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THE POWER OF INFORMAL LEARNING REVEALED BY STUDENTS' CONNECTIVITY

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Abstract

This paper investigated the extent to which students' connectivity has revealed the power of informal learning by taking it to the next higher level. It studied how students became vulnerable to getting more input and producing better output. This study adopted a correlational study, which probed the impact of students' connectivity on the betterment of their informal learning. It narrowed the scope by analyzing students' learning behaviors in the English department at Moroccan universities. The analysis measured the frequency of using different internet platforms in either formal learning or informal learning and their impact on speaking and writing. It used different statistical tests of analysis to measure factor variables and independent variables. The study used stratified random sampling to guarantee a sample, which could be representative of the whole population. The results showed the inclination of students towards using the internet to learn informally and confirmed the impact on their achievement in speaking and writing. The findings came up with implications for teachers.

Introduction

Informal learning is one of the most focal components of the lifelong learning process of every individual. Together with non-formal learning or formal learning, it forms one of the three main axes of education. Nowadays, with the wide spread of technology, which has been enabling students to stay connected, informal learning has started playing more significant roles than ever before. In the field of language education, it has been observed that students usually bring new knowledge, which was not necessarily introduced to them in on-site education. Moreover, when informal education was studied in a chronological order, connectivity via internet has proven to constitute the most powerful atmosphere of informal learning in the history of mankind. For this reason, this study came to test the validity of this assumption by studying the impact of connectivity on the learning of the English language in Moroccan English departments. This was guaranteed throughout correlating the impact of both types of education on the capability of speaking and writing of Moroccan students in the English department. The study wanted to find out whether connectivity offers a better informal learning atmosphere to students to develop their speaking and writing if compared to formal learning.

1. Review of the Literature

1.1. Informal Learning and Connectivity

Informal learning refers to what individuals can learn at home, on the street, outside institutional settings, with family, friends, television, or any other means generating a source of input. Early in history, informal learning was given much importance by Greeks and later on by scholars such as Vygotsky, who worked a lot on the importance of informal learning in the transmission of particular types of knowledge.

Marsik and Walkins (cited in Mueller & Flintoff, 2016, p. 18) thought that this type of learning is hard to be defined, and it could only be understood by comparing and contrasting it with formal learning. Mueller and Flintoff (cited in Mueller & Flintoff, 2016, p. 18) stated that it is synonymous with non-formal education. Besides, the boundaries between informal and incidental seem to be blurry. Mc Giveney (cited in Mueller & Flintoff, 2016, p. 18), defined it as a learning process that occurs outside of formal learning and educational institutions. Moreover, it does not have or follow a curriculum, and it is not structured pedagogically. Looi (cited in Mueller & Flintoff, 2016, p. 18) clarified that the difference between informal learning and formal learning could be made given the degree of presence of a structured curriculum.

Kerka and Mc Givney (cited in Mueller & Flintoff, 2016, p. 18) stated that informal learning could apply to adults, children, or young people and could happen both in school classes and out of schools. It is what Kerka termed it autodidactic or incidental learning (cited in Mueller & Flintoff, 2016, p. 19). Dale and Bell (1999) defined informal learning somewhat more narrowly as:

Learning which takes place in the work context relates to an individual's performance of their job and/or their employability, and which is not formally organized into a program or curriculum by the employer. It may be recognized by the different parties involved, and may or may not be specifically encouraged. (para. 6)

All the previous definitions showed that informal learning is all what a human being learns in an unstructured and unplanned way either inside a formal institution or outside of it. According to Collins, Waters, Lester, and Ramos (cited in Mueller & Flintoff, 2016, p. 18), informal learning is not what we learn from formal or non-formal institutional curricula either inside or outside institutions. Instead, it is what happens at any point in life from birth to death. Coffield (cited in Mueller & Flintoff, 2016, p. 18) also perceived that this type of learning should no longer be viewed as inferior to other forms of formal learning. Quite the contrary, it needs to be regarded as crucial, essential, necessary and valuable.

Eraut (2000), categorized six ways of how an individual learns or acquires informally. He stated that:

> Several different types of situations where tacit knowledge may be either acquired or used or simultaneously both acquired and used. 1) Knowledge acquired by implicit learning of which the knower is unaware; 2) Knowledge constructed from the aggregation of episodes in long-term memory; 3) Knowledge inferred by observers to be capable of representation as implicit theories of action, personal constructs, schemas, etc; 4) Knowledge which enables rapid, intuitive understanding or response; 5) Knowledge entailed in transferring knowledge from one situation to another; and 6) Knowledge embedded in taken-for-granted activities, perceptions and norms. (p. 133)

Equally important, Eraut illustrated six types of informal learning: what individuals can learn unconsciously, what they learn through the accumulation of experiences, what they learn through observation and recognition, what they learn through recalling their related schemata, and the knowledge they get from perceptions and norms.

Sharma and Choudhary (2015) drew an apparent line of demarcation between informal, formal, or non-formal learning. They stated that:

> Informal education is quite diverse from formal education and, particularly, from non-formal education, although in certain cases it is capable of maintaining a close relationship with both. It does not correspond to an organized and systematic view of education; informal education does not necessarily include the objectives and subjects usually encompassed by the traditional curricula. It is aimed at students as much as at the public at large and imposes no obligations whatever their nature. There generally being no control over the performed activities, informal education does not of necessity regard the providing of degrees or diplomas; it merely supplements both formal and non-formal education. (p. 22)

Coombs and Ahmed (cited in Wang, 2016) differentiated informal learning with regard to education. Their attitude towards informal learning ran as follows:

> The lifelong process by which every individual acquires and accumulates knowledge, skills, attitudes, and insights from daily experiences and exposure to the environment – at home, at work, at play: from the example and attitude of families and friends; from travel, reading newspapers and books; or by listening to the radio or viewing films or television. Generally, informal education is unorganized, unsystematic, and even unintentional at times, yet accounts for the great bulk of any person's total lifetime learning – including that of a highly 'schooled' person. (p. 103)

As the previous quotation highlighted, informal learning is all about interactions with friends, family, and work colleagues. In other words, it is what is left from the other forms of education when formal learning is the structured and chronological system of learning. However, recent definitions of informal learning included M-tech as a factor with which a massive amount of input is always provided.

Chaffe and Patterson (2016) added new terminology to the definition of informal learning. They considered that social learning could be referred to as informal learning. However, collaborative learning still refers to a more structured way of acquiring new knowledge. They said:

> Informal learning, collaborative learning, and social learning are all terms we often hear, and which are used interchangeably. Yet while linked and not mutually exclusive, each is different and should be understood in context. Of the three terms, informal learning and social learning are perhaps nearer to each other; collaborative learning is much more structured than either informal learning or social learning. (para. 1)

The term social learning gained more attention with the new phenomenon of connectivity. All actors in the domain of education and informal learning realized that internet with all its interfaces, in general and social media, in particular would support learning (para.2). They noticed that reliable experiments about using social media, such as Twitter and Yammer to teach courses or even part of them facilitated learning (Chaffe& Patterson, 2016, p.3).

With regard to a report conducted about informal learning with internet outside school, Sefton-Green (cited in Selwyn, 2007, p. 2; Bonacci, 2004, p. 10 found out that:

> Computers and other aspects of Information and Communication Technologies (ICTs) allow children and young people a wide variety of activities and experiences that can support learning, yet many of these transactions do not take place in traditional educational settings. In fact, many of these may not be considered 'educational' according to our conventional understanding of that term computers. However, any interest in the role of ICTs in children's and youth's forces the recognition that many of them are immersed in ICT-related activities in their homes and with their friends.

The report underlined that M-tech constituted a modality that incorporated tools for bridging the gap between formal and informal learning. It also provided the basis for personalized learning, informal learning, and formal learning modes (Khaddage, Knezek, & Baker, 2012).

More precisely, in informal language learning, Knowles and Rogers (cited in Bahrani & Sim, 2012, p. 142) confirmed that learning a language informally is the most critical part of all the learning we do in our everyday life. According to Bahrani and Sim "whether language acquisition is to take place in formal or informal language learning settings in English as a second language context (ESL) or English as a foreign language (EFL) context, language learners need to have exposure and access to a sort of language input" (2012, p. 142). Moreover, Grass (cited in Bahrani & Sim, 2012, p. 142) believed that language acquisition could not happen informally without the learner being exposed to some sort of language input, which is precisely what mobile technology does.

All the research about informal learning agreed that M-tech constitutes the primary and the most abundant source of informal learning opportunities. This conclusion implied that the non-education-related ubiquitous use of M-tech is the most potent impact factor for informal language learning and achievement in writing along with speaking.

Speaking was defined by Chaney as *"the process of building and sharing meaning through the use of verbal and non-verbal symbols, in a variety of contexts" (cited in Nuraini, 2016, p. 13).* It is one of the four language skills besides listening, reading and writing and is considered to be the mother of the language skills. According to Nunan (1997) *"being able to claim knowledge of a second language means being able to speak and write that language".* In this realm, Nunan sees speaking as the capability to transmit knowledge in a second language through oral expression.

2. Materials and Methods

2.1. Research Approach

This study adopted a mixed approach, which incorporated a qualitative and a quantitative research method. To categorize students' preferences in using internet for either ways of learning (informal or formal), a qualitative method was utilized. Moreover, to measure students' performance in English in both speaking and writing, a qualitative method was adopted.

2.2. Sample Population and Sampling Technique

The target population included a sample of 360 students of the English department from three Moroccan universities.

The study adopted stratified random sampling. With this method of sampling, it was possible to involve a number of individuals who represented the whole population and who were chosen according to belonging to the English department.

2.3. Data Collection Procedures

The study used a questionnaire and students' scores in speaking and writing for each semester they belong to. The questionnaire was utilized to survey students' style of using the internet and it was distributed to students in classes with the help of their teachers.

Students' scores in speaking and writing were used to measure the impact of both informal and formal learning on students' progress. The lists of scores were taken from the administration of every university after being authorized by the dean of each faculty.

All the data was filled in the statistical software SPSS (the Statistical Package of Social Sciences) and were analyzed according to the nature of each variable.

3. Results and Discussion

3.1. Effect of Informal Learning on the Choice of the Internet Contents

It was assumed that the nature of the use of internet (for formal learning or informal learning) determines the impact on students' learning and progress. Respondents were asked about the types of platforms they access and the nature of their use of the internet. They were to choose between three types of platforms including audiovisual platforms, interactive platforms and text platforms.

In this context, a chi-square test was run so that we can compare the counts and the expected counts and see the relationships between the nature of the use of internet and the platforms students access more often.

Table .1.
Chi-square test Crosstabulation for the use of different internet platforms

			Informal	Formal	Total
Interface: Audiovisual, Interactive, Text	Audio-visual	Count	124	7	131
		Expected Count	95.0	36.0	131.0
		% within Interface	94.7%	5.3%	100.0%
	Interac-tive	Count	108	15	123
		Expected Count	89.2	33.8	123.0
		% within Interface	87.8%	12.2%	100.0%
	Text	Count	29	77	106
		Expected Count	76.9	29.2	106.0
		% within Interface	27.4%	72.6%	100.0%
Total		Count	261	99	360
		Expected Count	261.0	99.0	360.0
		% within Interface	72.5%	27.5%	100.0%

The crosstabulation table demonstrated that in 131 respondents who browse the audiovisual platforms, 124 of them prefer informal learning, while only 7 of them favor the formal learning. The expected counts were 95.0 for the informal learning and 36.0 for the formal learning. To understand how the results turned out, we compared the counts with the expected counts in order to analyze how the counts departed from the conventional ones.

For the audiovisual platforms, more students accessed them for informal learning compared to the expected counts, whereas only 7 were expected to prefer formal learning compared to the counts with 36.0.

In the interactive platforms crosstabulation, the expected counts for informal learning were 89.2, while the counts displayed 108. In other words, the counts were greater than the expected counts. Besides, the crosstabulation demonstrated that the expected counts were greater than the counts for formal learning (33.8 in the expected counts Vs. 15 in the counts).

In the text platforms crosstabulation, the results demonstrated that the expected counts for informal learning were 76.9 while the counts were 29. Also, the expected counts for the formal learning were 29.2 compared to higher the counts with 77.

When we did the subtraction in all the results obtained, we found that more students access the audiovisual platforms for informal learning than expected, and fewer browse them for formal learning than expected. Similarly, more respondents access the interactive platforms for informal learning than expected. However, fewer students browse the text platforms for informal learning than expected, and more use them for formal learning than expected.

The audiovisual platforms and interactive platforms were accessed more for informal learning, while the text platforms were accessed more for formal learning. For informal learning via connectivity, 94.9% accessed the audiovisual platforms, 87% accessed the interactive platforms, and only 27% accessed the text platforms. In the same way, for formal learning, 72.6% accessed text platforms, 5.3% accessed audiovisual platforms, and 12.2% accessed the interactive platforms. Since the proportions were significantly different, the results were significantly different, and then the relationship of association did exist.

In the same context, to track the significance of the relationship between both variables, a chi-square test of significance was used.

Table. 2.
Chi-square test Results for the use of different platforms

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	155.04[a]	2	.000
Likelihood Ratio	153.23	2	.000

Linear-by-Linear Association	125.64	1	.000
N of Valid Cases	360		

a. 0 cells (0%) have expected count less than 5. The minimum expected count is 29.15.

The results Chi-Square test showed the following form X2 (1, N= 360) = 155.04, P= 0, 000. This meant that there was a significant relationship between the type of use of the internet and the platforms.

A test of symmetric measures was run to analyze the degree of the impact of the informal use of internet on the choice of the platforms according to Cramer's V standard.

Table. 3.
Chi-square Symmetric Measures for informal learning on the internet

		Value	Approx. Sig.
Nominal by Nominal	Phi	.656	.000
	Cramer's V	.656	.000
N of Valid Cases		360	

Since the platforms variable contained three categorical groups and the use of the internet variable contained two categorical ones, the analysis could go further to measure the effect size standard. The table of the symmetric measures showed a result of 0.656. When compared it to the Cramer's V standard, which has three levels of the effect size: small = 0.10, Medium = 0.30, and large = 0.50, we could see that the effect size was large at 0.656.

The results displayed a large effect size between the two variables. View the Chi-square tables and the results obtained, we accept the assumption which stated that there is association between the nature of the internet use and the types of platforms accessed, which causes variance of the positive impact on speaking and writing. To put it another way, when students use the internet for informal learning, they tend to access audiovisual platforms or interactive platforms. However, when they use the internet for formal learning, they incline towards text platforms. Thus, students' usage behavior affects achievement in speaking and writing.

3. 2. Effect of the Choice of Internet Platforms on Writing

A One-Way ANOVA statistical test was applied to analyze the impact of the factor variable, which is the type of platforms students' access more often, on the dependent variable, which is the students' writing. The test aimed at revealing if there were any statistically significant differences between the means of the three independent (unrelated) groups. The unrelated groups were divided according to the type of platform they access the most.

After analysis, the results were as the following.

Table .4.

One-Way ANOVA descriptive tables for students' writing and the type of platforms they access

	Sum of Squares	df	Mean Square	F	Sig.
B/w Groups	138.12	2	69.06	10.126	.000
Within Groups	2434.80	357	6.82		
Total	2572.93	359			

The one-way ANOVA demonstrated a significant P-value of 0.000. A p-value of this size drove us to track data in order to know where the difference lay. For this reason, a test of one-way ANOVA multiple comparison table was run to analyze if the means of the three unrelated groups were different.

Table .5.

Multiple Comparisons table for students' writing and the way they use the internet

					95% Confidence Interval for Mean	
	N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound
Audiovisual	131	10.28	2.78	.24	9.80	10.76
Interactive	123	9.48	2.65	.23	9.01	9.96
Text	106	11.04	2.32	.22	10.59	11.49
Total	360	10.23	2.67	.14	9.95	10.51
Fixed Effects			2.61	.13	9.96	10.50
Random Effects				.44	8.34	12.13

The tables showed that the difference between the three groups was significant. This means that the way students use the internet determines their performance in writing.

3.3. Effect of the Choice of Internet Platforms on Speaking

A One-Way ANOVA statistical test was used to analyze the impact of the factor variable, which is the type of platform that students' access more often, on the dependent variable, which is the students' speaking. The test aimed at revealing whether there were any statistically significant differences between the means of the three independent (unrelated) groups. The three groups were divided based on the type of platform they access the most: the group who had a higher access level to text platforms, the group who accessed interactive platforms mostly often, and the group who had more access to audiovisual platforms.

The univariate analysis of variance was deployed to see if any significance existed in the means differences between the three groups. After analysis, the results were as the following:

Table .6.

One-Way ANOVA Descriptive Table for the Students' speaking and the use of different internet platforms

	Sum of Squares	Df	Mean Square	F	Sig.
B/w Groups	531.94	2	265.97	22.83	.000
Within Groups	4158.82	357	11.64		
Total	4690.76	359			

The one-way ANOVA test demonstrated a significant P-value of 0.000. To put it differently, a p-value of this size drove us to track the data in order to know where the difference lay. In this way, to analyze if the means of the three unrelated groups were different, a multiple comparison one-way ANOVA test was run.

Table .7.

One-Way ANOVA Multi Comparison Table for the Students' Speaking and Internet Platforms

					95% Confidence Interval for Mean	
	N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound
Audiovisual	131	12.24	2.74	.23	11.77	12.72
Interactive	123	9.47	3.65	.32	8.81	10.12
Text	106	10.14	3.84	.37	9.40	10.88
Total	360	10.68	3.61	.19	10.30	11.05

Before reporting the results obtained in the table, I made sure that it included 360 subjects, and the groups in the N column were not balanced. Moreover, I verified that there were more than 10 subjects in each group. The table demonstrated that the means were different. The mean for the audiovisual group was 12.24, for the interactive group was 9.47, and for the text group was 10.14.

Similarly, to the tests run for writing, the tables showed that the difference between the three groups was significant. This means that the way students use the internet determines their performance in speaking.

3.4. Findings

Informal learning constitutes the new locomotive of education in general and language education in particular.

The style with which students use the internet determines the type of platforms on which they spend more time.

The internet has become the richest place for informal learning.

When students are online, they automatically learn new things either related to what they study at school or not.

Language skills, especially speaking, get too much positive influence from informal learning on the internet.

4 . Conclusion

In this paper, the study tried to answer a focal question, which is informal learning in the new era. It used a mixed method research to see the impact on students learning outcomes. The study considered that students' connectivity has become a crucial platform for informal learning. After analysis, the study revealed that the internet does provide a vivid atmosphere for informal learning and helps students develop their academic skills.

Implications

Teachers should redirect students' informal skills to enhance their performance in class throughout the incorporation of bridging activities.

Because M-technology cannot impact without the user's autonomy, teachers should increase extended take home activities and progressively free students' choices.

Teachers should allow students to use the internet in the classroom, as it is an excellent way to inspire them to speak better and write better. This could support independent learning and embrace the power that is already in the pocket of their students.

Teachers should redirect students' informal learning skills so that it is impactful in their achievement at university. This could go through thematic extensive activities which they have to respond to and bring to class.

Since a teacher usually teaches the same way for learners whose pace of learning and difficulties faced are unique, he/she should encourage personalized learning on the internet to adjust the differences. This could be done through collaborative teamwork as the majority work in isolation on their smart gadgets.

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