



Serving English Language Learners in Higher Education

Unlocking the Potential

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Meet the Students

Meet Mei

Mei is an international student from China enrolled in a public university in New York. She currently is studying business and hopes to graduate with her bachelor of science degree in May 2020 and work in finance. Mei is fluent in Mandarin and has a strong working knowledge of spoken and written English. Her bilingualism, along with her knowledge of Chinese culture and business practices, will be assets to U.S. and Canadian companies. She already has had an internship with a large multinational corporation that has expressed interest in hiring her after graduation. Before coming to the United States, she took the Test of English as a Foreign Language (TOEFL) and scored below the university cut score for English proficiency. She was accepted to the university but was required to enroll in three remedial English courses in her first and second semesters. This requirement caused her to delay enrolling in some required courses in her major, and she may need to complete an additional semester of coursework to graduate, costing her and her family valuable resources.

Meet Saad

Saad was born in Syria. He recently immigrated to Michigan with his family because of political unrest in his country. In Syria, he was a successful anesthesiologist, but because his license is not recognized in the United States, he cannot practice here. His local hospital is in need of qualified anesthesiologists, and he is frustrated that he cannot apply for these jobs. He currently is working as an Uber driver while taking noncredit classes at the community college to improve his English. He is thankful for the income but would prefer to utilize his medical skills. He is most interested in learning the English that is necessary to work in the health care field, but the community college offers only general English as a Second Language (ESL) classes. He has two school-aged children who are also enrolled in the ESL program in the local elementary school. Saad's goal is to learn enough English to enroll in a nursing program and become a nurse anesthetist as soon as possible. His ability to speak Arabic will be a valuable asset because the local hospitals serve a large community of Arabic-speaking immigrants and refugees. Saad is motivated to learn English, but sometimes it is difficult for him to attend a face-to-face class—this fall he had to miss several classes when his children were sick or his wife had to work late.

Meet Rocio

Rocio was born in Mexico but moved to California with her family when she was 11. Both of her parents were born in Mexico, and they primarily speak Spanish at home. Rocio attended middle and high school in California, where instruction was all in English. Rocio is bilingual and biliterate. She was reclassified as English proficient in her junior year of high school but had not enrolled in sufficient advanced coursework to apply to a four-year university. She graduated from high school and enrolled in the local community college with the goal of pursuing a career in the field of early childhood education. She is determined to be the first in her family to graduate from college. She loves children and has years of experience taking care of her siblings and helping her aunt run an in-home day care center. Several early childhood education centers in her town are hiring bilingual lead teachers, but Rocio does not yet have the required credential to apply. She no longer considers herself an ESL student but scored low on her reading and writing placement tests at the community college. The admissions office requires that she take either ESL or remedial reading and writing but is not sure which, or if either, is the best fit for her. Her goal is to improve her academic English in order to enroll in coursework for her early childhood credential as soon as possible.

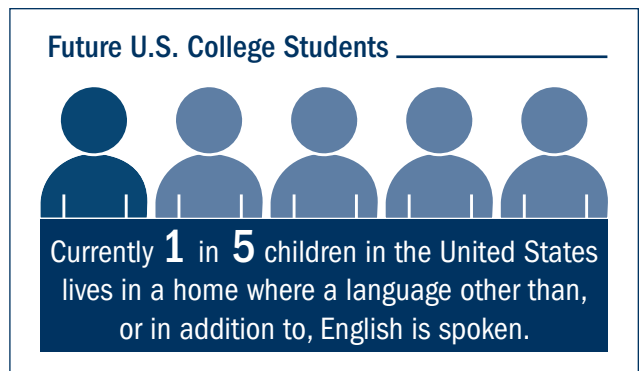
What do Mei, Saad, and Rocio have in common? They are all English language learners (ELLs) who are pursuing higher education—a large and growing sector of U.S. college students. Moreover, all three are bilingual adults who are motivated to learn English in order to complete a degree and gain employment in their professional fields. They are all suited to positively contribute to their communities and support their families. But Mei, Saad, and Rocio differ in important ways, too.

Although Mei, Saad, and Rocio have different educational backgrounds, different English proficiency levels, different career goals, and different reasons for learning English, many colleges and universities lump such students together, using the single blanket term *ELL*. The diverse needs of students who fall within this broad category may be overlooked because colleges and universities tend to be limited in the approaches they take to educating ELLs. As a result, institutions of higher education (IHEs) may find themselves struggling to meet these students' needs with the traditional programs they have in place for ELLs.

As the United States becomes increasingly more diverse, there will be more demand for a workforce that can navigate languages and cultures. ELLs are uniquely positioned to meet this demand and are eager to do so, but colleges and universities will need to prepare them adequately for the tasks ahead and find innovative ways to unlock their potential. This paper describes recent increases in the number of ELLs in higher education, details the diverse needs of this population, and lays out important considerations for the colleges and universities that serve them.

The Increase of English Language Learners in Higher Education

Educational institutions in the United States face a growing number of ELLs in prekindergarten through postsecondary classrooms. ELLs account for one in 10 students in K–12 public school nationally, and the percentage is even higher in states with large immigrant enclaves. For example, 22% of students are designated as ELLs in California, 17% in Nevada, and 15% in Texas (National Center for Education Statistics, 2017). In higher education, the number of ELLs has been steadily growing in part due to increases in immigration and more international students coming to study on U.S. campuses. From 1990 to 2014, the number of international students enrolled in U.S. higher education institutions more than doubled, reaching a total of 1.1 million students in the 2016–17 academic year (Institute of International Education, 2017a). Second-generation Americans, children born in the United States to immigrant parents, currently account for almost 20% of all U.S. college students and 24% of community college students (Community College Consortium for Immigrant Education, 2015). Although not all immigrant and international students are considered ELLs, these trends represent a shift toward more linguistically diverse classrooms across the PK–20 grade span.



ELLs face the challenge of developing English language proficiency while simultaneously learning academic content in English. Although significant research attention has been focused on supporting ELLs' language development in the K–12 setting (August & Shanahan, 2006; Goldenberg, 2013; Janzen, 2008; Takanishi & Le Menestrel, 2017), there is less attention and research focused on supporting language development for ELLs in higher education (Oropeza, Varghese, & Kanno, 2010). In addition, we know that the challenge of acquiring and using a second language for academic purposes becomes greater in the later years of schooling as academic content becomes more rigorous and language becomes more precise (Snow & Biancarosa, 2003). Finally, the task of learning a new language is even more challenging for adults because they are beyond the “critical period” during childhood (Abrahamsson & Hyltenstam, 2009) when language can be acquired implicitly. Instead, adult language learners require explicit instruction to help them apply what they already know about language to the new one they are acquiring (DeKeyser, 2017).

ELLs enrolled at colleges and universities have diverse educational experiences and linguistic abilities. In addition, ELLs have unique motivations for learning English. Meeting students' myriad needs creates both programmatic and instructional challenges, but it also creates opportunities. This paper intentionally strives to move beyond the deficit perspective of viewing ELLs as a problem to fix (Shapiro, 2012; Valencia, 2010) and instead aims to recognize the rich social, linguistic, cultural, and academic potential that ELLs possess. This paper, therefore, highlights practices and resources to guide colleges and universities in addressing the “new mainstream” (Enright, 2011) of their campuses and expand opportunities for ELLs in higher education. Specifically, this paper focuses on how technology can be used to effectively allocate resources and meet the needs of ELLs.

Profiles of English Language Learners in Higher Education

As demonstrated in the stories of Mei, Saad, and Rocio, ELLs in higher education vary by their language and cultural backgrounds, prior education, literacy levels, economic circumstances, English language proficiency, and motivations for learning English. Although ELLs who enter postsecondary institutions come from a wide

KEY TERMS

English language learner (ELL)/ English learner (EL)

A nonnative speaker of English whose difficulties in speaking, reading, writing, or understanding English may limit his or her ability to (1) achieve in classrooms where English is the language of instruction and (2) access opportunities to fully participate in society.

English as a Second Language (ESL)/ English for Speakers of Other Languages (ESOL)

Programs that prepare and support ELLs in learning English.

Generation 1.5

Youth who arrive in the United States as a child or teenager. The term reflects the fact that youth maintain some aspects of their native culture, language, and identity while also acquiring English and adapting to a new culture.

International students

Students from around the world who come to the United States to improve their English, obtain degrees, and/or take coursework in U.S. postsecondary institutions.

Recent immigrants

People who come to the United States from another country for better economic, political, or social opportunities.

range of backgrounds, three common profiles have traditionally been used to describe them: international students, recent immigrants, and Generation 1.5 students.

International Students | Mei, who we met earlier, is among the more than one million international students who enrolled in U.S. colleges and universities in the 2016–17 school year (Institute of International Education, 2017). Like Mei, most international students have prior academic preparation and come to the United States to improve their English and obtain degrees (Garcia, Pujol-Ferran, & Reddy, 2013). The most popular fields of study for international students in 2016–17 were engineering, business and management, and mathematics and computer science (Institute of International Education, 2017b). International students tend to be successful at U.S. IHEs. They have a slightly higher four-year graduation rate (49%) than the general student population (40%) (National Center for Education Statistics, 2017).

International students must complete high school in their country of origin and must demonstrate English proficiency on a standardized test, usually the TOEFL, before being admitted into a U.S. college or university. However, there is not a standardized cut score, and it often varies from institution to institution. Furthermore, many international students find that even when they do surpass their university’s cut score on the TOEFL, they still require additional linguistic support in their academic classes and assistance in navigating an

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American institution. Some international students may be taking English-only classes for the first time and may need additional support to meet the listening and speaking demands of the higher education classroom (Ferris, 2009; Sheppard et al., 2015). International students may also find U.S. education norms, communication habits, and classroom participation structures to be quite different from their prior educational experiences (Smith, Alavinejad, & Zanganeh, 2013). International students require English instruction that is personalized to their proficiency level, includes an emphasis on culture, and prepares them for coursework in their academic discipline. In recent years, 85% of international undergraduates have concentrated in 118 metropolitan areas, thus contributing greatly

to these regions’ economies. When they finish, 45% of international graduates extend their visas in order to continue working in the same metropolitan area where they studied (Ruiz, 2014), thus providing long-term economic and social value outside of the university community.

Recent Immigrants | Like Saad, the anesthesiologist from Syria, many immigrants to the United States arrive with a wide range of professional qualifications, educational experiences, and linguistic backgrounds. Although 41% of recent adult immigrants have a bachelor’s degree or higher, 23% have not yet completed high school (Pew Research Center, 2015). Yet highly educated and undereducated immigrants are often placed in ESL classes together, leaving instructors with the tremendous challenge of simultaneously teaching students with advanced degrees and those with only a primary education. The goals of recent immigrants enrolled in higher education can also vary depending upon their prior education and career plans. For example, 23% of immigrants with a college degree from abroad are working in low-skilled jobs or are unemployed (Batalova, McHugh, & Morawski, 2014), and many often enter postsecondary institutions to improve their English, often with the goal of moving beyond unskilled labor to pursue a career that better

meets the qualifications they obtained in their home country (Batalova, Fix, & Creticos, 2008). Adult immigrants who are still in the process of completing their primary or secondary education may be interested in non-credit-bearing ESL programs to learn English to communicate and to further their education in the United States. Recent immigrants may enroll in ESL programs at postsecondary institutions, public adult education centers, or other private or nonprofit community organizations.

Like many nontraditional students, immigrants who enroll in ESL courses often have responsibilities outside of school such as full- or part-time work, care for dependents, and financial obligations to their families (Espinosa, 2010; Horn, Nevill, & Griffith, 2006; Kanno & Varghese, 2010). Because many immigrants work in low-wage jobs (Mosisa, 2013; Zong & Batalova, 2017), their work schedules tend to be outside of the typical workday and may vary from week to week, making it difficult to attend face-to-face classes on a regular basis. For these reasons, recent immigrants may need ESL instruction that is flexible in terms of schedule and pacing, is aligned to their motivations for learning English, and considers their level of education.



Generation 1.5 Students | Rocio is a Generation 1.5 student. These are students who attended U.S. secondary schools but were born outside of the United States. Some Generation 1.5 students may also be Dreamers¹ if they were brought to the United States as minors and did not have legal status. As stated earlier, nearly one in five children in the United States lives in a home where a language other than English is spoken (Migration Policy Institute, 2015). Generation 1.5 students enter postsecondary education for career and academic preparation, and most do not identify as ESL students because they already have spent a significant portion of their lives in the United States or are American citizens (Roberge, Siegal, & Harklau, 2009).

Although Generation 1.5 students attended U.S. schools for some part of their K–12 education, many may still need support to meet the demands of academic English in postsecondary education (Roberge et al., 2009). Moreover, many Generation 1.5 students have experienced educational disparities that impact their preparation for higher education. For example, Generation 1.5 students are more likely to (1) have attended an under-resourced school compared to their U.S. born peers (Fry, 2008; Ruiz-de-Velasco, Fix, & Clewell, 2000), (2) have received insufficient academic instructional supports (Batalova, Fix & Murray, 2007; Gándara, Rumberger,

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¹ Dreamer refers to students who were brought to the United States at a young age without documentation but have been educated by U.S. schools. The term originally comes from the Development, Relief, and Education for Alien Minors (DREAM) Act that was proposed in Congress to give legal status to these students. Although the act did not pass, students who met specific criteria could apply for work permits and protection from deportation through Deferred Action for Childhood Arrivals (DACA). DACA and Dreamers are an area of current political discussion. For more detailed information, see <http://www.pewresearch.org/fact-tank/2017/09/25/key-facts-about-unauthorized-immigrants-enrolled-in-daca/>.

Despite having completed their high school education in the United States, many Generation 1.5 students require ESL support that is personalized to their proficiency levels and that addresses any gaps in their language or content knowledge.

Maxwell-Jolly, & Callahan, 2003), or (3) have been tracked into low-level courses that do not prepare them for college (Callahan & Shifrer, 2012; Faltis & Coulter, 2008). As a result of these disparities, many Generation 1.5 students may exhibit strong oral fluency and familiarity with the U.S. education system but struggle with the academic reading and writing demands of college-level coursework (Kibler, 2014). Often, they have gaps in their reading, writing, speaking, and/or listening skills. For these reasons, Generation 1.5 students often need English instruction that is substantially different from that of international or immigrant students. Despite having completed their high school education in the United States, many Generation 1.5 students require ESL support that is personalized

to their proficiency levels and that addresses any gaps in their language or content knowledge.

ESL Programs in Higher Education

ELLs like Mei, Saad, and Rocio enter postsecondary education with varied needs, as described above. To meet these needs, colleges and universities offer one or more of the following types of ESL programs:

- Courses that focus on oral communication in English for everyday purposes
- English for Academic Purposes (EAP), which prepares students for college coursework
- English language institutes that focus on language and cultural training specifically for international students who have not previously studied in the United States (de Kleine & Lawton, 2015; Mathews-Aydinli, 2006)

In general, ESL courses are only credit bearing at the advanced levels of proficiency where the focus is on academic preparation. As much as students' needs and program types vary, so do the colleges and universities that serve them.

ESL at Four-Year Colleges and Universities

As noted earlier, to be admitted to a four-year college, most institutions require that students who speak a language other than English demonstrate a certain level of English proficiency (e.g., a certain score on the TOEFL) before they can enroll in academic courses, like Mei who is studying finance at a public university in New York. And just like in Mei's case, if an ELL does not have the required level of English proficiency to begin coursework, a four-year college may conditionally accept him or her and require additional ESL classes at a language center (affiliated with the university or at a private language institute) prior to enrolling. Currently, there are nearly 1,000 ESL programs in the United States that support ELLs in preparing for higher education at four-year universities (see <https://www.esldirectory.com/>). For example, ELS Educational Services, one of the largest adult ESL providers, partners with 600 universities in the United States to provide ESL support to prospective and entering students in higher education. Four-year universities tend to attract many international students, and in some schools, international students

consist of as much as 20% or more of the student body (U.S. News & World Report, 2017). Some of the universities with the largest number of international students enrolled include New York University, University of Southern California, Columbia University, University of Michigan, and University of California–Berkeley (Institute of International Education, 2017a).

ESL at Community Colleges

The community college is an important point of access to higher education for many ELLs, like Saad and Rocio. In fact, ELLs are more likely to attend a community college than a four-year college (Rodriguez & Cruz, 2009); for some students, this pattern may be a result of the perceived high cost of a four-year college or insufficient guidance through the college application process (Hoxby & Avery, 2012). In addition, the affordability of community colleges attracts many international students seeking to improve their English language skills (Hagedorn & Li, 2017). In fact, ESL is one of the fastest growing programs in many community colleges and across all types of adult education programs (Community College Consortium for Immigrant Education, 2015). Community colleges with the highest numbers of international students enrolled include Houston Community College System (Texas), Santa Monica College (California), Lone Star College System (Texas), De Anza College (Texas), and Northern Virginia Community College (Institute of International Education, 2017a).

Often, community colleges provide both non-credit-bearing ESL coursework for all levels of learners as well as advanced credit-bearing coursework for students on an academic track. Given their experience educating a wide range of ELLs, community colleges are an important resource and model for educating ELLs (Teranishi, Suarez-Orozco, Suarez-Orozco, 2011).

Considerations for Serving ELLs in Colleges and Universities

ELLs represent a growing population of interest for educators and administrators in postsecondary institutions. However, there is a lack of systematic, large-scale research on how ELLs perform in postsecondary education (Harrison & Shi, 2016). This research gap is partly due to the fact that individual institutions tend to collect demographic data such as race, ethnicity, and/or first-generation college student status but do not systematically collect data about language background and progress toward language proficiency (Kanno & Cromley, 2013; Kanno & Harklau, 2012). In addition, there is neither state nor federal guidance to dictate how ELLs should be assessed, monitored, and served in colleges and universities, as there is for PK–12 ELLs. The available data provide insight into some of the challenges colleges and universities face in serving their ELL populations. Data on student persistence in higher education indicate that international students who were required to take remedial English are less likely to persist in their education than international students who did not have to take remedial English





coursework (Mamiseishvili, 2012). Researchers also found that students who enroll in remedial English or ESL classes have low rates of enrollment into credit-bearing English courses (Bailey, Jeong, & Cho, 2010). Possible explanations for this lack of persistence are that ELLs are “overlooked and underserved” (Ruiz-de-Velasco, Fix, & Clewell, 2000), are misplaced into ESL courses that do not meet their needs (Scott-Clayton, Crosta, & Belfied, 2014), and that ESL course sequences take too long to complete (Bunch, Endris, Panayotova, Romero, & Llosa, 2011). In addition, ELLs lag behind non-ELLs in terms of college access and completion—roughly one in eight ELLs completed a college degree within six years compared with

one in three of non-ELLs (Connecticut State Department of Education, 2012; Kanno & Cromley, 2013; Moore & Shulock, 2010; Nuñez & Sparks, 2012; Sengupta & Jepson, 2006).

In order to improve ELLs’ college completion rates, higher education administrators should make the following institution- and classroom-level considerations in the design or redesign of ESL programming. Each of the following topics is organized by (1) defining the challenge, (2) understanding best practices, (3) leveraging technology to meet the challenge, and (4) seeing a real-world example of an IHE meeting this challenge. Although currently there is limited research that links technology use for ELLs in higher education to specific student outcomes, the practices described here represent consensus in the field given our current understanding. The examples are snapshots of IHEs implementing best practices and in some cases working to document the outcomes of their efforts; more rigorous research and evaluation are necessary to fully understand the impact of these approaches on student outcomes.

Institution-Level Considerations

Assessment



Defining the challenge: Single assessments may not fully measure the depth and breadth of ELLs’ knowledge, skills, and abilities. Using multiple measures, adaptive tools, and ongoing assessments will lead to both a better understanding of ELLs’ language abilities and academic growth.

There is no single process for assessing and identifying ELLs in colleges or universities. Students often are asked on their applications if they are an ELL, but some applicants may view this question as stigmatizing and elect not to self-identify. For example, many Generation 1.5 students may have tested out of or did not actively participate in ESL classes at the end of their high school careers and, therefore, may no longer identify or want to identify as an ELL on their college applications (Marshall, 2009; Ortmeier-Hooper, 2008). This decision could cause students like Rocio, who does not identify as an ELL, to potentially fall through the cracks and not receive the language support she needs. In addition to self-identification, students may be identified as ELLs by their scores on college entry tests, which typically are designed to measure native speakers’ abilities rather than the language proficiency of ELLs. Moreover, if colleges do not

have a valid means to confirm students' English proficiency, then student self-reporting may be insufficient to make determinations about their readiness for college coursework.

Some institutions use assessments to specifically measure ELLs English proficiency. The most widely used assessment, and the one that is most often required for admission of international students to a four-year university, is the TOEFL, although there is not a standardized cut score that students must achieve. Despite its prevalence, the TOEFL has not necessarily been shown to relate to student academic outcomes in college (Cho & Bridgeman, 2012). Many community colleges also rely on a single assessment to determine student placement within their programs (e.g., Combined English Language Skills Assessment (CELSA), Compass ESL, ACCUPLACER ESL). In California, most community colleges rely only on portions of these tests, using just the reading and grammar subtests because of the high costs for administering and scoring the oral and writing portions (Bunch et al., 2011). Using only these subtests provides an incomplete understanding of students' English proficiency and whether their proficiency is high enough to take college courses. Moreover, when there is insufficient or inappropriate assessment to identify student proficiency levels and needs, instructors then have limited information upon which to base classroom instruction.



Understanding best practices: It is widely accepted that no single test should be used for high-stakes decision making for any student (American Educational Research Association, 2000). In the case of ELLs, the use of one assessment can be especially troubling when it does not accurately capture their skills and needs. For example, a writing assessment that identifies a Generation 1.5 student as a non-English-speaking writer may lead to placement of that student in an intensive English class, even though his or her writing needs are distinct from other ELLs (di Gennaro, 2008). By incorporating multiple, adaptive, and ongoing assessments, colleges and universities can get a more accurate understanding of ELLs' backgrounds, strengths, and needs in order to match them to the courses and instruction that are the best fit.



Leveraging technology to meet the challenge: Technology can provide more timely and individualized student assessment data that can inform placement, programmatic decisions, and in-class instruction that meets students where they are (Clark et al., 2013). Students can be tested when they are ready rather than having to wait for a certain test date or for enough students to be ready to be tested to warrant a testing session (Pearson VUE, 2016). Technology allows for the use of measures that go beyond the multiple choice, true-false, and fill-in-the blank questions that are the basis of many traditional assessments and can also adapt in real time based on student performance, thus more accurately capturing student proficiency. Finally, the speed with which feedback and results are provided allows teachers to quickly identify areas that need additional support and adjust instruction to focus on these areas (U.S. Department of Education, n.d.). Cycles of assessment and instruction that may previously have taken weeks can now be streamlined with web-based platforms for ELLs that are able to embed adaptive assessments into the content so that instructional decisions can be made in real time. This approach allows for more individualized learning such that students can understand, reflect, and act on their individual strengths and weaknesses and work alongside an instructor to track their progress (Shrum & Glisan, 2005).

EXAMPLE IN PRACTICE

The University of North Georgia (UNG) participated in a pilot study on the use of adaptive learning courseware products. At UNG, they incorporated adaptive products into online content for ESL and remedial courses so that instructors could provide real-time feedback instruction for students' particular needs. UNG utilized the adaptive technology to conduct a pretest and use that to set up personalized student learning plans with regular alerts about individual student progress. Overall, the pilot study of more than 23 courses across varying contents and colleges showed modest positive results on learning assessments for students in the courses with the adaptive learning products (Yarnall, Means, & Wetzel, 2016). Although this example highlights the use of technology to collect ongoing assessments and provide real-time feedback in the classroom, this benefit could also be extended to the use of technology for systemwide assessment.

Improving Remedial Course Taking



Defining the challenge: The burden of time and money for remedial ESL or reading/writing coursework prevents many ELLs from finishing their degrees (Bailey et al., 2010). Offering ELLs flexibility in when and how they improve their English may facilitate a more efficient path toward degree completion (Edgecombe, 2011; Hern & Snell, 2010). When students do not demonstrate adequate English language proficiency according to college and university placement tests, they must enroll in additional coursework for language and literacy development. Although some private colleges may admit students with low TOEFL scores, these students must enroll in English language institutes prior to enrolling in the degree-seeking program, like Mei did. In community colleges, students who score low on placement tests must enroll in either ESL programs or remedial reading/writing coursework.

Enrollment in remedial coursework poses two major challenges. First, it is difficult for colleges and universities to meet the wide array of linguistic and educational needs of ELL students, and thus students are often placed into courses that are not an appropriate match for their individual needs. Second, requiring students to complete additional classes extends the amount of time in which they must be enrolled, which takes a toll on the resources (both time and money) for students (Bunch et al., 2011). Various studies have reported that enrollment in remedial coursework lengthens the time needed to complete a degree, and as such, students who take remedial courses are less likely to persist and attain a degree compared with students who do not require remediation (Bailey et al., 2010; Conway, 2010; Hagedorn & Prather, 2006; Hodara, 2015). For example, Saad is most interested in learning the English that will be required to take courses in and work in the medical profession, but Rocio needs English courses that will help her learn the academic language that she will need to complete a degree in early childhood education. Allowing them to take English courses that are aligned to their needs and interests—for example, ESL for Healthcare Professionals or ESL for Educators—may save them time and encourage them to stay in school.



Understanding best practices: Flexibility in when and how students are able to complete core requirements addresses several challenges often faced by ELLs in IHEs. First, in making classwork available outside of typical class hours, colleges and universities acknowledge and allow ELLs to work around competing priorities and move at their own pace. In addition, remedial coursework should be streamlined and aligned to the skills needed for future academic success. Finally, providing flexibility—as with adaptive learning technology—also allows students to move forward to new content or repeat material as needed, creating a more personalized learning environment that has been shown to lead to greater retention within courses (Boersma, 2013; Fishman, Ludgate, & Tutak, 2017).



Leveraging technology to meet the challenge: Technology provides flexibility in ways that traditional learning cannot. Technology can offer students adaptive materials that adjust to their learning needs in real time, therefore allowing students within a class to progress at a pace that is right for each individual. Technology also allows students to spend more or less time on specific skills based on their needs, making it possible for students in the same class to take remedial coursework and content coursework simultaneously. This flexibility would be ideal in the context of highly educated and undereducated students enrolled in the same ESL class. Technology also can allow students the flexibility to complete classwork or receive additional tutoring support as their schedules permit, with the ability to continue their learning where and when is convenient for them (Slaouti, Onat-Stelma, & Motteram, 2013). Shifting the focus to each student's individualized needs, and providing ELLs more time to work on the areas in which they have the greatest need, allows teachers to better help students meet their career and academic goals (U.S. Department of Education, 2017).



Highly Qualified Instructors



Defining the challenge: Research throughout the past 40 years has shown that teachers have a significant impact on their students' educational outcomes (Condon, Iverson, Manduca, Rutz, & Willett, 2016; Gyrko, MacCormack, Bless, & Jodl, 2016). Finding teachers who are highly qualified to work with ELLs and able to differentiate instruction is key to meeting ELLs' diverse needs (National Research Council, 2012). Instructors in university-affiliated language institutes are generally staff rather than highly trained faculty. In community colleges, instructors face challenging work environments such as adjunct-level work, a need to teach a wide variety of courses, and lack of time for professional development (Brock et al., 2007; Calcagno, Bailey, Jenkins, Kienzl, & Leinbach, 2008). Tutors can provide some additional instructional support to help colleges and universities ensure that ELLs' needs are met, but not all tutors are equally qualified (McFarlane, 2016). Mei, Saad, and Rocio have very different expectations for what they will get out of their classroom experiences. Connecting students with high-quality instructors who understand and are prepared to support the distinct needs of ELLs will improve these students' achievement and performance.



Understanding best practices: Because high-quality, highly qualified teachers design their instruction to draw on students' strengths and target the areas in which students need support, their effective teaching helps students meet their needs and goals (Mishkind, 2016).

These teachers understand the importance of supporting their students' oral language development, explicitly teaching academic English, valuing cultural diversity, and integrating these areas into their practice (Samson & Collins, 2012). They also are able to help ELLs make stronger connections between what is learned in the classroom and the students' everyday lives, helping to develop a deeper understanding of the skills and concepts (Mishkind, 2016).



Leveraging technology to meet the challenge: Not all students have easy access to highly qualified teachers, but technology can be used to remove geographic barriers and connect students to online support. In this way, technology can bring together students in underserved communities with few resources to excellent teachers, tutors, and advisors across the country. Finally, technology can support teacher development by allowing teachers to participate in online learning (e.g., online courses, massive open online courses, educator forums) and improve their own practice.

In this way, ELLs have greater access to high-quality instruction and teachers, regardless of where they are located.

Classroom-Level Considerations

Differentiating to Meet ELLs' Diverse Needs



Defining the challenge: As we have seen from the examples of Mei, Saad, and Rocio, ELLs represent a diverse range of learner profiles. Allowing educators to more easily differentiate instruction based on assessment of students' skills, needs, and goals will result in more personalized learning for ELLs. Teachers working with ELLs must address a wide range of backgrounds and needs within their class context. As described earlier, ELLs come to higher education with a wide range of background experiences, educational histories, and language abilities. Although Generation 1.5 students tend to have higher listening and speaking abilities and understanding of U.S. education norms, they often need distinct support for academic writing tasks (Doolan, 2013). International students, on the other hand, may have greater metalinguistic understanding and literacy background in their home language but may need support with listening and speaking in the classroom (Sheppard et al., 2015).



Understanding best practices: Because students come with such diverse needs, it is challenging for instructors to develop a single curriculum and identify materials that address and are appropriate for all students in their multilevel classrooms (Mathews-Aydinli & Van Horne, 2006). Think of Mei, Saad, and Rocio—each has very specific needs and reasons for improving their English. Many teachers ultimately choose to use traditional materials because they are easily accessible or they are what has been used historically in a program; however, these materials do not take into consideration the individual needs of students (Ignatius, 2016) and require significant additional work for teachers to adapt the materials to their student populations. It is essential that instructors get to know the unique linguistic, educational, and cultural backgrounds of students and adapt and differentiate instruction to support students' diverse needs (Fowler-Frey, 1998).



Leveraging technology to meet the challenge: Technology offers a way to address the diversity of student needs within one class by allowing teachers to customize instruction in online platforms, often with little to no burden on the teacher (ASCD, 2011). For example, technology can simultaneously assess student learning and provide additional scaffolding in ways that are much faster than human responses. Adaptive materials that reinforce areas of challenge or build on areas of strength can be seamlessly woven into high-quality online instructional materials and platforms. By personalizing instruction, ELLs can receive instruction that is tailored to their individual skills and interests.

EXAMPLE IN PRACTICE

At Miami-Dade College in Florida, students in the ESL program participate in course class work alongside computer lab time. In the computer lab, students have access to the Voxy web and mobile platform, which offers personalized assessment and instruction to meet their individual needs and relies 100% on authentic, real-life materials. These materials allow students to learn and practice language for the real-life contexts that are of interest to them. Research is under way to better understand the learning outcomes of students when provided this additional personalized support. The use of authentic materials is expected to allow ELLs to supplement in-class instruction with supports that quickly boost their English language acquisition.

Integrating Language and Content for Personalized Instruction



Defining the challenge: ELLs need language beyond everyday communication if they are to meet their career and academic goals. However, because teachers have a limited amount of time with their students, they may not always teach all of the language skills and knowledge their students need to learn. For example, Peyton and Schaetzel (2016) found that many ESL teachers do not tend to teach academic writing despite the necessity of learning how to write for academic or professional audiences. Moreover, teaching writing skills in isolation does not sufficiently prepare students for academic or professional writing (Grubb et al., 2011). Teachers may also rely heavily on packaged language development materials and curriculum rather than providing students with the opportunity to use materials like those they will encounter outside of the ESL classroom, leading to a disconnect between what is learned in the classroom and the context in which the knowledge and skills must be applied. For example, Saad might find a unit on reading maps and giving directions useful in the context of his current job, but both Mei and Rocio might find the unit irrelevant to their reasons for learning English. Integrating language, content, and critical thinking while using authentic and relevant curriculum and materials will make learning meaningful and useful for ELLs.



Understanding best practices: ESL programs historically have focused on developing student language proficiency in a decontextualized way (Parrish, 2015). However, language acquisition happens most effectively when students learn language in the context where it is used, practice its use with others, and receive support for recognizing how and when to use it (Atkinson, 2011; Block, 2003; Gutiérrez, 1995; Hawkins, 2004; Valdés, Capitelli, & Alvarez, 2011). Therefore, students'

language development must be connected to and carefully interwoven with disciplinary language development as well as connect to their academic and career goals (Kibler, Bunch, & Endris, 2011).

Integrating language with disciplinary content prepares students for the various types of texts and academic skills they will encounter both as part of their postsecondary education and throughout their careers (Parrish, 2015). Using authentic and relevant materials in the ESL classroom facilitates effective language learning by providing ELLs with the opportunity to develop language skills in contexts similar to what they will encounter outside the classroom, but with structured opportunities for practice and support from the teacher. The use of authentic materials also helps students recognize the connection between what they are learning in the classroom and their everyday lives (Mishkind, 2016). Teachers can support students in learning how to understand academic text rather than leaving students to figure out how to transfer the skills that they learned in the classroom so that they apply to the new context (Huang, Tidwell, & Nisbet, 2011).



Leveraging technology to meet the challenge: Technology can help support the integration of language and content. In higher education, adult ELLs have varied educational and career aspirations (Slaouti et al., 2013), and technology can make English language instruction more meaningful and pertinent by providing teachers with a way to integrate authentic materials on content that is relevant to students based on their interests and needs (Jobs for the Future, 2013). Teachers can use online or software-based training modules to help students gain very specific academic or technical skills (Wrigley, 2015). Technology allows students to conduct research using culturally rich materials that are authentic and current (Shrum & Glisan, 2005), gather information through reading or discussion, and present their findings (Vinogradov, 2016). Students in a single class can learn more about nursing or hotel management, for example, without the instructor needing to be an expert in both topics. Students can practice reading and writing (Motteram, 2013) through online communication such as blogs, forums, peer reviews, and digital storytelling activities (Mansbach, 2015). By sharing their ideas with others around the world, their language learning becomes even more meaningful than what the traditional classroom allows (Motteram, 2013).

EXAMPLE IN PRACTICE

San Francisco City College is home to a large number of English language learner students. Instructors at the college noted that ELL students needed more support within their discipline. Faculty from the Health Education Department and the ESL Department collaboratively designed a Focus on Health section as part of the ESL coursework. Reports from students in the course indicated that they were satisfied with the course and that it prepared them for future careers in health sciences (Bunch & Kibler, 2015). By offering students ESL coursework that is integrated with content for their discipline, students will develop language that is relevant and required for their future academic success.

Looking Forward

ELLs represent a growing proportion of students in colleges and universities across the country. Whether they are international students, recent immigrants, or Generation 1.5 students, all ELLs face the task of improving their English in order to achieve career and academic goals. Even though many colleges and universities have programs and centers to support English language acquisition, there is still more work to be done to ensure that ELLs are appropriately assessed, placed, and instructed such that their distinct and diverse needs are met. Technology has the potential to enhance college and universities current efforts, conserve resources, and meet ELLs' unique learning needs. Specifically, higher education administrators should use technology to do the following:

- 1. Address the diverse needs of the three different ELL profiles.** An important starting point for IHE administrators is to consider the differing needs of international, immigrant, and Generation 1.5 students. Technology can be used to identify, assess, place, monitor, and instruct students from each of these groups. Finally, rather than aggregating international student, recent immigrant, and Generation 1.5 student into a single ELL group, acknowledging and addressing the differences between them will allow colleges and universities to better plan how to draw on each group's strengths to meet its needs.
- 2. Ensure that learning is individualized, relevant, and meaningful for students.** Despite general similarities among students within a single profile, recognizing and addressing individual differences among learners can increase students' engagement in their learning, which will increase retention and improves outcomes. Although many teachers at colleges and universities already provide some tailored, authentic content to their learners, technology provides access to even more tailored and authentic content that meets individual student interests and goals. Technology can help teachers personalize instruction to ELLs' proficiency levels and learning goals. In that same vein, it allows for self-paced, flexible learning that can adapt to students' demanding schedules and help move them forward toward course and degree completion.
- 3. Link qualified educators with learners.** IHEs increasingly use online vehicles for instructing, tutoring, and advising for students who are not able to attend face-to-face classes. Technology provides a means of connecting students to the high-quality academic supports they need for success without excessive burden (e.g., traveling long distances to class, sacrificing work or family responsibilities to attend class). In regions or colleges with limited resources, technology can provide students with access to high-quality instructional support that may not be available in their communities.
- 4. Assess students and collect data about outcomes.** Many colleges and universities already collect data for the purpose of evaluation and reporting, but technology can both simplify the process and provide a more rigorous means for accomplishing this. When instruction is delivered through a technological platform, colleges and universities can quickly obtain data about student participation and usage and assess progress and learning outcomes that can inform instruction. Moreover, technology-based data collection can standardize which data are collected and how, allowing programs to analyze their success and challenges and make

adjustments as needed to better meet students' needs. Technology also allows programs to easily share the results of their efforts with other institutions, facilitating a dialogue about best practices for instructing ELLs.

Students like Mei, Saad, and Rocio are eager to improve their English proficiency and achieve their academic and career goals, but they face obstacles in doing so. Institutions of higher education have had to adapt quickly to a changing population of students and in response have not been able to serve ELLs as best they could. With a growing body of research about best practices and advancements in technology designed specifically for ELLs, colleges and university are faced with a remarkable opportunity. Specifically, by improving the assessment, placement, and instruction of ELLs as well as tracking and evaluating ELL outcome data, colleges and universities can be responsive, innovative, and effective in meeting their ELLs' needs and unlocking their potential.



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