SOME FACTORS WHICH MAY AFFECT THE ATTAINMENT OF IMPLICIT AND EXPLICIT KNOWLEDGE IN LEARNING ENGLISH AS A SECOND / FOREIGN LANGUAGE

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Abstract

This article is an attempt to shed some more light on certain factors, related to individual differences in the process of second/foreign language acquisition/learning, proven by previous research in the field of second language acquisition (SLA). These are factors which may affect the final attainment of adult learners' implicit and explicit knowledge of English as a second/foreign language and their proficiency. A study based on empirical data collected from a sample of 103 participants, through a battery of tests, aimed at tapping into the attainment of implicit or explicit knowledge of ESL/EFL, was conducted to explore certain factors such as: starting age of learning; length of exposure to English as a second/foreign language in a target language country; length of learning and type of input received, which have a statistically significant impact on attainment and on ESL/EFL proficiency. The results were analysed using SPSS software.

Key words: second language acquisition, implicit knowledge, implicit learning, explicit knowledge, explicit learning, attainment of L2 proficiency, contextual SLA factors.

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Naturalistic and instructed learning

In researching factors affecting the ultimate attainment of a second/foreign language, insufficient attention has been paid to the profound differences between naturalistic and instructed learning. Following Muñoz's definition (2008, p. 578), in this article, naturalistic learning or "learning through immersion", refers to learning a language in a country where it is used as native and learners are constantly exposed to the target language, which is the main tool for communication. On the other handinstructed learning or "formal learning in the classroom" refers to learning a foreign language through classroom instruction, wherein learners have limited exposure to the target language, dependent on the input they receive. However, very little research has acknowledged the significant differences between naturalistic and classroom learning environment or the differences (in quantity and quality) of the type of input learners receive (Rothman & Guijarro-Fuentes, 2010). The type of learning context related to the ultimate attainment of the L2 is often neglected. As Muñoz (2008) noted, "research findings from naturalistic learning contexts have been hastily generalized to formal (classroom) learning contexts". Based on observed differences, she claims that "the amount and quality of input have a significant bearing on the effects that age of initial learning has on second language learning" (p. 578).

It is a fact that the distinction between naturalistic L2 learning and foreign language instructed learning is usually ignored by the research on second language acquisition. The naturalistic second language learning, or learning through immersion in the L2 environment is most often taken into account, whereas the majority of people learning a second language, actually start learning it in a completely different context – in a foreign language learning classroom. Is it plausible then to generalise the findings of research on naturalistic, immersion learning context and impose them upon the learning process in a completely different context? Certain researchers, (Muñoz, 2008, among many) argue that there are hardly any substantial grounds for this.

Contrary to the naturalistic learning context, a typical foreign language learning situation in most countries around the world could be characterized as offering limited L2instruction – a few weekly sessions of approximately 45-50 min each, depending on the type of school or institution; limited exposure to target language sources– mainly the teacher's input and recorded materials (CDs, tapes for listening comprehension tasks); different quantity and quality of the target language exposure . Many teachers do

not use the target language as the language of instructions or communication in the classroom. Moreover the majority of teachers themselves are non-native speakers, so there is a great variability in their own oral fluency and general proficiency, irrespectively of their efforts to provide some authentic language and materials. Also, the target language is not the language of communication between peers in the classroom and it is rarely or not spoken outside the classroom (Muñoz, 2008). All these facts mean that instructed L2 learners receive qualitatively different input, compared to that received in naturalistic immersion conditions (Rothman & Guijarro-Fuentes, 2010). Therefore, in light of the input received, it is probably unsurprising that developmental sequence and ultimate attainment will also differ.

Previous research has clearly shown that in naturalistic (immersion) conditions older children, adolescents, and adults generally show faster initial progress than younger children, specifically in the morphosyntactic aspect. However, research also shows that that the younger a learner is, the more native-like proficiency he/she finally attains, surpassing older learners at a later stage of development (Jonson & Newport, 1989; Byalistok & Hakuta, 1994; Birdsong & Molis, 2001; Birdsong, 2005). However, recent research has revealed that child L2 acquisition is very similar to adult L2 acquisition in developmental sequence and that although children's L2 acquisition normally results in better competence, it is not proven that children's L2 acquisition necessarily resembles L1 acquisition outcomes (Schwartz, 2003; Haznedar & Gavruseva, 2008). The fact is that the age of acquisition (A-o-A) is often confounded with other important variables, such as length of exposure to the target language or received input, which might be much more deterministic for L2 acquisition. Thus, A-o-A alone cannot explain the acquisition process or the ultimate attainment of L2 (Rothman & Guijarro-Fuentes, 2010).

Implicit and explicit knowledge of a foreign/second language

It is obvious from above that the conditions in which L2 learning takes place in a foreign language classroom do not resemble, even remotely, the naturalistic learning in an immersion environment. The former presupposes mostly explicit learning and acquisition of explicit knowledge of the target language which might or might not turn into implicit knowledge, depending on the length of learning and exposure to L2. On the other hand the latter presupposes implicit (L1 child-like) learning and acquisition of implicit knowledge of the target language, although this might be supplemented by explicit knowledge as a result

of education in formal environment. In order to contemplate further on the problem, the dichotomy implicit/explicit knowledge should be defined.

A plausible account of the dichotomy of implicit/explicit language knowledge is given by N. Ellis (2008), who compares child acquisition of L1 and adult acquisition of L2 as two completely different phenomena. Children acquire their mother tongue as a result of natural meaningful communication, in which process they "automatically acquire complex knowledge of the structure of their language" (N. Ellis, 2008, p. 1). They are unable to explain or describe this knowledge. This is what N. Ellis names *implicit knowledge.* L1 grammar is acquired implicitly and "is extracted from experience of usage rather than from explicit rules". The exposure to naturalistic linguistic input is sufficient and there is no need for explicit instructions.

Adult learning of a second/foreign language, however, is completely different and although certain knowledge can be acquired implicitly from the communicative context, it is normally much more limited, compared to native speaker norms, and adult learners normally require additional resources of *explicit learning*, in order to attain accuracy in the target language. In this case, explicit learning is clearly in opposition to implicit learning, since it includes the conscious learning of the second/foreign language. This conscious learning might include attention to language form; learners noticing negative evidence and perception focused by explicit instructions. N. Ellis (2008) also mentions the voluntary use of pedagogical grammatical descriptions and analogical reasoning; the reflective induction of metalinguistic insights about language and consciously guided practice, which may eventually result in unconscious, automatized skills.

Cognitive neuroscience also treats implicit and explicit learning as distinctive processes. Human beings possess separate implicit and explicit memory systems which store knowledge *of* and *about* language in different areas of the brain. The dissociation between implicit and explicit memory, and implicit and explicit learning has been evidenced in patients with anterograde amnesia, who, as a result of brain damage, cannot consolidate new explicit memories, connected with new places or faces, but maintain implicit memories and are able to learn new perceptual and motor skills (Schacter, 1987; Squire & Kandel, 1999).

The dissociation between implicit and explicit learning was made by Reber (1976) who had people learn complex letter strings, generated by an artificial grammar. In the course of studying them for later recognition, the subjects unconsciously abstracted

knowledge of the underlying regularities and were later able to distinguish new strings which either followed or broke the rules of the underlying grammar. However, they were not able to explain their reasoning. After examining the phenomenon of implicit learning, Reber (1976) characterized it as "the process by which knowledge about the rule-governed complexities of the stimulus environment is acquired independently of conscious attempts to do so". As R. Ellis (2008) summarized it, "implicit learning is acquisition of knowledge about the underlying structure of a complex stimulus environment by a process which takes place naturally, simply, and without conscious operations". Explicit learning, on the other hand, is a conscious process and, although not very precisely determined by Reber (1976), it is a process of learning 'about' a phenomenon by gathering information about it.

More recently the broader field of cognitive science has undergone a significant shift from a symbolic view of human cognition to a focus on the implicit inductive processes and the generalization of prior knowledge as schema, prototypes and conceptual categories, which activate the cognitive unconscious (N. Ellis, 2005). These aspects of cognition are simulated in connectionist models (Elman et al., 1996) which have had considerable influence on the understanding of language acquisition (Christiansen & Chater, 2001). Thanks to new modern technology, it has been proven that knowledge is not a static representation somewhere in the brain but a dynamic process "involving mutual influence of interrelated types of information which activate and inhibit each other over time" (N. Ellis, 2008).

An important contribution to the distinction between implicit and explicit learning was a collection of papers, edited by N. Ellis (1994). N. Ellis himself provided one of the most plausible analysis of this distinction by comparing certain things people can do, such as walking, recognizing when someone is sad or making utterances in one's mother tongue, about whose nature of processing we know very little and which are learned implicitly, just like birds learn to fly; and other people's abilities, such as multiplication, playing chess or using a computer programming language, which are definitely learned explicitly (N. Ellis, 1994, p. 1). This has led to several issues in the field of language learning, which need further research and clarification: what aspects of L2 can be learned implicitly; how necessary is explicit knowledge for the acquisition of L2; what is the relationship between implicit and explicit knowledge, to mention a few.

Following Schmidt's distinction, R. Ellis (2009) undertook a thorough investigation into the dichotomy implicit/explicit learning and implicit/explicit knowledge. He further assumed implicit/explicit learning and implicit/explicit knowledge to be "related but distinct concepts that need to be separated". The former concerns the processes involved whereas the latter – the product of learning. In practice, it is possible for learners to reflect on knowledge which has been acquired implicitly, without any metalinguistic awareness, and develop an explicit representation of it. The opposite process, incidental implicit learning of a linguistic feature while explicit learning is focused on another feature, is also possible. However, there have been different views on determining the type of learning which leads to a certain type of knowledge. Most researchers judge the type of learning by examining the product of learning, which might not be the best way to address this issue.

Method

The study is aimed at determining a relationship between learners' performance on measures of implicit language knowledge, explicit language knowledge and a proficiency test, and contextual factors such as: starting age of learning; length of learning ESL/EFL; length of exposure to the target language in an L1 country and type of input (mainly naturalistic or mainly instructed). The study also aims to explore the predominant type of acquired knowledge (implicit or explicit) by students who have been studying English as L2 mainly in their country (India, Pakistan, Sri Lanka, Bangladesh, Zimbabwe, Nigeria and Ghana) where English is used as a second formal language, based on their performance on a battery of tests; and to determine whether there is some significant difference between their results and the results of a group of students who had studied English as a foreign language mainly in instructed conditions in their home countries (China, Poland, Estonia, Bulgaria, Spain and France). The native speakers' scores on the same tests were used as a benchmark for comparison.

Participants

A total of 103 participants completed the battery of tests described below. The sample was made up of 83 learners of English from countries where it is used as a second formal language (India, Pakistan, Sri Lanka, Bangladesh, Nepal, Zimbabwe, Nigeria and Ghana); 10 learners of English from countries where it is learned as a foreign language (China, Poland, Estonia, Bulgaria, Spain and France) and 10 native

speakers from London, UK. The participants from the first and second groups had self-reported an achievement on the IELTS test of band 6.5 or 7.

The first group of learners were enrolled on a Pre-sessional English for Academic Purposes (EAP) course at The British Institute of Technology & E-commerce, in preparation for enrolment on undegraduate and postgraduate courses there. Reported L1 included: Urdu (33), Bangladeshi (12), Sri Lankan (12), Tamil (7), Punjabi (7), Sinhala (6), Hindi (5), Shona (3), Pashto (2), Bengoli (2), and Zimbabwean (2). The majority of students (65) reported starting to learn English at a very young age (5-7) and claimed to have studied it for more than 10 years. 24 students started learning English at secondary school, aged 14-15; and only two students reported starting learning English as adults (18+).

The second group of participants included 10 learners who had been learning English as a foreign language in formal classroom conditions in their home country and were still learning. All of them were students enrolled on a Pre-sessional EAP course at Birkbeck, University of London. The majority of them (8) started learning EFL as teenagers, at the age of 13-15, and only 2 of them reported starting learning English before puberty (at the age of 5-7). However, subjects differed in terms of length of learning and length of exposure (living in the UK). Seven of them reported learning English for up to 5 years; two students claimed to have learned it for less than 3 years and one of them had been learning it for more than 10 years. Length of exposure varied from under 1 year (2), to up to 3 years (4), up to 5 years (3) and more than 5 years (1). Reported L1 included: Bulgarian (3); Chinese (2), Polish (2), Spanish (1), French (1) and Estonian (1). The ten native speakers who took the tests were my fellow-students at Birkbeck, enrolled on postgraduate degree courses.

Sampling

The tests were done by a random sample of students enrolled on a Pre-sessional EAP course of study at the British Institute of Technology and E-commerce and Birkbeck, University of London, where I used to teach. The participants were chosen through stratified random sampling, to ensure fair representativeness of the stratum of students who had studied English as a second formal language and the stratum of students who had not. Subjects were selected, based on their achievement of band 6.5–7 on the IELTS test. Sampling the population by using this particular technique was expected to demonstrate a plausible correlation between certain external factors and the test scores tapping into implicit knowledge of English as a second/foreign language.

Ten university students - native speakers, were used as a control group/benchmark for the purposes of test results comparison.

Materials and Procedure

All the materials used in the research were pilot-tested by 10 volunteers, advanced L2 learners, university students at Birkbeck, University of London and University of Westminster.

The battery of tests, following Marsden Study's model, consisted of:
- a Timed Grammaticality Judgement Test (TGJT) in which the participants were allocated approximately 10 seconds for each answer, tapping into implicit knowledge;
- an Untimed Grammaticality Judgement Test (UGJT) participants were allowed two times longer to answer, tapping into explicit knowledge;
- an Oral Imitation Test (OIT), tapping into implicit knowledge;
- a Metalinguistic Knowledge Test (MLT), tapping into explicit knowledge, and
- a Proficiency Test (PT).

The pen-and-paper test consisting of 68 sentences, evenly divided between grammatical (grammatically correct) and ungrammatical (grammatically incorrect), was aimed at testing 17 grammatical structures altogether, 4 sentences for every structure tested. The targeted grammatical structures were selected on the grounds of having been reported as problematic for learners, as appeared in ESL/EFL course books across a range of levels, thus representing both early and late acquired forms. They have been adapted from tests created by Pienemann (1989); Anderson, Matessa, & Lebiere, (1997) and Ellis et al. (2009).

A Background Questionnaire was used to collect information about the learners' background, such as starting age of learning ESL/EFL, length of learning ESL/EFL (measured in years of extensive learning) length of exposure to English as L1 (measured in years of residing and studying in the UK or any other English – speaking country), and predominant type of input received (whether it was mainly through naturalistic or mainly through instructed learning). A number of factors, self-reported in the Background questionnaire, were explored through descriptive statistics and compared for each group: starting age of learning (SAoL); length of learning (LoL); type of input (IT) (predominantly naturalistic or predominantly instructed); length of exposure (LoE) to the target language

in the UK (or another L1 country); other ways of learning (through internet, watching films or reading books in the target language), and age (A). Frequencies variable analysis was conducted for the external factors reported in the Background questionnaire, separated by country, for an easy comparison of the mean and the standard deviation of the tests results, influenced by these factors.

Results

The descriptive statistics, used to explore correlations between independent variables (external factors) and dependent variables (scores on the five tests) and their significance, demonstrated the following results:

Table 1. Correlations between variables and their significance

		TGJT	OIT	PT	UGJT	MLT
Starting age	Pearson Correlation	0.272**	0.490**	0.342**	0.276**	-0.097**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000
	N	4236	4236	4236	4236	4236
Length of Learning	Pearson Correlation	0.249**	0.260**	0.189**	0.213**	-0.080**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000
	N	4236	4236	4236	4236	4236
Length of Exposure	Pearson Correlation	0.379**	0.488**	0.420**	0.364**	-0.090**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000
	N	4236	4236	4236	4236	4236
Instruction type	Pearson Correlation	0.145**	0.262**	0.186**	0.123**	0.006
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.699
	N	4236	4236	4236	4236	4236
Other ways	Pearson Correlation	0.090**	0.188**	0.175**	0.062**	-0.199**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000
	N	4236	4236	4236	4236	4236
Age	Pearson Correlation	0.018	0.041**	0.053**	0.032*	-0.069**
	Sig. (2-tailed)	0.246	0.007	0.001	0.037	0.000
	N	4236	4236	4236	4236	4236

It can be seen that the most significant factors correlating to tests measuring implicit knowledge, Timed Grammaticality Judgement Test (TGJT) and Oral Imitation Test (OIT) are 1. Length of exposure to L2 where it is used as native (LoE), 2. Starting age of learning L2 (SAoL), 3. Length of learning L2 (LoL) and 4. Instruction type (IT).

Length of exposure to L2 where it is used as native (LoE). The effect size of correlation (LoE – TGJT) was found statistically significant ($r=0.38$ so R-sq=0.14, $p<0.001$, N=103 as well as (LoE – OIT): $r=0.49$ so R-sq=0.24, $p<0.001$, N=103).

Starting age of learning L2 (SAoL). Pearson's coefficient of the correlation (SAoL – OIT) has the same value as for the correlation (LoE – OIT): r=0.49 so R-sq=0.24, p<0.001, N=103. The correlation (SAoL – TGJT) is weaker but still statistically significant (r=0.27 so R-sq=0.07, p<0.001, N=103).

Length of learning L2 (LoL) and **Instruction type (IT)** showed similar values of correlation to OIT results (r=0.26 so R-sq=0.07, p<0.001, N=103) and even weaker for TGJT (r=0.25 so R-sq=0.06, p<0.001, N=103) and (r=0.15 so R-sq=0.02, p<0.001, N= 103) respectively. The rest of the factors demonstrated much lower values of correlation.

The most significant factors correlating to tests measuring *explicit knowledge,* Untimed Grammaticality Judgement Test (UGJT) and Metalinguistic Knowledge Test (MLT) demonstrated weak correlation with UGJT results and even weaker significance of correlation with MLT. According to Pearson's coefficient of correlation with MLT results, the only factor which was found to be important is *Country of origin* (r=0.49 so R-sq=0.24, p<0.001, N=103).

The correlation with UGJT demonstrated significance of the same factors as for TGJT: LoE, SAoL and LoL (r=0.36 so R-sq=0.13, p <0.001, N=103; r=0.28 so R-sq=0.08, p<0.001, N=103 and r=0.21 so R-sq=0.04, p<0.001, N=103) respectively.

The most significant factors correlating to the test measuring proficiency (attainment of proficiency so far) are: *Length of exposure* (r=0.42 so R-sq =0.18, p<0.001, N=103) and *Starting age of learning* (r=0.34 so R-sq=0.12, p<0.001, N=103).

To double-check these results, factor analysis, using principal component analysis and component matrix, was also conducted to identify the most significant factors influencing subjects' performance on the battery of tests. It produced the results shown in Table 2 below. They are similar to the results for factors correlating to tests measuring implicit knowledge and proficiency test. Most variables load highly on four factors: *Length of exposure*, which explains over 73% of the variance; *Length of learning*, explaining about 64% of the variance; *Starting age*, which explains about 51% of the variance; and *Instruction type*, explaining about 33% of the variance.

The only difference in the factors responsible for the overall variance of results is that *Length of learning* (LoL) replaces *Starting age of learning* (SAoL) in the position of the second significant factor.

Table 2. Total Variance Explained

Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.040	33.670	33.670	4.040	33.670	33.670	3.804	31.699	31.699
2	2.178	18.149	51.819	2.178	18.149	51.819	1.885	15.706	47.405
3	1.524	12.702	64.520	1.524	12.702	64.520	1.633	13.612	61.018
4	1.112	9.270	73.790	1.112	9.270	73.790	1.533	12.773	73.790
5	0.821	6.845	80.636						
6	0.728	6.069	86.704						
7	0.544	4.536	91.240						
8	0.397	3.304	94.545						
9	0.288	2.399	96.944						
10	0.196	1.636	98.580						
11	0.164	1.369	99.949						
12	0.006	0.051	100.000						

Extraction Method: Principal Component Analysis.

As a result of all the evidence shown in Table 1 and Table 2, it can be claimed that the targeted contextual factors do have a statistically significant relationship with learners' performance on tests to measure their implicit language knowledge, explicit language knowledge and their overall ESL /EFL proficiency, although it is not very strong. In summary, the most significant external factors with an impact on the test performance are: length of exposure, starting age of learning, length of learning, and type of instruction.

Figure 1 below demonstrates the results on the five tests, TGJT, OIT, PT, UGJT and MLT, clustered according to the subjects' country of origin. It can clearly be seen that the cluster of Country where English is spoken as a foreign language (CEFL) demonstrates higher scores on all the tests, compared to the cluster of Country where English is used as a second formal language (CEUSL). Nevertheless, some similarity, both in oral imitation test and metalinguistic knowledge test scores can also be noticed.

Native speakers' scores, on the other hand, are much higher, except for the MLT results, which are lower. This was confirmed by the Mean and Standard deviation values, calculated for all the tests according to the participants' country of origin, shown in Table 3 below. For native speakers the mean values are highest for all the tests (TGJT M=65.50, SD=0.71; OIT M=34.50, SD=0.71; PT M=93.50, SD=2.12; UGJT M=65.50, SD=0.71), except for the Metalinguistic test whose values are the lowest (MLT M=2.0, SD=0).

From the other two groups, the scores of the subjects studying English as a foreign language show a closer similarity to the scores of native speakers on all the tests (TGJT M=48.70, SD=11.87; OIT M=15.20, SD=6.71; PT M=61.30, SD=16.87; UGJT

M=50.9, SD=12.63), except for the metalinguistic test, whose values are the highest for the learners of English as a foreign language (MLT M=7.80, SD=3.33).

Compared to the previous two groups, the participants from countries where English is used as a second formal language achieved scores of closer similarity to the second group (countries where English is studied as a foreign language) rather than to the native speakers' ones (TGJT M=39.76, SD=7.47; OIT M=12.33, SD=2.26; PT M=38.13, SD=13.73; MLT M=5.36, SD=1.97; UGJT M=40.78, SD=7.49) on all tests without exception.
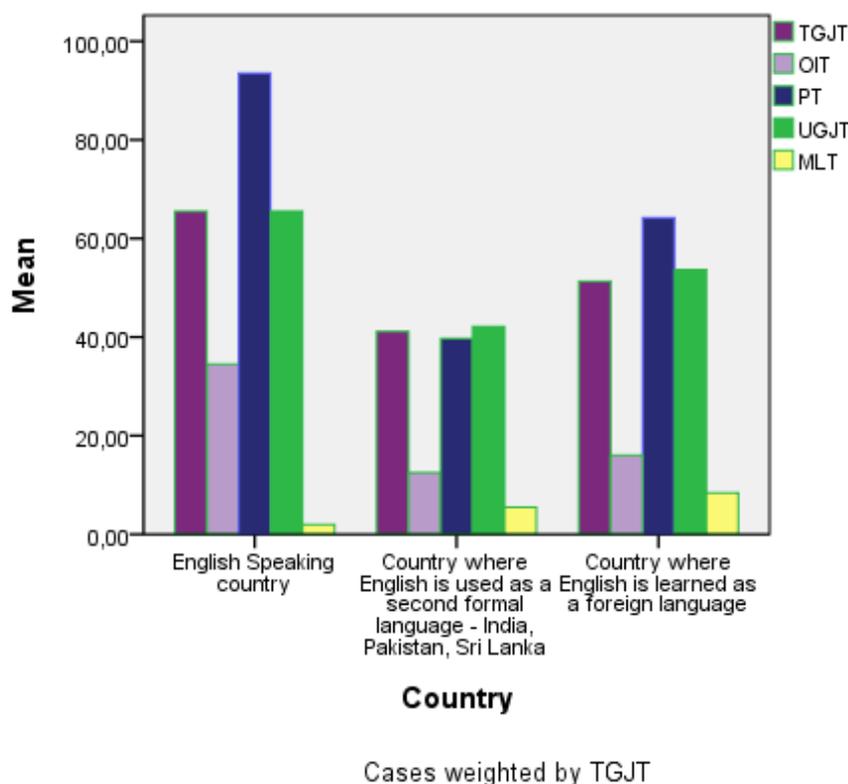

Figure 1. Results on the battery of tests according to the country of origin

The results from the analyses detected statistically significant correlations between the external factors of interest and the participants' results on the battery of tests, though not as strong as it was initially expected. This might be due to the lack of content validity of the battery of tests as participants did not receive any purposeful instruction (teaching) before being tested.

As the results indicated, the most significant factors which have an impact on learners' performance on tests measuring implicit/explicit knowledge and their level of proficiency tend to be the *Length of exposure to L2* in environments where it is used as native and the *Starting age of learning*, followed by *Length of learning* and *Type of input*, which were also found statistically significant. The Factor analysis test showed slightly

different results, which determined length of exposure and length of learning as the most important factors, followed closely by starting age of learning and type of input. In both cases, however, the expected significance of the type of input as one of the main factors influencing L2 learning and attainment in instructed conditions, was not confirmed. This might be due to the imperfection of the testing tools (the tests used in the research) or to the fact that most of the data collected were self-reported (the Background questionnaire).

Discussion

The results of the study confirmed that learners who perform better on tests measuring implicit knowledge also demonstrate higher levels of proficiency. This points to the fact that an L2 is best learned through acquiring implicit knowledge. This also confirmed my belief that learners who have been learning EFL through instructed (classroom) input would show results, similar to each other, regardless of their starting age of learning. It was demonstrated that subjects from countries where English is used as a second formal language cluster in a similar way to subjects from countries where English is learned as a foreign language, according to their performance on the battery of tests. What is more, the latter group demonstrated higher scores on all the tests, compared to the former. To my knowledge, no previous research has investigated or interpreted such a fact; therefore, its interpretation below is only a suggestion which should be studied further. My belief is that there are a few possibilities which would explain the results.

The first is that in countries where English is used as a second formal language there are many more external factors to be considered, such as social and educational background of learners. Students who come from richer and well-educated families receive better tuition in private schools and colleges and use English to communicate at school, at home and with friends, which is a marker of their social status. Learners from not so favourable backgrounds will probably have more limited exposure to L2 and use it less frequently. This might well explain the surprising fact that, despite the early starting age of learning, the final attainment of learners from such countries might differ considerably. Another possibility might be that, at certain stage, L2 learners fossilise and significantly reduce their further progress and development of the target language skills. A third plausible explanation might be the differences in the world versions of English (the variety of "Englishes"). Again, these are just suggestions, which should be confirmed by further research of empirical data.

As for the L2 learners in a foreign language instructed environment, the comparatively high results, demonstrated from the battery of tests, showed that, depending on the length of learning and length of exposure, subjects who have learned English as a foreign language, can actually attain considerably high levels of proficiency. Whether this is as a result of their mainly explicit knowledge, gradually turning into implicit knowledge, as a result of target language exposure; or it shows that the majority of the written tests actually measure explicit knowledge, is a question worth investigating. In both cases, it is a fact that for L2 learners, mostly exposed to instructed input, the length of learning is a factor of significant importance. This is in accordance with the previous research which claims that, in instructed conditions, the process of acquisition requires a substantially longer period of time (Muñoz, 2008). Nevertheless, this research, although it did not intend to, has confirmed well-known beliefs that length of exposure to L2 where it is used as native and starting age of learning are significant factors influencing learners' ultimate attainment in L2 proficiency.

Conclusions

Based on learners' attainment in the battery of tests and the data collected through the Background questionnaire, the study found *length of exposure* and *starting age of learning* to be the most significant factors which have an impact on students' attainment on implicit, explicit knowledge tests and their level of proficiency. It also found *length of learning* and *instruction type* statistically significant.

The main theoretical implications of the results are that the battery of tests and the Background questionnaire used in this study could not confirm that, in instructed conditions, factors such as length of learning and type of instruction have the most significant impact on learners' final attainment. Other, more explicit types of measuring tools might be necessary.

On a methodological level, the methods used to collect primary data might have had some effect on the findings of the research. The measuring tools (the battery of tests and the proficiency test) should further be improved in terms of validity. The background questionnaire appeared to be limited in scope and could not elicit significant information about the type of instruction received in formal (classroom) environment. In order to elicit sufficient data about students' learning experiences,

questions should be more detailed and followed by an individual interview. Other researchers might find the qualitative method more appropriate for investigating the impact of different external factors on learners' final attainment.

The results also indicated a correlation between the attainment on tests measuring implicit knowledge (TGJT and OIT) and learners' proficiency test results. Higher scores on the former correlated with a better level of proficiency. This means that implicit learning or acquisition of implicit knowledge could lead to a better ultimate proficiency attainment.

Cluster analysis found that participants who have learned English as a second formal language group similarly to those who have learned it as a foreign language, according to their performance on the tests. This confirms the fact that in both cases students learn the target L2 in instructed conditions, in which, as proved by previous empirical studies and by the current one, the starting age of learning is not the only or the most significant factor influencing their level of proficiency.

To summarise, studies of macro-contextual factors affecting L2 acquisition is worth researching further as they do have a significant impact on learners' attainment and proficiency level, as the current research has found. Research on SLA in instructed conditions deserves further attention and study as these are the conditions in which the majority of people around the globe learn a second language. Needless to say, the implications can be of significant benefit not only to the better understanding of the process of SLA, but also to teaching methodology and to the improvement of L2 learners' ultimate attainment.

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