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TECHNOLOGY USE TO PROMOTE TRANSFORMATION FOR INTERNATIONAL STUDENTS: THE INTERSECTION OF EMERGING & EXISTING IDENTITIES

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**Abstract**

English Language Learner enrollment and technology use continue to increase at postsecondary institutions. In addition to navigating increased academic demands, these students must negotiate identity in an unfamiliar culture. Reliance on technology may provide support or limit acculturation. Our discussion seeks to engage around the results of a survey given to students in the United States and Switzerland to answer the question: How could technology help to facilitate transformation for international students?

## INTRODUCTION

Increases in international enrollment and in technology use provide an important opportunity for English Language Learners (ELLs) to access support. As students negotiate the intersection of their existing identity and the emerging identities available in their new environment, the home support network may serve as an escape from the challenges to identity. In contrast, students may choose to use these technology resources for reflection, exploration, and support as they engage with potential new roles. The survey used herein seeks to explore student use of technology and language to generate a fuller exploration of students' experiences and how educators can support students in the transformative journey.

International students are recruited by colleges for financial reasons: they pay higher tuition rates and are ineligible for many scholarships that domestic students might receive. According to Choudaha and Chang (2012), international college enrollment in 2011 showed a 12% increase over 2010. From 2010 to 2015, the European University Association (Sursock, 2015) reported a 69% increase in international (non-EU) student enrollment.

Much of the research around ELLs focuses on language acquisition. While this addresses academic development, it is similarly important to consider how students navigate social and linguistic changes inherent in becoming a member of a new culture. The rejection or adoption of new roles can be explored with the lens of Transformative Learning Theory. According to Transformative Learning Theory (Mezirow, 1991), when an adult is faced with a disorienting dilemma, such as moving to new country for educational studies, it challenges the assumptions that he or she has formed, his or her existing identity. Some students may choose to ignore or reject this challenge, seeking the familiarity of their home culture and support network. Others

may use this same support network to engage with a critical exploration of their assumptions. Technology offers these students resources for information, social networking, and reflection during the process of trying on new roles. The ability to maintain contact with the familiar, existent identity while navigating these transformative stages into a new, emerging identity is increasingly available with the widespread use of technology.

As students negotiate the intersection of their existing identity and the emerging identities available in their new environment, the home support network may serve as an escape from the challenges to identity. In contrast, students may choose to use these technology resources for reflection, exploration, and support as they engage with potential new roles. This survey was created in an attempt to quantify the prevalence of technology use among international students and its potential impact on engagement with academic tasks and social interactions. Further, investigating the language used by students in engaging with these tasks might provide insights into how students use technology to engage with home and with school.

## METHODOLOGY

Student participants were solicited from three populations. Data was first collected in 2014 as part of doctoral data collection (Amos, 2015). Fifty students enrolled in Developmental Reading II at Urban Community College (UCC) participated in the initial survey. UCC is an open-enrollment public institution located near a major urban center in the northeastern United States. In spring 2014, UCC enrolled nearly 20,000 students. Of these, 45% were born outside of the United States. UCC students reported over 100 native languages and over 150 home countries. While students in the initial population were not drawn from ELL courses, 92% of

them indicated multiple language use in their survey responses. Because the current study focuses on ELLs, the four English-only responses were eliminated from data.

For comparison with initial observations, the survey was re-administered in spring 2016 to ELL students in two additional populations. Suburban College (SC) is an open-enrollment public institution located in a mid-size college town in the southern United States. In fall 2015, SC enrolled just under 16,000 students, of whom approximately 2/3 were part time. Nearly half of SC students, 47.2%, were from the local community, and 87.4% were from the state. The students surveyed were enrolled in ELL courses prerequisite for credit-bearing courses at the college.

The survey was also administered in fall 2015 to first-year students at Ecole hoteliere de Lausanne (EHL) in Switzerland to allow comparison internationally. EHL is a university of applied sciences located in the French-speaking region of Switzerland. Its current enrollment is approximately 2600 full-time students consisting of 141 nationalities. There is an option for students to complete the program either in French or English, with approximately 60% electing for the English option. The students surveyed here were enrolled in a five-week introductory business English course that is required for students in the French section.

Students at each site completed a survey designed to gather information about participants' familiarity with different types of technology and their prevalence of use, the Device Ownership and Internet Usage Survey (Appendix A). The researchers designed the instrument based on two measures used by the Pew Research Center: What Internet Users Do on a Typical Day Survey (2012) and The Adult Gadget Ownership over Time (2012). Specific questions about online activities were included to determine participants' breadth and depth of

prior online experience and their language use in each type of interaction. A focus group of ten adult education doctoral candidates familiar with survey design assessed the survey for clarity.

A primary assumption of this study is that English use represents ELL students' exploration of new roles: use of a home language is a way of maintaining social and cultural connections with previous identity; use of English suggests assimilation into the new academic culture, and use of both indicates an exploration of new roles within the transformative learning framework.

## RESULTS

To generate useable data, survey responses were quantified. For each Device Ownership item, a number was assigned to indicate frequency of usage: I use daily: 4; I use weekly: 3; I use monthly: 2; I use rarely: 1; I have never used: 0. In addition to computing an average usage for each participant based on these values, the researchers also noted the number of devices on which each participant cited regular usage (a value of 3 or 4). For Online Activity, responses were assigned a numerical value based on activity performance and language used: 3: activity reported in English only; 2: activity reported in English and another language; 1: activity reported in another language; 0: activity not reported. For each group, the percentage of students participating in each task was calculated. Further, the percentage of these students reporting each language condition was noted. A table summarizing results from each study population is available in Appendix B. A sample of the itemized results is presented in Figure 1.

Figure 1: *Quantified Individual Results*

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	
1				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
2			desktop	3	0	0	1	1	1	1	0	0	4	1	3	4	4	3	3	1	
3			laptop	4	3	4	4	3	3	4	4	4	4	4	4	4	4	2	4	4	
4			game	2	3	3	1	3	1	2	0	0	4	1	4	1	1	0	0	4	
5			eBook	0	0	0	2	2	2	0	0	1	1	1	0	2	0	2	0	3	
6			tablet	2	0	4	1	1	3	4	4	4	4	4	2	0	1	4	3	1	
7			smartpho	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
8			average	2.403846	2.5	1.666667	2.5	2.166667	2.333333	2.333333	2.5	2	2.166667	3.5	2.333333	3.166667	2.166667	2.666667	2.166667	2.833333	2.666667
9			devices with 3/4	3.192308	3	3	4	2	3	3	3	3	3	5	3	4	3	3	3	5	3
10																					
11	acad	email	used																		ema
12			English	3	3	3				3		3		3	3			3	3		
13			other lang	0																	
14			both EN &	0			2	2		2		2				2	2			2	2
15																					
16	acad	news	used			0					0										new
17			English	0						3				3					3		
18			other lang	0			1												0		
19			both EN &	2	2			2	2				2		2	2	2	2	2	0	2
20																					
21	acad	school re	used		0	0															schc
22			English	3						3		3	3	3	3	3					
23			other lang	0															1		
24			both EN &	0			2	2	2		2							2		2	2
25			9 total	8																	
26																					
27																					
28	social	personal r	used															0			pers
29			English	0	3					3	3	3	3						3		
30			other lang	0															0	1	
31			both EN &	2		2	2	2	2					2	2	2					2

Following creation of a full data set, the researchers sought to limit the results to those most relevant to the use of technology to explore new roles in the transformative learning experience at the intersection of existent, home identity and emergent, collegiate identity. In the table that follows, data descends from the most social activities which are likely supportive of the existent identity to the technology tasks that are most academic and thus potentially focused on student roles within the new community. In Figure 2, the sorted data is disaggregated by study site for comparison.

Figure 2: *Selected Technology Usage Data Disaggregated by Site*

		UCC	SC	EHL
Home Language	Social Media	7.0%	26.9%	34.8%
	Video Chat	15.0%	38.1%	41.2%
	Videostreaming	7.1%	0.0%	7.1%
	Email	0.0%	0.0%	15.3%
	News	7.3%	11.5%	27.4%
	Personal Research	8.7%	4.3%	44.3%
	Academic Research	2.2%	8.3%	20.8%
Both Languages	Social Media	46.5%	65.4%	59.4%
	Video Chat	67.5%	52.4%	39.2%
	Videostreaming	47.6%	20.0%	57.1%
	Email	57.8%	53.8%	79.2%
	News	39.0%	70.8%	54.8%
	Personal Research	32.6%	52.2%	43.1%
	Academic Research	22.2%	37.5%	68.1%
English	Social Media	46.5%	7.7%	7.2%
	Video Chat	17.5%	9.5%	7.8%
	Videostreaming	45.2%	80.0%	30.4%
	Email	42.2%	46.6%	13.9%
	News	53.7%	16.7%	16.1%
	Personal Research	58.7%	43.5%	14.3%
	Academic Research	75.6%	54.2%	13.9%

## ANALYSIS

Students' use of technology was explored in three populations using the Survey of Device Usage (N=46, N=25, and N=72). Significant among these findings was that students surveyed averaged a high use (daily or multiple times each week) for 2.85 of the six devices listed. Smartphones were by far the most frequently used of these devices, with only five participants reporting not using a smartphone.

In considering the data both across and between populations, there are a number of trends that appear to offer site-specific representations of ELL negotiation of the disorienting dilemma, gathering of data, and testing new roles in adapting to the collegiate environment. The selected activities are listed from the most likely to connect students to the home culture to those most likely to connect students to the new collegiate culture. The analysis and discussion below considers each activity, examining either consensus among sites or exploring discrepancies between sites.

While all study sites showed some level of bilingualism, EHL had an average of 57.27% across the categories compared to 44.74% at UCC and 50.3% at SC. This is particularly significant since the vast majority of the SC students, 84.6%, were enrolled in the final ESL course, approaching matriculation into credit-bearing courses. It is likely that this is because these students are reflective of the larger trends in Europe versus the monolingualism more prevalent in the United States. The rate of individuals who report themselves as bilingual or trilingual is higher in Europe as compared to the United States. In a survey titled *Europeans and their languages* (European Commission, 2012), residents of the 27 member states of the European Union described their non-native language skills: 54% of Europeans are able to hold a conversation in a language other than their mother tongue, 25% are able to speak two additional languages and 10% are conversant in three languages. The United States is considerably behind Europe, with only 18% of the population reporting themselves as bilingual (Duncan, 2010).

In the area of social media, significantly more UCC students, 46.5%, reported use of English only for social media, than those at SC and EHL, each with 7.7%. Unique to this site is the variation in languages among the student population with only English as a common language. While EHL has a similar diversity of enrollment, many students speak French and



thus may use that language more commonly than English in their interactions with the new college community. Likewise, the student population at SC is predominately fluent in Spanish, thus that language can still be relied on in student social interactions.

The use of video chat is fairly consistent across all populations, with the majority of students in all groups using their home language at least some of the time. English only use ranged from 7.8%-17.5%. While widespread use of this technology is a relative recent trend with the prevalence of Skype and FaceTime use, it is likely that this will increase in popularity as it is a simple and inexpensive way to stay in touch with family and friends in the home community.

Video streaming in English was much higher, 80%, at SC than at other institutions. There are many possible explanations for this behavior, but most apparent is the fact that the majority of these students meet in the computer lab for their ESL courses; using technology in class to learn English likely impacts this statistic. In contrast, prior research at UCC included interviews in which participants revealed a preference for using video streaming to view television shows from their home countries (Amos, 2015).

The responses submitted email use at EHL varies significantly from the results at UCC and SC, which were virtually identical. This is likely due to the unique nature of the coursework at the institution, which allows students to select a French or English language track. It is notable that 15.3% of respondents noted using only their home language despite enrollment in a business English course that includes instruction in composing formal inquiry email correspondence.

In news reading, there are consistently high rates of English-only access and use of both English and another language, which suggests that technology is being used both as a resource to

gather information and a way to maintain contact with the home culture. However, specific breakdown in categories ranged widely among the study sites. UCC had by far the highest of respondents reporting reading newspapers only in English (53.7%), with an additional 39.0% reading in both languages. The potential reasons for this are twofold: the course curriculum at UCC requires students to read New York Times articles every week. Additionally, free English-language daily newspapers are available at both UCC and SC, encouraging students to read at least occasionally in English, a resource that is not available at EHL, which had 27.4% of students reading news only in their home language.

In the category of personal research, almost half of respondents at EHL, 44.3%, reported using a language other than English for interactions, compared to less than 10% in the other populations. This is likely because EHL is located in a French-speaking region, so items of personal interest like restaurants and local news would be in French. Likewise, for UCC and SC students seeking to interact with the local community, English use—which was 58.7% and 43.5% respectively, would be the language of choice. Taken in the broader context of the local community rather than the immediate school environment, this inverse relationship suggests that each study population may be using the community language to explore their new environment and engage with their new roles towards identity transformation.

The results in the category of academic research at initially appear to be vastly different for the three study sites. At UCC, the vast majority of this work, 75.6% was completed in English, with only 2.2% of respondents relying solely on another language. Conversely, at EHL only 13.9% used English only and 68.1% reported a combination of languages, and a full one-fifth did not use English at all. These results again suggest the strong influence of the campus culture on the actions and language choices of students as they seek to establish a new identity.

At UCC, use of English is strongly discouraged in class as professors seek to increase comprehensible English input for immersive language mastery. In contrast, the bilingual curriculum at EHL encourages students to explore, integrate, and draw from all linguistic resources rather than prizing English for academics.

## LIMITATIONS

After review of the findings, the researchers acknowledge that there are limitations with this study. A significant limitation is that one of the research sites (EHL) is a bi-lingual institution. Students are permitted to select if they will study in English or French, and while they must study the other language, the flexibility to revert to their language of preference may impact their behavior. A second limitation is that all of the participants in the study were enrolled in an ELL course, where they were actively encouraged to use English for both academic and social communications. It is possible that the students responded to the surveys with their perception of accepted behavior, not actual behavior. Finally, while the survey indicated “in another language”, results have interpreted that as “in the native language”. With multilingual students, it is possible that they could have been referring to a third language choice.

## IMPLICATIONS FOR FUTURE STUDY

Based on the findings in this study, the researchers identified several implications for future study. The first implication is to refine the survey methodology to be more specific and include “language used at home” as opposed to “other language” for greater specificity. It is also

necessary to provide simple definitions of the different technology categories to ensure that the learners are responding within the intended context.

A second implication is to explore the transformative learning with technology that occurs through community learning and integration, as opposed to the academic lens. The work in this study assumed that the language of academic study would promote transformative learning. Further study could focus on integrating into a new culture and society as a new community.

Additionally, future study could include European students enrolled in a degree program that is conducted entirely in English, as opposed to a program that offer more than one language stream in the curriculum. This would further refine analysis based on the different comparative populations.

Finally, further study must explore the opportunity for educators to facilitate transformation for international students, increasing reflective discourse, bridging existent and emerging identities, and balancing the support of social and family networks while still encouraging students to transform into their new academic communities.

## CONCLUSIONS

### **Technology as a Platform to Try Out New Roles**

The digital platforms used across different technologies serve as spaces for ELL students to try out new roles while are actively learning in their non-native language. Technology enables these individuals to interact in real-time with friends and family both in English and their native language. It also provides learners with access to resources, both social and academic, in more

than one language, giving them the chance to determine how and when they will immerse in the language of their studies.

### **Community Integration Influences Academic Integration**

The culture and language of the area in which one is studying can influence a learner's motivation to use English as opposed to another language (their native language). One example of this in context is access and availability to materials in English. For the study sites in the United States, free newspapers were available on campus published only in English. In Switzerland, free newspapers were available on campus exclusively in French, the local language of the region. If a learner has ongoing access to materials in English, this could result in a shift in preferences for academic research and communication.

When a student moves to a new country and commences their studies in a new language, they are often faced with more than one disorienting dilemma. In this study, the researchers focused on the language as the catalyst for transformative learning, but acclimation to a new culture and larger community can also present as the disorienting dilemma for learners. The study findings report that many of the learners engage in both academic and social tasks in both English and another language. This aligns with the phase of the transformative learning process of trying out new roles.

Additionally, the value that a campus culture builds around use of a single, power language appears to influence the use of that language across many different activities. At UCC, the English-only emphasis in the college environment paired with the need to communicate with classmates from many different language backgrounds seems to have influenced the prevalence of English-only engagement, the highest percentage reported in five of the seven categories

examined. Likewise, the encouragement of dual language use at EHL likely influenced the high rates of bilingual engagement as evidenced by the lowest percentage of English-only reported in all seven categories. Put simply, community and campus cultural values around language, both espoused and in action, seem to impact the language used to explore new roles in identity formation.

### **Intersection of Influences**

Key among transformative learning resources are personal relationships. Student relationships are a strong influence on information gathering, for academic purposes and for meaning-making in students' everyday lives. These sources for support include peer and family networks which further impact student use of language, potentially delaying their mastery of English language. Seeking information can provide connections to the established identity at home, which could provide comfort in the transition to the college culture; however, it could also limit possibilities of transformation.

## Appendix A—Device Ownership and Internet Usage Survey

### DEVICE OWNERSHIP AND INTERNET USAGE SURVEY

Thank you for your willingness to participate in this survey. Please answer all items to the best of your ability.

Please make a check mark to indicate your use of each of the following devices:

	I use daily	I use weekly	I use monthly	I use rarely	I have never used
Desktop Computer					
Laptop Computer					
Game console					
eBook reader					
Tablet computer (such as iPad)					
Smartphone (with applications)					

Think about your internet use in the last week—on a computer, tablet, or smartphone. Please make a check mark to show if you have used the internet to do the following activity. If you have, please indicate the language you used when online.

Online Activity	IF YES, WAS IT...			
	I have done this within the last week	In English	In another language	In both English and another language
Sent or received email				
Looked up news information (such as on CNN or FOX News, video news networks, or an online newspaper or news magazine)				
Looked up information for school (such as research for a paper, vocabulary definitions or translations, or background information for a class)				
Looked up information of personal interest (such as weather, entertainment gossip, health information, "how-to", or repair information)				
Looked up information about a product, travel destination, or restaurant				
Connected with friends via Facebook, LinkedIn, Google Plus, Yelp or another social networking site.				
Viewed or uploaded personal video for entertainment (such as on YouTube, Vimeo, or BuzzFeed)				
Viewed streaming video online (such as a television website, Hulu, Netflix, or another commercial site)				
Shared or streamed photos, music, or other media				
Made a phone or video call (such as on Skype, Vonage, or Google Plus)				
Played multiplayer action games (such as World of Warcraft, Everquest, Call of Duty, or Halo)				
Played word games (such as Scramble, Words with Friends, or Crossword Puzzles)				
Created content (such as a review of a product or restaurant or a blog post)				

## Appendix B—Summary of Survey Results

Task	Percent participating in last week			Percent of these in English			In another language			In both		
	UCC (n=46)	SC (n=26)	EHL (n=72)	UCC (n=46)	SC (n=26)	EHL (n=72)	UCC (n=46)	SC (n=26)	EHL (n=72)	UCC (n=46)	SC (n=26)	EHL (n=72)
Word Games	42.9	30.8	25.0	61.9	25.0	33.3	4.8	25.0	33.3	33.3	50.0	33.3
News Reading	83.7	92.3	86.1	53.7	16.7	16.1	7.3	11.5	27.4	39.0	70.8	54.8
School Research	90.0	92.3	100	75.6	54.2	13.9	2.2	8.3	20.8	22.2	37.5	68.1
Blog Posting	51.0	42.3	40.3	52.0	72.7	17.2	4.0	0	13.8	44.0	27.3	48.3
Product Research	83.7	84.6	88.9	53.7	54.5	9.4	7.3	13.6	43.8	39.0	31.8	43.8
Personal Research	92.0	88.5	97.2	58.7	43.5	14.3	8.7	4.3	44.3	32.6	52.2	43.1
Email	93.8	100	100	42.2	46.2	13.9	0	0	15.3	57.8	53.8	79.2
Social Media	87.8	100	95.8	46.5	7.7	7.2	7.0	26.9	34.8	46.5	65.4	59.4
Post/View Video	70.0	73.1	76.4	42.9	15.8	14.5	0	5.3	20.0	57.1	78.9	61.8
Streamed Video	84.0	96.2	77.8	45.2	80	30.4	7.1	0	7.1	47.6	20	57.1
Shared Photos	68.0	80.8	66.7	29.4	28.6	18.8	0	9.5	25.0	70.6	61.9	39.6
Video Chat	80.0	80.8	70.8	17.5	9.5	7.8	15	38.1	41.2	67.5	52.4	39.2
Multiplayer Game	44.0	42.3	27.8	63.6	72.7	20.0	0	0	10.0	36.4	27.3	30.0



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