ExELL Explorations in English Language and Linguistics

UDC 81'232=111
Original scientific article

Explicit and implicit knowledge with regard to the age of learners

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Abstract

The present study set out to examine learners' explicit and implicit foreign language knowledge with regard to their age. Therefore, two groups of learners from Zenica and Zavidovići (Bosnia and Herzegovina) presented the pool of informants in this study: 100 learners completing eight-year long primary school and 106 learners completing four-year long secondary school. The knowledge of four target structures (indefinite article, modal verbs, noun plural and adverb placement) was measured by means of three different tests: an oral elicited imitation test, a grammaticality judgement test and a metalinguistic test. The results indicate that the level of explicit and implicit knowledge varies with regard to the age of learners.

Key words: explicit knowledge; implicit knowledge; language acquisition.

1. Introduction

One of the most significant current discussions in Second Language Acquisition is how to acquire an L2[1] in the most effective way, whether to use a more explicit or a more implicit approach. The opposing views on the role of instruction are based on different views on the role of two types of linguistic knowledge: implicit and explicit, because implicit instruction leads mostly to the development of implicit knowledge and explicit to the development of explicit knowledge (DeKeyser, 1995, 2003; MacWhinney, 1997). Researchers mostly agree on the importance of the first, as access to it is fast and as it enables learners to communicate spontaneously. But there is some doubt about the possibility of acquiring implicit knowledge in a formal context, due to limited exposure to the target L2. On the other hand, explicit

[1] In this article the term L2 will be mostly used to mean both second language and foreign language although it is important to distinguish between them. L_f is characterised by limited exposure to language input, the same L1 of the learners, and limited number of classes per week, while L2 is a language learners acquire in the country where it is used as a means of public communication, so learners are exposed to it daily, not only in the classroom.

ISSN 2303-4858
1.2 (2013): 166-186

focusing of learners' attention to language forms in formal language learning contexts, intended to replace the exposure to language input, generates the development of explicit knowledge. However, the benefits learners might have of explicit knowledge are questionable, since it is characterised by conscious processes, high levels of awareness, metalinguistic knowledge, intention and slow and difficult access (Ellis, R., 2005).

Although this issue has been investigated for ages many questions are still unanswered. The present study follows the efforts of others (e.g. Bowles 2011; Ellis, R., 2004, 2005, 2009; Erlam 2009) who emphasised the importance of analysing learners' language in terms of both explicit and implicit knowledge of it. The research is conducted in a country where explicit language learning is present since learners are expected to state language rules in addition to being able to use them correctly (Dubravac, 2011). The aim of the present study, therefore, is to evaluate the outcomes of such a process of language acquisition, to examine English language learners' explicit and implicit knowledge at the end of two educational cycles in Bosnia and Herzegovina: primary and secondary.

2. Theoretical background

2.1. *Defining explicit and implicit knowledge*

Different terms have been used to refer to these two types of linguistic knowledge. Some have made a distinction between subconscious and conscious knowledge (Krashen, 1981, 1982), others between practical and technical knowledge (Ellis, R., 1997) or between procedural and declarative knowledge (Anderson 1983). The first term in each pair refers more or less to implicit knowledge and the second to explicit. Although "our state of mind reflects complex dynamic interactions of implicit and explicit knowledge" (Ellis, N., 2005: 313) there are many differences between these two types of knowledge.

Implicit knowledge is intuitive, and although it is highly debatable whether it is absolutely unconsciously acquired, it is much greater than learners' awareness of it (Mathews et al., 1989; Reber, 1989). It is procedural (Anderson, 1983; Bialystok, 1981; Ellis, R., 1994a), i.e. evident only in its use. Most learners are able to use implicit knowledge without being able to state the rules that govern its use, because although implicit knowledge enables learners to produce sentences that can be described by certain rules, it is not the knowledge of rules which allows them to produce language, but the internalised computational procedures (Paradis 1994). Learners acquire implicit knowledge not through internalisation of rules of abstract structures of grammar, but rather by picking up lower-level knowledge about chunks, letter repetitions that are possible in a language. It allows them above-chance performance for which they are claimed to have acquired implicit

knowledge of a certain structure (Schmidt, 1994, 1995; Williams, 2009). However, this is not a generally accepted assumption, since there is still a dispute over the abstractness of implicit knowledge: on the one hand it is considered to be item-specific, and on the other abstract rule-based knowledge.

Although scientists have been in disagreement over the abstractness of implicit knowledge, they agree that accessibility and systematicity are its most plausible characteristics. Implicit knowledge, unlike explicit knowledge, is easily accessed and systematic. Implicit knowledge makes learners confident language users, since they are much more certain in the answers made on the basis of implicit than on the basis of explicit knowledge (Ellis, R., 2005). Another advantage of implicit over explicit knowledge is that it appears to be for everybody, as learners of different individual characteristics in terms of aptitude and intelligence, if exposed to language input, acquire it.

On the other hand some doubt has been cast on the use of explicit knowledge because it is inaccurate, imprecise (Sorace, 1985) and can be accessed only under optimal conditions (Ellis, R., 2004). Krashen, (1982) states that explicit knowledge can be used only when learners have sufficient time, are focused on the form and know the rule. Hu (2002: 374) specifies these conditions, defining them as "the amount of attention to form allowed by the task, the relative prototypicality of the target uses involved, and the level of automaticity attained in processing the relevant knowledge". Bialystok (1981, 1982, 1990, 1991, 1994a) uses the notion of control over knowledge to describe this characteristic, low control meaning access with difficulty. Therefore, although learners are aware of explicit knowledge (Ellis, R., 1997, 2004), as they have intentionally to attend to language structures to learn them, when it comes to actual language use they face many problems. They face problems because explicit knowledge exists independently of its actual use. It can be, in contrast to implicit knowledge, communicated or demonstrated on demand, i.e. it is analysed and explanatory (Berry, 1994; Bialystok, 1981; Ellis, R., 1993, 2004). It is verbalisable because language structures are internalised in the general abstract form (Bialystok, 1981). Yet, explicit knowledge is not to be considered equal to articulated knowledge (Bialystok, 1981). It is important to distinguish between knowledge as the mental representation and the way of articulating it. This has led some researchers to differentiate between analysed and metalinguistic knowledge. While some (Ellis, R., 1994a, 1994b, 1998, 2004, 2006) make this distinction taking into consideration differences between conscious awareness of how an underlying rule works (analysed knowledge) and the knowledge of the technical or semi technical terms used to describe a certain rule (metalinguistic knowledge), others (Faerch et al., 1984; Marton, 1988; both cited in Mohammad, 1995: 54) consider the use of technical terms a relevant factor for distinguishing between analysed and metalinguistic knowledge. In their opinion, learners use analysed knowledge when they are able to describe the rules informally in their own words and they use metalinguistic knowledge when they are able to describe the rules

ISSN 2303-4858
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using appropriate technical terms. In any case, these two types of explicit knowledge, although not the same, are usually closely related because, as Ellis, R. (1994a: 84-85) stated, "metalingual terminology provides the learner with tools that can be used to construct explicit knowledge".

Due to the facts that it exists apart from its use, that it is related to individual characteristics such as aptitude and intelligence (Reber et al., 1991, as cited in Ellis, R., 1998) and that it is accessed with difficulty (Ellis, R., 2002a; Hu, 2002; Krashen, 1982) explicit knowledge is considered to be of limited use. Still, it is not to be totally neglected, as learners can benefit from it. Explicit knowledge can be used as a monitor of own output (Krashen, 1981, 1985; Ellis, N., 2005; Ellis, R., 2002b; Terrell, 1991); to deepen one's awareness of the rules and forms of a language (Swain, 1998); to improve one's performance on some discrete-item tests[2] (Ellis, R. 2002b); to segment the large amount of input (Terrell, 1991); as a mnemonic device to retrieve features of an internal grammar rule which are rarely used (Seliger 1979); and to make the inductive hypothesis testing process more efficient (see Seliger, 1975).

2.2. *Explicit and implicit knowledge with regard to the age of learners*

In addition to aforementioned advantages of explicit knowledge another advantage of this type of linguistic knowledge has been pointed out. Although there are some scholars (Krashen 1981, 1982) who suggest that all learners, irrespective of their age, learn best under implicit condition, researchers mostly agree that implicit instruction and learning are more effective for younger learners and that explicit instruction is beneficial for older learners. DeKeyser (2003) states that somewhere between early childhood and puberty children gradually lose their ability to learn language successfully through implicit mechanisms only - so children learn better, adults faster. Some scientists (Bialystok, 1994b) believe that children are better language learners not because language is best learned in childhood but because categorisation once acquired is difficult to change later. Therefore, it is very difficult for learners whose L1 does not recognise the concepts of tense and aspect to acquire an L2 which recognises it. Others (Bley-Vroman, 1990) believe that the reason why children are better language learners might be that when acquiring a language, children use Universal Grammar[3] and domain specific

[2] A test consisting of tasks such as: multiple choice, fill in the gaps, in which each item is meant to measure one distinct content point. In contrast to integrative testing, discrete-point testing assumes language consists of different parts (grammar, vocabulary, pronunciation) and different skills (listening, reading, speaking and writing) which can be tested separately (Richards and Schmidt, 2002).

[3] The knowledge of the general rules common to all languages that learners are born with. The term Universal Grammar is also used to refer to the theory in linguistics proposed by N. Chomsky, who is

learning procedures (Bley-Vroman, 1990) while adults rely on native language knowledge and a problem solving system.[4] Thus, the reason why older learners rarely experience a naive and successful way of language acquisition might be because they are more wordly-wise (Smith, 1994). Their L2 acquisition is influenced by their L1 knowledge as well as general problem-solving mechanisms they have developed over time, such as distributional analysis, analogy, hypotheses formation and testing (Bley-Vroman, 1990). By using these mechanisms L2 learners make use of explicit instruction.

However, even children seem to benefit from explicit instruction. By analysing immersion education, Harley (1994: 57) concludes that even young learners may benefit from "age-appropriate metalinguistic information that is aimed at a relatively high level of understanding." Later, Harley (1998) studies the effect of instruction in the second grade of immersion primary education, and reaches the conclusion that even for such young learners instruction is effective, but it has to be well integrated with the overall curriculum themes. Hence, explicit learning has an advantage over implicit since it seems to be acquired irrespective of learners' age, while implicit appears possible until learners reach certain age.[5]

Since the present study analyses implicit and explicit knowledge development at the end of primary and secondary school, older, i.e. secondary school learners, are expected to demonstrate greater both explicit and implicit knowledge due to additional four years of learning English. However, taking into consideration aforementioned suggestions a greater disparity would be detected between the level of explicit knowledge at the end of primary and secondary school, since older learners seem to acquire explicit knowledge faster.

usually referred to as the father of modern linguistics. He is the creator of the Universal Grammar theory, according to which there are some properties that are characteristic to all natural human languages.

[4] Children possess a language acquisition system which contains a definition of possible grammar (Universal Grammar) and a way of arriving at a grammar based on available data, i.e. a set of learning procedures. Children seem to have the general cognitive capacity to deal with a language as complicated abstract system. An adult L2 learner does not rely on the Universal Grammar knowledge, but native language can provide him/her partial information about Universal Grammar, and adult L2 learners use general problem solving systems when acquiring L2, which although immensely powerful are not so powerful as Learning procedure designed specifically to construct grammars (Bley-Vroman, 1990).

[5] That is why age can be a good predictor of proficiency for lower- , but not for higher -aptitude learners (DeKeyser, 2000), who may also rely on explicit learning.

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3. The present study

The objectives of the research presented in this article are to determine whether the level of explicit/implicit knowledge varies with regard to the age of learners and whether after additional four years of learning English learners equally improve both types of linguistic knowledge.

3.1. *Methodology*

3.1.1. *Participants*

Participants in this study were 206 learners from Zenica and Zavidovići (Bosnia and Herzegovina). The first group of participants were 100 learners finishing eight-year long primary school (aged 14-15). They all started learning English formally in the fourth grade, so until the moment of testing they had been learning English for 5 years. After finishing primary school learners' foreign language proficiency should be at A2 level (CEF, 2001). The second group of learners (aged 18-19) were 106 learners finishing four-year long secondary school. Seventy two of them were finishing grammar school, and during all four years they had attended three classes of English a week. The remaining thirty four learners were finishing a technical secondary school. The number of English classes a week vary depending on the field the learners are specialising in. Twenty four of them (future electronics technicians, forestry technicians and construction technicians) had attended two classes of English a week during all four years of secondary school, and ten learners (future economics technicians) had attended three classes of English a week during the first three years, but during the fourth they had two classes of English. After completing secondary school, learners are predicted to be at B1+ level (*ibid*.).

The background questionnaire revealed some other interesting information about participants. English appears to be one of their favourite subjects since 86% of primary school learners and 74.5% of secondary school learners stated they liked it. Asked about the way in which they had been acquiring English, most participants stated they had acquired it by both communicating in English and learning language rules (see Figure 1). However, while 17% of primary school learners stated they had acquired English mostly by communicating in it, 33% of secondary school learners stated the same. This leads to the conclusion that secondary school learners are much more involved in communicative activities, which could be related to the fact that secondary school learners are at a higher proficiency level, so it might be much easier to organise such activities with them than with primary school learners.

In addition to learning English at school some participants had attended additional classes. While majority of primary school learners (64%) stated they had

never attended any similar classes, majority of secondary school learners (58.5%) reported they had attended some additional classes of English. What might also contribute to their knowledge of English is the exposure to it via the media. When asked to decide how often they watched programmes in English, most participants from both groups stated they often or sometimes watched those programmes.

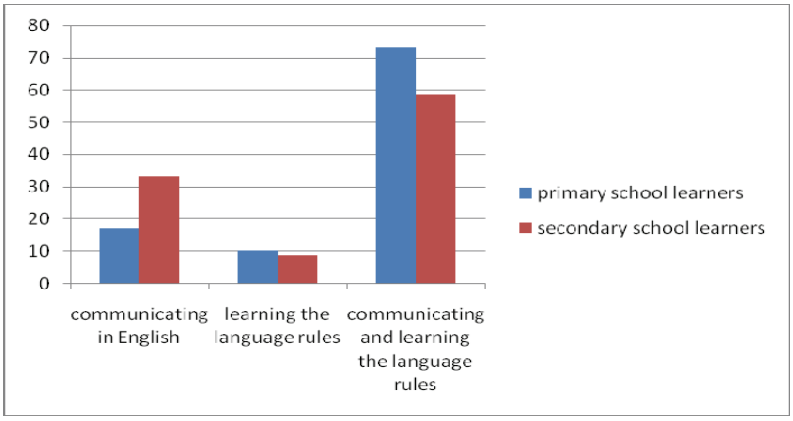

Figure 1. Learners' perception of learning English in primary/secondary school.

3.1.2. *Target structures and instruments*

The present study measured participants' linguistic knowledge of four different target structures: indefinite article, modal verbs, noun plural and adverb position. The knowledge of these structures was measured by three different tests. Implicit knowledge was measured by the Oral Elicited Imitation test (OEIT), which consisted of 24 sentences, half of which were grammatically correct and another half grammatically incorrect. Participants listened to one statement at a time and were told to decide whether they agree or disagree with it, circle their choice on the test sheet and then repeat the statement. Their responses were analysed by identifying obligatory occasions for the use of each target structure. Participants' failure to repeat a sentence at all or the repetition of a sentence changing it so that there is no obligatory context for the use of the target structure was coded as avoidance. Each correctly imitated sentence received a score of 1, while each sentence which participants could not imitate or imitated without using the target structure received a score of 0. Scores were expressed as percentage correct.

Participants' explicit knowledge was measured by the Explicit Knowledge Test (EKT), comprising three parts: correcting the error (The Grammaticality Judge-

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ment Test - GJT), formulating the rules (The Metalinguistic Test, rule explanation part-MLTre) and choosing the violated rule among four offered rules (The Metalinguistic Test, rule recognition part - MLTrr). Hence, in the context of this study, analysed explicit knowledge is defined as conscious awareness of how an underlying rule works and metalinguistic knowledge is defined as the knowledge of technical or semi technical terms used to describe a certain rule (Ellis, 1994a, 1994b, 1998, 2004, 2006).

The GJT consisted of the same sentences as the OEIT, but each was grammatically incorrect. Therefore, the target structure in each sentence was used incorrectly, or another target structure was used in a context which obligatorily requires the use of one of the target structures. There were six sentences containing each target structure. For each adequate correction one point was awarded. In the case of unanswered items or those being inadequately corrected participants were awarded a score of 0. A percentage accuracy score was counted for each participant.

After the correction part, the learners did the MLTre and that was the part in which the task was to formulate the rule violated in each sentence. In this part there were twelve sentences from the previous part, three per each target structure. A part of a sentence containing the mistake was underlined, and participants were asked to provide the rule violated in each sentence. They were also asked to use English, and only if they were unable to explain the rule in English to use their L1. This section was scored on a scale 0-3, with 3 points being given if a learner fully described the rule using English, 2 points if a learner partially described a rule in English, or fully described it but used Bosnian, 1 point was given if a learner had a vague idea about the rule and offered mostly unsatisfactory explanation in English or partially described a rule using Bosnian and 0 if a learner did not describe a rule satisfactorily, or left it unanswered. It was assumed that learners would not be able to describe some rules without using the most essential metalinguistic terminology.

The final section of the MLT was a section in which the same sentences as in the previous section were used, but participants were given four options, and they were asked to choose among four rules the one that best described the rule violated in each sentence. For each correct choice the learners received a score of 1, and for incorrect a score of 0.

The order of tests was the same for all participants. They first took the test measuring implicit knowledge, the OEIT, and then, a week later, the test measuring explicit knowledge, the EKT. The OEIT was administered with each learner individually, and it lasted around 6 minutes per each participant. The order of different sections of the EKT was also the same for all participants. They were first asked to correct the errors, later they were asked to formulate the rules themselves, and then in the end to choose the appropriate rule among four options. The EKT was administered with groups of learners (in this case a group was made of the

learners attending the same class). Participants needed approximately 45 minutes to complete all three parts of the EKT.

The Cronbach alpha coefficients for all tests were calculated and as they all exceed .70 it can be stated that all tests used in the present study are internally consistent (see Table 1).

In addition to the previously mentioned tests participants also completed a background questionnaire intended to reveal some information about their age and attitude to learning English. Because not all participants were very proficient in English, a background questionnaire was given in their L1. All other instruments were in English.

Table 1. Reliability measures for tests

Test	Items	Participants	Reliability
OEIT	24	206	α =.86
EKT	48	206	α =.95
GJT	24	206	α =.92
MLT	24	206	α =.91
MLTre	12	206	α =.91
MLTrr	12	206	α =.79

3.2. *Results*

Table 2 shows both groups of learners demonstrated rather low level of knowledge, since the mean scores on tests measuring both types of knowledge were below 50%. However, when we compare the results of the two groups of participants it is evident that the secondary school learners' scores on all measures exceeded those of the primary school learners. However, both groups found the MLTre the most challenging, and the MLTrr and the GJT the easiest tests. Both groups of learners manifested similar intergroup variance, with the exception of the primary school learners' performance on the GJT, where the standard deviation was higher (SD=31.09).

A closer look at data in Table 2 reveals that the primary school learners' score on the OEIT (M=38.96%) was higher than the score on the EKT (M=36.36%) and the MLT (M=28.98%). However, the secondary school learners' score on the OEIT (46.62%) was lower than the score on the EKT (M=52.25%) and almost similar to the score on the MLT (M=46.48%). Paired samples t-test shows that both primary (see Table 3) and secondary school learners (see Table 4) performed significantly differently on tests measuring different types of linguistic knowledge, except for the primary school learners' performance on the OEIT and EKT ($t(99)=1.544$, $p>.05$)

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and the secondary school learners' performance on the OEIT and MLT ($t(105)=3.620$, $p>.05$).

Table 2. Accuracy scores for all measures by groups.

	Primary school learners (n=100)				Secondary school learners (n=106)			
Test	M	SD	min	max	M	SD	min	max
OEIT	38.58	23.53	0.00	95.83	46.62	21.84	0.00	87.50
EKT	36.36	22.52	0.00	93.06	52.25	21.43	6.94	87.50
GJT	51.12	31.09	0.00	100.00	63.78	24.14	0.00	100.00
MLT	28.98	19.78	0.00	89.58	46.48	22.39	2.08	87.50
MLTre	20.94	21.04	0.00	86.11	39.15	23.73	0.00	86.11
MLTrr	53.08	22.64	0.00	100.00	68.47	23.74	0.00	91.67

A graphic representation of the differences between the primary and secondary school learners' performance on different tests is presented in Figure 2.

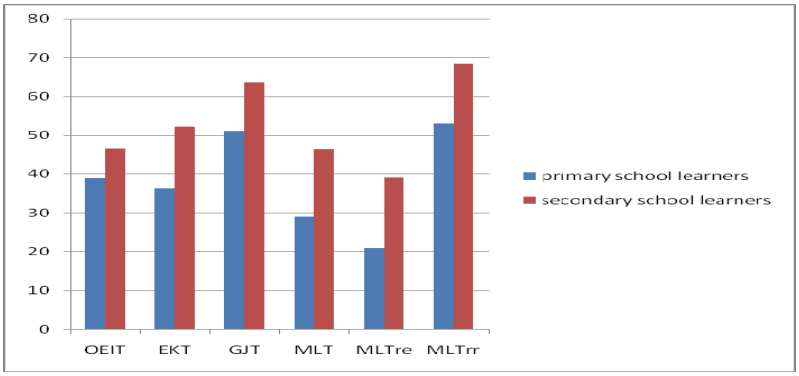

Figure 2. Mean scores for all tests (by groups).

Table 3. Paired samples t-test for the differences in primary school learners' performance on measures of implicit and explicit knowledge.

Pairs of tests	t-value	df	p
OEIT-EKT	1.544	99	.126
OEIT-GJT	-6.315	99	.000
OEIT-MLT	6.381	99	.000
OEIT-MLTre	10.718	99	.000
OEIT-MLTrr	-7.494	99	.000

Table 4. Paired samples t-test for the differences in secondary school learners' performance on measures of implicit and explicit knowledge.

Pairs of tests	t-value	df	p
OEIT-EKT	-3.248	105	.002
OEIT-GJT	-9.985	105	.000
OEIT-MLT	.069	105	.945
OEIT-MLTre	3.620	105	.000
OEIT-MLTrr	-9.213	105	.000

Independent samples t-test (see Table 5) based on the respective scores achieved by the primary and secondary school learners shows that the two groups of participants differed significantly in their performance on all tests included in the study.

Table 5. Independent samples t-test for the differences in performance of primary and secondary school learners on all measures.

Test	df	t-value	p
OEIT	200.580	-2.421	.016
EKT	201.637	-5.183	.000
GJT	204	-3.278	.001
MLT	203.110	-5.957	.000
MLTre	203.228	-5.834	.000
MLTrr	203.966	-4.759	.000

To address the question whether the level of knowledge of different target structures depends on the age of learners the mean scores achieved by the primary and secondary school learners are presented separately in Table 6 and Table 7. It is evident that the mean scores of secondary school learners exceeded those of primary school learners for each structure on each test. However when we analyse the complexity of the four target strucutres, it seems that both groups face similar problems while acquiring them. Both groups found tasks involving adverb placement the most challenging while performing on the OEIT, the EKT and the MLT, while the smallest variations among the scores were observed for the modal verbs.

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Table 6. The primary school learners' mean scores obtained for target structures on different tests (n=100).

		Indefinite article	Modal verbs	Noun plural	Adverb placement
OEIT	M	42.50	44.17	34.83	32.83
	SD	29.62	30.09	31.08	16.99
	min	0.00	0.00	0.00	0.00
	max	100.00	100.00	100.00	100.00
EKT	M	38.72	39.11	36.89	30.72
	SD	23.51	22.42	33.13	19.06
	min	0.00	0.00	0.00	0.00
	max	100.00	100.00	100.00	83.33
GJT	M	49.67	54.83	47.00	53.00
	SD	34.00	32.16	40.44	33.36
	min	0.00	0.00	0.00	0.00
	max	100.00	100.00	100.00	100.00
MLT	M	33.25	31.25	31.83	19.58
	SD	20.77	20.77	31.60	16.60
	min	0.00	0.00	0.00	0.00
	max	100.00	100.00	100.00	75.00
MLTre	M	16.00	21.22	30.11	11.11
	SD	16.96	23.11	33.88	17.23
	min	0.00	0.00	0.00	0.00
	max	75.00	100.00	100.00	66.67
MLTrr	M	69.00	61.33	37.00	45.00
	SD	30.43	30.23	39.04	25.24
	min	0.00	0.00	0.00	0.00
	max	100.00	100.00	100.00	100.00

Table 7. The secondary school learners' mean scores obtained for target structures on different tests (n=106).

		Indefinite article	Modal verbs	Noun plural	Adverb placement
OEIT	M	53.46	51.73	46.38	34.90
	SD	29.52	29.09	29.64	16.51
	min	0.00	0.00	0.00	0.00
	max	100.00	100.00	100.00	100.00
EKT	M	49.84	53.51	59.64	46.02
	SD	20.22	24.85	29.90	20.05
	min	5.56	0.00	0.00	0.00
	max	94.44	100.00	100.00	83.33
GJT	M	57.39	65.57	64.62	67.61
	SD	27.42	26.35	31.76	29.44
	min	0.00	0.00	0.00	0.00
	max	100.00	100.00	100.00	100.00
MLT	M	46.07	47.48	57.15	35.21
	SD	22.22	29.44	32.80	18.23
	min	0.00	0.00	0.00	0.00
	max	100.00	100.00	100.00	75.00
MLTre	M	25.70	38.99	53.67	29.66
	SD	18.23	31.40	36.01	20.04
	min	0.00	0.00	0.00	0.00
	max	75.00	75.00	100.00	88.89
MLTrr	M	81.45	72.96	67.61	51.89
	SD	28.01	33.21	33.64	23.04
	min	0.00	0.00	0.00	0.00
	max	100.00	100.00	100.00	66.67

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To provide a visual representation of the primary and secondary school learners' mean scores, the data from Tables 4 and 5 are presented in Figure 3 below.

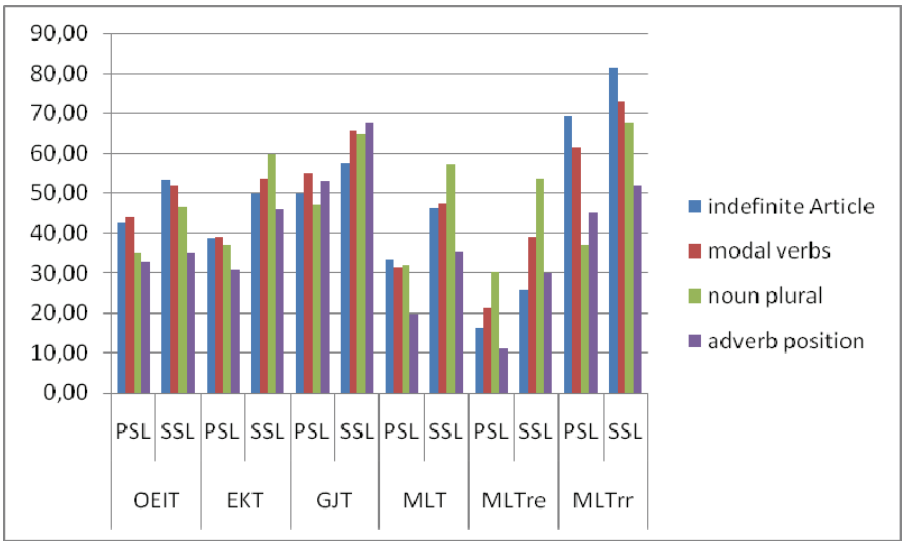

Figure 3. The primary and secondary school learners' mean scores for target structures obtained on different tests (PLS: primary school learners; SSL: secondary school learners)

Independent samples t-test (Table 8) was conducted to see whether the differences between the mean scores of the primary and secondary school learners were statistically significant. The results obtained indicate that the two groups of participants performed significantly differently on all tasks involving different structures on different tests, except on the OEIT tasks involving modal verbs ($t(202.272)=-1.832$, $p>.05$) and adverb placement ($t(202.460)=-.887$, $p>.05$) and on the GJT tasks involving indefinite article ($t(204)=-2.626$, $p>.05$).

Table 8. Independent samples t-test for differences in the performance between the two groups on the OEIT, GJT, MLT tasks including different target structures.

Test and structure	df	t-value	p
OEIT article	203.219	-2.65	.008
OEIT modals	202.272	-1.832	.068
OEITplural -s	201.738	-2.727	.007
OEIT adverb pl.	202.460	-.887	.376
EKTarticle	195.581	-3.630	.000

EKTmodals	203.600	-4.372	.000
EKTplural –s	198.870	-5.165	.000
EKTadverb pl.	203.988	-5.613	.000
GJTarticle	204	-1.799	.073
GJTmodals	204	-2.626	.009
GJTplural -s	204	-3.489	.001
GJTadverb pl.	197.424	-3.325	.001
MLTarticle	203.984	-4.280	.000
MLTmodals	204	-4.549	.000
MLTplural -s	203.916	-5.645	.000
MLTadverb pl.	203.747	-6.443	.000
MLTrearticle	202.902	-4.072	.000
MLTremodals	204	-4.604	.000
MLTreplural -s	203.999	-4.837	.000
MLTreadverb pl.	202.289	-4.837	.000
MLTrrarticle	200.027	-3.049	.003
MLTrrmodals	203.746	-2.629	.009
MLTrrplural -s	195.717	-6.013	.000
MLTrradverb pl.	199.560	-2.042	.042

3.3. *Discussion*

The present study reveals that explicit and implicit knowledge of both primary and secondary school learners fall far short of perfection (see Table 2). This finding is unexpected since all target structures are frequent in the language input learners are exposed to, and all, except adverb placement, are taught very early in primary schools. This might be due to a small number of English classes per week and the fact that although some stated they had attended additional classes of English and most stated they often or sometimes watched TV programmes in English the participants' exposure to English was still very limited.

The age of learners proves to be an important factor influencing the level of implicit and explicit knowledge. Secondary school learners achieved better results on all tests, with the means ranging from 39.15% to 68.47% compared to the primary school learners' mean scores which were in the 20.94 - 53.08% range. The independent samples t-test (Table 5) verifies that the differences between the scores of the two groups are highly significant, with p values ranging from .000 to .016.

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Both groups found formulating grammar rules the most challenging task and recognition of the violated rules the easiest task. Both groups showed the greatest variation of scores on the GJT (primary school learners' SD=31.09; secondary school learners' SD=24.14). However, while primary school learners performed slightly, although not significantly better on the test measuring implicit knowledge, the secondary school learners showed statistically significantly better results on the tests measuring explicit knowledge. A closer look at the performance of both groups on the individual tests measuring explicit knowledge reveals that the reason for that might be the difference between the two groups in their performance on the MLTre. While the primary school learners mean score on this test was 20.94%, the secondary school learners' mean score on the same test was much higher (M=39.15%). The difference between the primary and secondary school learners' performance on the GJT was not so great. Put differently, although the additional four years of learning English contributed to the development of both implicit and explicit knowledge, it especially contributed to the development of explicit knowledge, and to be more precise to the development of explicit metalinguistic knowledge.

This confirms the suggestion that older learners acquire explicit knowledge faster. However, these results also suggest that it is metalinguistic explicit knowledge that secondary school learners seem to improve noticeably. It is not that learners are taught language rules more during secondary school (see Figure 1). They seem, on the contrary, to be more involved in communicative activities than primary school learners. However, it appears that secondary school learners - being at a higher level of cognitive development and being more competent language users - notice, internalise and especially verbalise grammar rules better.

Tables 6 and Table 7 indicate that secondary school learners have better both explicit and implicit knowledge of each target structure[6]. However, the results for the target structures obtained on different tests differed between the two groups of participants (see Table 9). Although the disparity between the two groups is greater on the tests measuring explicit knowledge than on the test measuring implicit knowledge it seems that both groups found the target structures equally complex. This indicates that learners face similar problems while acquiring language structures irrespective of their age. After finishing primary school, learners found adverb placement the most difficult structure. After additional four years of learning English the same structure was the most difficult among four target structures.

[6] For the relationship between structure complexity and explicit/implicit knowledge see Dubravac and Pavičić Takač (2013).

Table 9. The order of structures from the easiest to the most difficult according to the results achieved on different tests.

	Primary school learners	Secondary school learners
OEIT	Modal verbs Indefinite article Plural -s Adverb placement	Indefinite article Modal verbs Plural -s Adverb placement
EKT	Modal verbs Indefinite article Plural -s Adverb placement	Plural –s Modal verbs Indefinite article Adverb placement
GJT	Modal verbs Adverb placement Indefinite article Plural -s	Adverb placement Modal verbs Plural -s Indefinite article
MLT	Indefinite article Plural -s Modal verbs Adverb placement	Plural –s Modal verbs Indefinite article Adverb placement
MLTre	Plural -s Modal verbs Indefinite article Adverb placement	Plural –s Modal verbs Adverb placement Indefinite article
MLTrr	Indefinite article Modal verbs Plural -s Adverb placement	Indefinite article Modal verbs Plural -s Adverb placement

This issue was further analysed by the independent samples T-test (Table 8), the results of which although showing that primary and secondary school learners demonstrated significantly different level of knowledge of most structures, verified that the two groups did not obtain significantly different results on the OEIT parts involving two target structures: modal verbs and adverb placement. On all tests measuring explicit metalinguistic knowledge they performed significantly differently. When it comes to the explicit analysed knowledge the two groups performed differently except on the GJT parts involving indefinite article. This, again, points to the fact that both knowledge types are not equally improved during secondary school, and that it is explicit linguistic knowledge that older learners seem to improve faster.

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4. Conclusions

The present study analyses foreign language knowledge, in terms of both explicit and implicit knowledge of four target structures (indefinite article, modal verbs, noun plural and adverb position) with regard to the age of learners. The participants were a group of learners finishing primary school (aged 14-15), and a group of learners finishing secondary school (aged 18-19).

Although both groups of learners demonstrated low level of linguistic knowledge it can be concluded that the secondary school learners' scores on all tests exceeded those of the primary school learners, the greatest difference being between their performances on the MLTre. Although the additional four years of learning English conduced to better explicit and implicit knowledge it contributed most to the learners' ability to verbalise violated rules. The background questionnaire showed that it is not that learners are taught rules more during secondary school since a greater number of secondary school learners claimed they had been acquiring English through communication only. These results, therefore, provide support for the claim that verbalising rules might really be a relatively late achievement (Sorace, 1985), and that older learners, being at a higher level of cognitive development, verbalise the rules more successfully. Mostly because of the results obtained on the MLTre secondary school learners demonstrated better explicit than implicit knowledge while the primary school learners' implicit knowledge was not significantly different from their explicit knowledge.

However, the results according to which secondary school learners demonstrated especially greater metalinguistic knowledge compared to primary school learners although the development of explicit knowledge appears to be more encouraged during primary school seem conflicting. This might be explained by the influence of learners' age on the development of explicit and implicit knowledge. It has been hypothesised that explicit knowledge seems to be acquired irrespective of learners' age, while implicit appears possible until learners reach certain age. Younger learners, therefore, appear to acquire implicit knowledge better while older learners acquire explicit knowledge faster.

These results, therefore, indicate that during primary school all efforts should be made towards implicit knowledge development and then later on explicit knowledge development might also be encouraged. According to data from the background questionnaire (Figure 1) this does not seem to be the case in Bosnia and Herzegovina. Although further inquiry into the issue of teaching English in Bosnian primary and secondary schools seems to be called for, this study suggests that much more attention should be paid to implicit knowledge development especially when it comes to younger learners, whose ability to acquire this type of linguistic knowledge should not be neglected. More attention should also be paid to learning and teaching English in general, since even though the target structures were those participants had often encountered in language input, and had been at

last partially explicitly informed of, they did not demonstrate great knowledge of them. This finding should be taken into consideration, especially nowadays when English is considered the international lingua franca.

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Received March 1, 2014

Accepted for publication March 18, 2014

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ISSN 2303-4858
1.2 (2013): 166-186