were centrally controlled and the effort for improvement was made as a national unit, quite different to the fragmented systems found in the United Kingdom, for example. Dede (2006) also argued that systems that had traditionally been centrally organized had achieved better results, in agreement with Boylan's point.

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However, despite its current success, Chong and Cheah (2010) noted that the changes in Singapore's population as a result of a low birth rate and an aging population would mean that schools would need to adapt. First, there would be a need to prepare the students for the new workplace where continuing changes in industry meant that they would need to change the type of work they did several times during their working life. As a result, they would need to be lifelong learners. Second, as the ratio of workers to retirees grew smaller, there would be a further need to supplement the local workforce with workers from overseas and from a variety of cultural backgrounds. In 2016, government data showed that non-residents already formed some 30% of the total population of Singapore (Singapore Department of Statistics, 2016). Thus, today's students needed to learn to communicate and collaborate in a multicultural context.

Chong and Cheah (2010) agreed that Singapore already had a top performing primary and secondary school system and thus the required changes had to be used to enhance the current system and not replace it. However, they believed that there were some barriers to the development of an attitude of lifelong learning. They noted that school students focused on passing examinations rather than on learning. This was a result of the high stakes examination system and the resulting tendency for teachers to focus on a transmitting mode of teaching instead of a facilitating mode. As a result, students tended to be passive, highly but extrinsically motivated, and focused on what was in the syllabus and the examinations. For the schools to inculcate lifelong learning, students needed to be encouraged to take ownership of their own learning and the teacher needed to facilitate rather than control the learning. It took time to nurture this kind of lifelong learning disposition.

According to Chong and Cheah (2010), an examination focused system emphasized content rather than the process skills that supported learning. Even teachers who wanted to focus on the process skills might have difficulty doing so as parents tended to be keen to see where their child was placed compared to others through the use of summative assessments. Assessment that focused on the learning of the individual child was undervalued. They reported that the Ministry of Education had already taken a number of measures to encourage a change. These included changing the examination system, cutting down on the syllabus content and increasing the use of computers in schools. Also in-service courses were offered on assessment literacy (English Language Institute of Singapore, 2016).

One such programme reported on by Lee, Oh, Ang, and Lee (2014) and Tan, Teng, Tan, and Yim (2014) was the implementation of the Primary Education Review and Implementation (PERI) Holistic Assessment (HA) in primary schools from 2010. The purpose was to help schools adopt formative assessment that would focus on providing information

on student progress to the teachers, the students and the parents. The information would then help the teacher see what misunderstandings the students held and what they could do to help them. In order to achieve this, they needed to get students to communicate more with the teacher and with the other students in the class. The implementation plans included initial sessions that ensured that all teachers had a common understanding on what was meant by holistic assessment. Subsequent to the those first sessions, teachers worked in Teacher Learning Communities (TLC) in their own schools (community) where they discussed and learnt about different approaches, which they subsequently tried out in their own classrooms, and then discussed further in their TLC. They also collaborated and observed each other teach. Lee et al. (2014) and Tan et al. (2014) reported that there were some initial difficulties with teachers enthusiastically trying out the different approaches to formative assessment but failing to use the information gathered to plan subsequent programmes for their students – the main purpose of the assessment. However, over time, teachers came to understand the importance of using that information to adjust the programme for individual students and to inform their parents as to how they could help. All three groups, students, teachers and parents, all reported that they benefited from the new approach.

Chong and Cheah (2010) predicted that the other important challenge to the schools would be the large number of migrant workers and their families leading to the need to accommodate children from other cultures. The schools needed to guarantee the same high quality education to all the students no matter their ethnonational background. At the same time, the foreign children could provide the multicultural reality from which the Singapore children could learn the value of diversity, preparing them for possible work in the growing number of multinational businesses in Singapore.

Chong and Cheah (2010) reported that research had indicated that, in informal primary settings, there was a tendency for children to form groups based on ethnicity. (See McCalman, 2014, above for a similar issue in the US.) They felt there were a number of possible reasons such as the children finding it easier to speak in their own mother tongue. However, schools needed to work with parents and the community to help prepare students for a globalized world. Balancing the need to bring students together while honouring the differences in culture could be one of the most difficult things for schools in the future. However, a society that valued and promoted the variety of languages of its own population could benefit tremendously in terms of establishing firm cultural and economic ties with countries from which the migrants originally came.

To this end, some Singapore schools had already established branches or ties with schools overseas. This gave their students the chance to experience learning in another culture, while at the same time, raising the profile of those schools. In working in this direction, Singapore schools had the chance of establishing globally relevant curricula that could accommodate individual student needs.

Bell (2010) suggested that the teaching approach that would help students prepare for the future centred around Project-Based Learning (PBL). PBL involved providing students with the opportunity to work on curriculum related projects that they developed and controlled with the teacher scaffolding their work. The students could work alone or in teams. In the process, the students learnt the important 21st century skills of 'communication, negotiation and collaboration' (Bell, 2010, p. 40). They learnt the important skills of listening to others while ensuring their own opinions were heard, essential skills for their futures. While doing the projects, the students were engaged and could contribute to the process according to their personal strengths. They also learnt to be accountable for completing their own planned projects.

Hattie and Donoghue (2016) were cautious about attempting to teach strategies and 21st century skills in isolation. They believed that these were best taught integrated into content as they would vary according to content. For example, they stated that the critical thinking involved in checking the step-by-step solution of a mathematics problem was quite different to that involved in looking for the possible bias of an historical informant. They suggested that the critical thinking involved could only be learnt in combination with the subject matter.

While their research had indicated that certain strategies appeared to be more successful than

others, Hattie and Donoghue (2016) felt that it was important to consider the timing. For example, the data showed that problem-based learning and inquiry-based learning had very low effect sizes. This, they believed, was due to the use of these approaches at the wrong point in the learning process. If they were used in the early stages of student learning, the students would not have enough topic knowledge to correctly apply the techniques. These approaches should only be used once the students had sufficient knowledge to use them in the solution to given problems. Similarly, Hattie and Donoghue (2016) found that asking students to analyse their misconceptions when they were at the early stages of learning had little effect. However, the same approach had a sizeable effect when used at the point where students were ready to deepen their knowledge or transfer it to new problems. At the same time, it was also important to ensure that students did not get trapped into always using the same strategy because it had once been successful. What had previously been a successful strategy might not always work in new situations. The readiness to adapt to new situations was another part of the required learning in the 21st century.

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Developing 21st century skills

While many have talked about 21st century competencies or skills, as noted earlier, these have not always been clearly defined. (See discussion of Ananiadou & Claro, 2009 earlier.) Greenhill (2010) listed three sets of 21st century skills: learning and innovation skills; information, media and technology skills; and life and career skills. Of the three, she suggested that the first set was most commonly associated with 21st century skills. In this set she listed:

- Critical thinking and problem solving
- Communication
- Collaboration
- Creativity and Innovation

She pointed out that the question was not a matter of whether to teach the traditional academic subjects or 21st century skills. There was a need to teach both in combination so that our current students could grow up to be part of a globalized world.

In order for this fusion of academic subjects and 21st century skills to take place, Greenhill (2010) stressed that new teacher preparation should ensure that the teachers had the necessary 21st century knowledge and skills themselves so that they could integrate them into their teaching, thus becoming change agents in their schools. As well as new teachers preparing to ensure their students met curriculum standards, she felt they themselves needed to master skills such as critical thinking, communication, collaboration, and technology literacy and then embed these skills into classroom instruction. They needed to understand the interdependencies of content, pedagogy and technology in support of their teaching of their students to meet the demands of a globalized economy. As Greenhill (2010) pointed out, countries that had high scores on the PISA tests of 21st century skills were also doing well in terms of higher GDP growth.

While many of the skills that were included in the list of 21st century skills such as innovation, critical thinking and creativity were not new, they had a new importance in the new economy where students leaving school to enter directly into the workforce or to go on to academic studies increasingly needed to be skilful in areas such as collaborating and communicating.

With these skills, students could analyse evidence, express opinions effectively, respectfully listen to others and articulate ideas and thoughts effectively using written and oral skills. As noted in previous issues of this volume of the Digest, these communication skills were highly valued in businesses around the world and were important for learners. In particular, communication skills included:

- *Articulating thoughts and ideas effectively using oral, written and nonverbal communication skills in a variety of forms and contexts*

- *Listening effectively to decipher meaning, including knowledge, values, attitudes and intentions*
- *Using communication for a range of purposes (e.g. to inform, instruct, motivate and persuade)*
- *Utilizing multiple media and technologies, and knowing how to judge their effectiveness a priori as well as assess their impact*
- *Communicating effectively in diverse environments (including multi-lingual)* (Greenhill, 2010, p. D in Appendix B)

Integrating technology

Towndrow and Vaish (2009) studied the use of laptops in a one-to-one programme in a Singapore school. In the one-to-one programme, every two students had access to a laptop in Primary 1 and 2 and, from Primary 3, there was a laptop for every student. At Primary 4, students' parents were encouraged to buy the students their own subsidized laptops.

Towndrow and Vaish (2009) found that teachers rarely changed their lessons as a result of students having laptops. The laptops were simply used as a source of information that students could consult outside class time. They were more like digital reference books. The students were rarely required to move meaning from one mode to another or to use their computers for communicating with others. While teachers and students might have mastered the technical aspects of using computers, they were rarely seen using them to improve their skills in areas such as effective communication, thinking skills and building awareness of multicultural/global literacy. The writers felt that teachers needed to develop ways of integrating computer technology into their core programmes and avoid the danger of the computers simply becoming a source of further text-based materials used to prepare for high stakes examinations. Teachers should develop learner-centred tasks that used computers in creating meaning-focused products supporting the development of thinking and knowledge construction.

Interestingly, studies based on PISA results seemed to indicate that the use of computers in education did not improve student learning (Davie, 2016). This result perhaps related to how or when the technology was used. If the use was similar to that reported by Towndrow and Vaish (2009) or the use of technology had been at the wrong learning stage as Hattie and Donoghue (2016) had suggested for PBL, the results could have been affected and a false interpretation thus given. In fact, Bransford, Brown, and Cocking (2000) pointed out that just placing information technology into the school system would make little difference. The use of the technology had to be aligned with the required learning and integrated into classroom activities. If not, the technology would waste time that could be more optimally used for learning. Two advantages of technology, they suggested, were that it could give automatic feedback on student work and could present real world contexts in ways not possible through traditional media, including linking with other schools, local communities and scientists around the world. In these activities, students would be using language for real communication with communities locally and around the world. In this way, they would learn to communicate and collaborate with peoples of other cultures about various topics from local culture to scientific topics.

Teacher learning

Coburn (2003) warned of the difficulty of changing people's views and actions through training as new learning required the individual to synthesize the new with what they already 'knew'. This was equally true of teachers. When learning about new approaches to teaching, teachers tended to gravitate towards those new approaches closest to what they had adopted in the past, to focus on surface features of the new approaches and to graft those features onto the approaches they already used without changing basic classroom routines.

According to Coburn (2003), 'deep change' went beyond change in surface details such as materials and specific activities. Pre-specified material and tasks could be altered in actual use and, as a result, the original intent lost. 'Deep change' involved a change in teacher beliefs and the social interaction in the classroom as evidenced in their enactment of the curriculum. Coburn (2003) felt that the interaction in the classroom showed a lot about the teacher's beliefs about where, in a classroom situation, knowledge resided and how knowledge was developed. Any research into teacher change should be designed to look at the beliefs and pedagogical principles evidenced in the enactment of the curriculum by the teacher. This would include

looking into whether they were building into lessons the possibility of multiple solutions to problems and the requirement that students justify their responses.

Coburn (2003) underlined that change needed to be sustained as well as deep. Schools found it difficult to sustain programmes as, very soon, they had to turn their attention to new initiatives, changing demands, and teaching and administrative staff turnover. Thus, in order to check whether a programme had been sustained, it was important to look at any new programme after the initial introduction phase was over and direct support had been removed.

A third area for consideration was something that Coburn (2003) called 'spread'. While 'spread' included the generally accepted idea of the spread of a programme beyond the initial schools in which it was piloted, Coburn (2003) believed it needed to also include measures of how far the programme had spread within the schools. How far was it supported by the administration? Had it spread to more teachers? Had it spread to other subjects in the school? Had it spread to the education authorities? Did they actively support it?

For a programme to become truly sustainable, the ownership had to move to the teachers and the school. As long as ownership remained outside the school, there was a good chance that the programme would end as soon as support was withdrawn.

The final area of concern for Coburn (2003) was 'ownership'. She felt that, for a programme to become truly sustainable, the ownership had to move to the teachers and the school. As long as ownership remained outside the school, there was a good chance that the programme would end as soon as support was withdrawn.

Dede (2006) stressed that, for an educational innovation to be successful, there had to be coherence between three factors – the assessment system for students, the professional development programmes for teachers (as pointed out by Ananiadou & Claro, 2009) and the overall curriculum. Without this coherence, it was unlikely that the innovation would survive the tendency of any system to resist change. Adding one more area to the picture, Bransford et al. (2000) suggested there were four such 'centres', which they referred to as learner, knowledge, assessment and community. While not identical to the factors identified by Dede (2006), they were similar except for the addition of 'community' represented at various levels including teachers, the school and the community as a whole. If these centres of focus were not aligned to each other, educational progress would be difficult to achieve.

Bransford et al. (2000) proposed that, to prepare students for the future, there was a need to look again at what was taught, how teachers taught and how students were assessed. They also believed that, as in student learning, teacher learning had to be sustained over a period of time. What worked for their students would work for them so, just as student learning needed to be learner, knowledge, assessment, and community centred, so did teacher learning. However, in this case, the teacher was the learner, knowledge included subject and pedagogy knowledge, assessment checked the teachers' understanding of the concepts being presented and their application in the classroom, and community referred to the community of teachers, of the school, of students and of the parents. In particular, there needed to be learning communities that shared ideas.

Just as for student learning, Bransford et al. (2000) agreed that, for teacher learning to take place, there needed to be alignment for the teachers too. For example, the learner and knowledge centres needed to be aligned. If teachers did not have a strong subject knowledge background, it would be very difficult for them to have a learner-centred classroom where students could ask questions to which the teacher might not know the answer or where the teacher had the confidence to work with students to find the answer. In terms of community and learner, if the new teacher entered a school where the culture was not aligned with what they had learnt in their pre-service programme, they would have great difficulty applying what they had learnt. This was especially true as teacher learning, like student learning, took time and needed reinforcement.

Larrivee (2008) pointed out that there was a growing trend for individual reflection to be included as an important part of joining any profession and

that this was true for the teaching profession as well. She developed a scale that described the amount and type of reflection practice of individual teachers. She suggested four levels:

1. Pre-reflection: At this level, teachers reacted to the situation in the classroom automatically without thinking why they reacted that way.
2. Surface reflection: At this level, the teachers were choosing strategies that seemed to best support predetermined goals. Neither the goals nor the reasons the strategies worked were reflected on.
3. Pedagogical reflection: At this level, the teachers were looking at factors that affected their teaching based on both pedagogical theory and their own practice. They reflected on the goals of education and tried to bring together theory and actual practice.
4. Critical reflection: Teachers at this level of reflection thought about the goals of education and the effects on students and society as a whole. They saw education as part of society and were concerned about the interplay between the two.

Larrivee (2008) suggested that the different levels were all useful but implicitly layered from simple to significant to profound. The aim was to support teachers through the stages of reflection so they developed their approaches to teaching, moving from a focus on the technical skills to a consideration of strategies that should be used.

According to Larrivee (2008), techniques that could be used to help teachers move through the levels included structured journal writing based on non-judgemental questions. Getting teachers to express and challenge their own beliefs could also help. Importantly, Larrivee (2008) suggested that teacher mentors should also reflect on their beliefs and this should be made apparent to the teacher they worked with by the mentors being willing to have their own beliefs challenged.

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Noskova, Pavlova, Yakovleva, and Sharova (2014) suggested that blogs and online communities were of increasing importance in teacher training. They pointed out that teachers needed to be good communicators to do their job of working with students, parents, colleagues and other interested parties. In the digital world, this communicative competence was integrated with competence in the use of ICT. As in other occupations, communicative competence required not only language skills but also an understanding of ways of interacting with others, of group work skills, and of the different social roles. Teachers had to understand the development of these same skills in their students and help them develop the ability to self-evaluate their communication skills.

Interculturality

Young and Sachdev (2011) defined a competent language user as one who had experience of the cultural contexts of the language of the home, the language of society at large and of the languages of other peoples (interculturality). According to them, the main impetus for the development of interculturality was the increasing contact of peoples globally, which necessitated an understanding of how to communicate with others from diverse cultural backgrounds. As English was the current dominant global language, it was important to incorporate knowledge of other cultures in the teaching/learning of the language. They noted that some teachers saw cultural differences as a problem in the classroom rather than a resource. Instead, they proposed that cultures should not be seen as mutually exclusive entities that dictated the actions of individuals but as being learnt habits involved in any social interaction between any individuals. In this way, stereotypical representations of culture could be avoided.

Young and Sachdev (2011) looked at the intercultural communicative competence (ICC) model that offered the 'intercultural speaker' as an appropriate model in communicative language programmes. Intercultural speakers were able to maintain relationships with people from other cultures while retaining their own sense of personal and social identity. Young and Sachdev (2011) saw teachers as the key group to help students develop ICC, i.e. to become informed regarding other language varieties and cultural and contextual variation while retaining their own social identity. Even

though a number of language programmes advocated the development of international understanding, the study by Young and Sachdev (2011) indicated that the actual materials used on those programmes gave little opportunity to look at a variety of cultures. Also, while the teachers from three different countries included in the study generally agreed with the aim of developing ICC in language classes, they did so with some reservations. They felt that topics such as politics and religion could be difficult to discuss in class and thus tended to cover highly superficial topics related to dominant cultures (such as the British royal family). They felt that the need to be sensitive to other people's feelings (also an ICC trait) made it difficult to raise more controversial issues and thus there was no attempt in their programmes to present the multicultural aspects of many modern societies. Moreover, the teachers reported that some learners saw ICC irrelevant to language learning as an examinable school subject although the teachers said that they believed that a person with ICC was the ideal communicator. The other problem was that conceptually it was difficult to define a person with good ICC in terms of their language and what model it might follow.

Kramsch (1993) noted that incorporating the teaching of culture into the teaching of language could be difficult as it had become increasingly apparent that there were layers of cultures. The old idea of national cultures had been problematized by the realization that communication took place in contexts that included individuals with cultures affected not just by nationality but also by gender, ethnicity, and discourse styles. The study by Kramsch (1993) sought to look at (1) how individual perceptions affected our view of cultures, (2) what the cultural fault lines were, and (3) what the conflict resolution processes were.

One area demonstrated was how our own feelings and fears might affect what we present of other cultures. In the example looked at, Kramsch (1993) found that, just after the reunification of Germany, teachers from East Germany used material that gave positive cultural views of the United States while West German teachers tended to use material that gave a less positive view of American culture. This was believed to be due to the perceived need for the creation of a positive view of capitalism in East Germany after the fall of communism there.

In the same study, it was found that people might behave in similar ways but for different reasons. Indeed, they might have very different views of what should be the moral underpinning of the same act. Even nationals from the same country were found to have different views of what best represented their country's culture.

During the study, the teachers became much more aware of the relative nature of culture and of the possible lack of lexical equivalences, which could lead to misunderstandings between people with different cultural and language backgrounds. This highlighted the importance of context. Finally, the teachers said that they had learnt the importance of personal contact with people from other cultures as that could act as a check on stereotypes.

Overall, the study underlined that communicative competence was not just a matter of mastering the linguistic system. Documents presented from the target cultures needed to be contextualized in terms of who produced the documents, for what purpose and who received them. Language use needed to be contextualized.

Bastos and Araújo e Sá (2015) similarly suggested that schools and teachers played an important role in developing citizens who were able to communicate within a number of cultural contexts. They noted, however, that teachers felt unprepared for this role. In order for the teachers to help, they had first to learn these skills themselves, that is, they needed to develop the skills to communicate in various cultural contexts. Bastos and Araújo e Sá (2015) postulated that there were three dimensions to this: the social dimension (an understanding of the role of education in a diverse society); the personal dimension (the language and cultural competencies of the individual teacher); and the pedagogical dimension (the teaching skills related to language and interculturalism). In the training they offered, Bastos and Araújo e Sá (2015) took the teachers through the four steps of building awareness, reflecting on their own personal and professional perceptions, experiencing communicating with people from other cultures (online), and developing collaborative projects to increase ICC.

In the study of a programme in Portugal, Bastos and Araújo e Sá (2015) found that the teacher participants came to believe that there were three

components to ICC: affective, cognitive and praxeological. In terms of the affective, the individual teacher needed to be interested in developing ICC for themselves. For the teachers, this was seen as an important trigger or first step that involved respect for others. The teachers saw the praxeological as the second important component that focused on the practice and skills of individuals and that was developed and improved in actual interaction. The cognitive was seen as the least important of the three as the teachers believed an individual could not develop ICC without first having in place the affective and praxeological components. The individual also needed to be comfortable with their own identity and, at the same time have respect for others. Such an individual made the effort to understand the other even when the language of the other did not match an expected model – communication being more important than fixed language norms. An understanding of the other's culture was also important in helping communication.

Bastos and Araújo e Sá (2015) felt that the best way to develop ICC was to follow a cycle of getting information on the other culture or cultures, of having contact (actual or virtual) with the other cultures and of then reflecting on the learning and performance. That reflection would lead to the beginning of another cycle. They again emphasized the importance of the affective component in the process as, without that, ICC could not be developed.

Teacher preparation

Ates, Eslami, and Wright (2015) reviewed pre-service courses designed to prepare generalist teachers and which incorporated world Englishes perspectives so that the teachers would be better able to prepare their students for a globalized world. These courses were being run in south-western United States.

Ates et al. (2015) noted that millions spoke English as a first language and a billion spoke English as an additional language and that one prediction was that, by 2050, approximately half the world's population would be proficient in English. Along with the growth in numbers had come an increase in the number of varieties so that English had become an entity with multiple forms. Its hybrid nature meant that English could incorporate elements of different local cultures resulting in the growth in the number of varieties. This development of English into a global language that could represent local cultures as well meant that there were grounds for questioning the enforcement of standards from the United Kingdom or the United States on the rest of the world. There was a need to avoid stigmatizing other Englishes. Increasingly, the responsibility for preparing students to communicate with people from other cultures would fall not only on teachers of English but also on teachers of other subjects as well. This was why Ates et al. (2015) had chosen to study courses preparing generalist teachers.

The second most effective activity proved to be watching episodes of miscommunication (such as a conversation between a Chinese pilot and an American air traffic controller). This reminded the teachers that, in any communicative situation, it was incumbent on both (all) parties involved to make the effort to understand any other party. Everyone in the communicative situation had a responsibility to make the communication work.

Of the activities on the courses, the one that had the greatest immediate impact on the pre-service teachers involved listening to different American dialects of English and noting how some of these were stigmatized. This brought home the message that, even in a country where English was seen as a first language, there were different varieties of English and some had greater social prestige than others. This prepared the pre-service teachers to look at the varieties from different countries in a new way.

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The third effective activity was the opportunity to talk to and interact with speakers of other Englishes. This was particularly impactful as it was direct and authentic.

Ates et al. (2015) suggested that it would be useful for pre-service teachers to learn the differences between their own English and other varieties. Having speakers from other countries or speech groups could help the pre-service teachers understand how the language could vary across language users. One teaching unit suggested by one of the pre-service teachers was on varieties across the world backed up by guests from different countries (where possible) or video. Ates et al. (2015) emphasized that teachers had to learn to help their students develop the academic and formal English that they would need while, at the same time, retaining pride in their own variety of English and the culture that it represented, combining a respect for varieties of English with an understanding that we all needed to adjust our language according to the situation so that others could understand, a point similar to PACC built into Singapore's *English Language Syllabus 2010* (Curriculum Planning & Development Division, 2008).

In a study of a 12 week course for pre-service teachers in Singapore, Schaetzel, Lim, and Low (2010) noted that, before the future teachers joined the course, they were already aware that there were two different kinds of English in Singapore with different roles in society. Their difficulty was that they did not have the knowledge to distinguish the features of the two. Schaetzel et al. (2010) found that, at the end of the course, the participants continued to have difficulty identifying where the features of Singapore Colloquial English (SCE, often referred to as Singlish) differed from those of Singapore Standard English (SSE). However, they had become more aware that SCE was a variety (rather than a language deficiency) that had its purposes in particular social contexts. The teachers' task was not to denigrate the language that the children came to school with. Rather, it was to give the students confidence in their own language while helping them to also gain proficiency in the variety (SSE) that they would need to enter higher education and the job market and collaborate with people from other cultures in a new set of social contexts. They suggested that teachers had to be helped to recognize the differences between the two varieties so that they, in turn, could help the students see these and learn which were appropriate to what situations, thus adding to their students' language resources. It was possible that the 12 week course would need to be extended to give them that knowledge.

Conclusion

As illustrated over the earlier issues of this volume of the ELIS Research Digest, the expectation is that, in the new global economy, the most important skills will be communication skills – spoken and written – including those related to ICT such as email and PowerPoint. In the global marketplace, the dominant language for the foreseeable future will be English but it may not be the language of 'English-speaking countries'. Good communication skills incorporate an empathy for the other parties involved in the communication situation and thus good communicators work together to come to an understanding, even in situations where not everyone is using the same variety of English. This means that good communicators need to have an understanding of how language and culture can vary.

To help students prepare to become the good communicators they are expected to become in a globalized world, teachers will have to pass on the skills of carefully listening to and reading texts from others who may not be using the same English variety, and then responding in a way that those others will be able to understand. While doing this, the communicators should retain respect for their own culture and language forms.

In order to help students to develop these 21st century skills, all teachers – not just English Language teachers – will need to have those same skills as well. To give understanding and practice, they will need to demonstrate communication skills in the classroom through problem-based learning that involves a number of communicative situations – group discussions, internal memos, formal presentations, video production. The important thing is that students get practice in different communicative situations so that they understand how language varies according to purpose, audience, context and culture (PACC). This can be extended to include examples of English varieties from other countries and cultures.

The writers reviewed in this issue of the Digest suggested that students should be given practice in the use of the language variety chosen as the instructional model – for Singapore, defined as internationally acceptable English (Standard English) (Curriculum Planning & Development Division,

2008). However, this should not be accompanied by a denigration of the language learnt and used at home. Instead, students should learn that different language varieties have different social functions. They need to learn a formal variety of English to add to their personal language resources and how and when to use it.

The aim, as always, is to help our students to become fully rounded individuals able to communicate well with their peers in Singapore and beyond irrespective of the cultural background of those peers. The learning they do in school should prepare them for lifelong learning that will help them succeed in both their work and their social lives.

References

Alptekin, C. (2002). Towards intercultural communicative competence in ELT. *ELT Journal: English Language Teachers Journal, 56*(1), 57-64. doi:10.1093/elt/56.1.57

Ananiadou, K., & Claro, M. (2009). 21st century skills and competences for new millennium learners in OECD countries. *OECD Education Working Papers,* (No. 41). doi:10.1787/218525261154

Ates, B., Eslami, Z. R., & Wright, K. L. (2015). Incorporating world Englishes into undergraduate ESL education courses. *World Englishes, 34*(3), 485-501. doi:10.1111/weng.12149

Bamgbose, A. (1998). Torn between the norms: Innovations in world Englishes. *World Englishes, 17*(1), 1-14. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=aph&AN=3253047&site=eds-live&authtype=ip,uid

Bastos, M., & Araújo e Sá, H. (2015). Pathways to teacher education for intercultural communicative competence: Teachers' perceptions. *Language Learning Journal, 43*(2), 131-147. Retrieved from http://www.tandfonline.com/doi/pdf/10.1080/09571736.2013.869940?needAccess=true

Bell, S. (2010). Project-based learning for the 21st century: Skills for the future. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas, 83*(2), 39-43. doi:10.1080/00098650903505415

Bokhorst-Heng, W. D., Alsagoff, L., McKay, S., & Rubdy, R. (2007). English language ownership among Singaporean Malays: Going beyond the NS/NNS dichotomy. *World Englishes, 26*(4), 424-445. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=edb&AN=27355940&site=eds-live

Boylan, M. (2016, 8 December). Why east Asia continues to top Pisa leaderboard. *The Straits Times,* p. A31.

Bransford, J. D., Brown, A. L., & Cocking, R. R. (Eds.). (2000). *How people learn: Brain, mind, experience and school* (Expanded ed.). Washington, DC: National Academies Press.

Carnevale, A. P., & Smith, N. (2013). Workplace basics: The skills employees need and employers want. *Human Resource Development International, 16*(5), 491-501. doi:10.1080/13678868.2013.821267

Casner-Lotto, J., & Barrington, L. (2006). *Are they really ready to work? Employers' perspectives on the basic knowledge and applied skills of new entrants to the 21st century US workforce*. Washington, DC: Partnership for 21st Century Skills.

Chong, S. N. Y., & Cheah, H. M. (2010). Demographic trends: Impact on schools. *New Horizons in Education, 58*(1), 1-15. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=ehh&AN=51301321&site=eds-live

Coburn, C. E. (2003). Rethinking scale: Moving beyond numbers to deep and lasting change. *Educational Researcher, 32*(6), 3-12. Retrieved from http://www.jstor.org/stable/3699897

Curriculum Planning & Development Division. (2001). *English language syllabus 2001 for primary and secondary schools.* Singapore: Ministry of Education.

Curriculum Planning & Development Division. (2008). *English language syllabus 2010 (primary & secondary)*. Singapore: Ministry of Education. Retrieved from http://www.moe.gov.sg/education/syllabuses/languages-andliterature/files/english-primary-secondary-express-normal-academic.pdf

Davie, S. (2016, 8 December). Useful Pisa takeaways for Singapore education. *The Straits Times,* p. A30.

Dede, C. (2006). Scaling up: Evolving innovations beyond ideal settings to challenging contexts of practice. In R. K. Sawyer (Ed.), *Cambridge handbook of the learning sciences* (pp. 551-566). Cambridge, England: Cambridge University Press.

English Language Institute of Singapore. (2016). *Professional learning opportunities 2017*. Singapore: English Language Institute of Singapore Retrieved from http://www.elis.moe.edu.sg/elis/slot/u54/news-n-events/publications/prospectus/ELIS_Prospectus2017.pdf

Greenhill, V. (2010). *21st century knowledge and skills in educator preparation*. Retrieved from http://files.eric.ed.gov/fulltext/ED519336.pdf

Hattie, J. A. C., & Donoghue, G. M. (2016). Learning strategies: A synthesis and conceptual model. *npj Science of Learning, 1*, 16013. doi:10.1038/npjscilearn.2016.13

Higgins, C. (2003). 'Ownership' of English in the outer circle: An alternative to the NS-NNS dichotomy. *TESOL Quarterly, 37*(4), 615-644. doi:10.2307/3588215

Jenkins, S., & Hinds, J. (1987). Business letter writing: English, French, and Japanese. *TESOL Quarterly, 21*(2), 327-349. doi:10.2307/3586738

Kang, Y. (2012). Singlish or Globish: Multiple language ideologies and global identities among Korean educational migrants in Singapore. *Journal of Sociolinguistics, 16*(2), 165-183. doi:10.1111/j.1467-9841.2011.00522.x

Kayad, F. G. (2015). Teacher education: English language and literature in a culturally and linguistically diverse environment. *Education Research & Perspectives, 42*(1), 286-328. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=eue&AN=113201313&site=eds-live&authtype=ip,uid

Kramsch, C. J. (1993). Language study as border study: Experiencing difference. *European Journal of Education, 28*(3), 349-358. doi:10.2307/1503764

Larrivee, B. (2008). Development of a tool to assess teachers' level of reflective practice. *Reflective Practice, 9*(3), 341-360. doi:10.1080/14623940802207451

Lee, C., Oh, P. S., Ang, A., & Lee, G. (2014, May). *Holistic assessment implementation in Singapore primary schools – Part I: Using assessment to support the learning and development of students.* Paper presented at the International Association for Educational Assessment 40th Annual Conference, Singapore.

Levis, J. M. (2005). Changing contexts and shifting paradigms in pronunciation teaching. *TESOL Quarterly, 39*(3), 369-377. doi:10.2307/3588485

Lu, L. (2016, 12/12/2016). What the anglophone reaction to the Pisa test results tells us. *Today*. Retrieved from http://www.todayonline.com/print/2609811

Matsuda, A., & Friedrich, P. (2011). English as an international language: A curriculum blueprint. *World Englishes, 30*(3), 332-344. doi:10.1111/j.1467-971X.2011.01717.x

McCalman, C. L. (2014). International instructor preparing teachers for multicultural classrooms in the United States: Teaching intercultural communication competence online. *New Directions for Teaching and Learning, 2014*(138), 73-81. doi:10.1002/tl.20098

Mckay, S. L., & Brown, J. D. (2016). *Teaching and assessing EIL in local contexts around the world*. New York, NY: Routledge.

Ministry of Education. (2015). 21st century competencies. Retrieved from https://www.moe.gov.sg/education/education-system/21st-century-competencies

Noskova, T., Pavlova, T., Yakovleva, O., & Sharova, N. (2014). Communicative competence development for future teachers. *New Educational Review, 38*(4), 189-199. Retrieved from http://eds.b.ebscohost.com/eds/pdfviewer/pdfviewer?sid=2eaedf1b-cc2a-47cc-90d3-6bd57f125f7f%40sessionmgr120&vid=1&hid=117

Osman-Gani, A. M., & Chan, T. H. (2009). Trends and challenges of developing human capital in Singapore: An analysis of current practices and future potentials. *Human Resource Development International, 12*(1), 47-68. doi:10.1080/13678860802638834

Rubdy, R., McKay, S. L., Alsagoff, L., & Bokhorst-Heng, W. D. (2008). Enacting English language ownership in the outer circle: A study of Singaporean Indians' orientations to English norms. *World Englishes, 27*(1), 40-67. doi:10.1111/j.1467-971X.2008.00535.x

Schaetzel, K., Lim, B. S., & Low, E. L. (2010). A features-based approach for teaching Singapore English. *World Englishes, 29*(3), 420-430. doi:10.1111/j.1467-971X.2010.01663.x

Singapore Department of Statistics. (2016). *Population trends, 2016*. Singapore: Singapore Department of Statistics Retrieved from http://www.singstat.gov.sg/docs/default-source/default-document-library/publications/publications_and_papers/population_and_population_structure/population2016.pdf

Tan, F., Teng, E., Tan, J., & Yim, W. P. (2014, May). *Holistic assessment implementation in Singapore primary schools – Part II: Developing teacher assessment capacity to improve student learning.* Paper presented at the International Association for Educational Assessment 40th Annual Conference, Singapore.

Towndrow, P. A., & Vaish, V. (2009). Wireless laptops in English classrooms: A SWOT analysis from Singapore. *Educational Media International, 46*(3), 207-221. doi:10.1080/09523980903135335

Young, T. J., & Sachdev, I. (2011). Intercultural communicative competence: Exploring English language teachers' beliefs and practices. *Language Awareness*, *20*(2), 81-98.