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A Critical Review: Evaluating the Effectiveness of Explicit Instruction on Implicit and Explicit L2 Knowledge

Sami Sulaiman Alsalmi
School of education, University of Bristol, Bristol, United Kingdom

This review discusses Akakura's research study, entitled "valuating the Effectiveness of Explicit Instruction on Implicit and Explicit L2 Knowledge". The argument presented here will be developed by means of a critique of Akakura's study, in turn addressing a summary of the study with the focus placed on the method and statistical techniques, as well as the evaluation of the study. Some explanations will be added to the summary of study to make some points more obvious, specifically those that do not receive enough description in the study. In addition, given that the study is rather broad and includes many situations that are worthy of discussion but that they cannot be covered in a paper, the evaluation will be narrowed down to concentrate on two aspects of the study: measures of implicit knowledge and explicit instructions (treatment stage).

Keywords: explicit instruction, implicit knowledge, explicit knowledge

Summary of the Study

Akakura's (2012) study sought to explore to what extent explicit instruction can develop second-language learners' implicit and explicit knowledge of English articles. Explicit instruction is concerned with "developing a metalinguistic awareness of the target rule" (Ellis, 2009, p. 54). That is, learners are provided with the instruction of the target grammatical rules. Implicit knowledge refers to the procedures comprising "knowledge which can be easily and rapidly accessed in unplanned language use. In contrast, explicit knowledge exists as a declarative fact that can only be accessed through the application of attentional processes" (Ellis, 2009, p. 12). The study claims that research has not enough discussed which measures can best test the spontaneous status of the implicit grammatical knowledge.

The study employs a quasi-experimental design with a pretest/posttest and delayed test model entailing two groups: experimental (N = 49) and the control group (N = 45). In each testing stage, participants were exposed to four measures: elicited imitation task, oral production task (for implicit knowledge), grammaticality judgement task, and metalinguistic knowledge task (for explicit knowledge). A pretest was run first for the two groups, and then the experimental group was exposed to explicit instruction, using computer-assisted language learning, for one week following the pretest. The form/function mappings of articles were explained to participants, and then the participants were provided with form-focused exercises and quizzes. The posttest was administered after the participants completed article lessons achieved by explicit instruction. The delayed posttest was then completed six weeks after the treatment.

Sami Sulaiman Alsalmi, Ph.D. candidate at Bristol University in the UK.

As indicated above, four instruments were employed to measure the two types of knowledge, and a succinct description of each measure is provided below.

Elicited Imitation Task (EIT)

This task required a participant to listen to a storey while looking at a sequence of pictures depicting it. Half the recorded storey contained sentences that are incompatible with the pictures and simultaneously included grammatical (N = 10) and ungrammatical (N = 10) articles. Participants were then asked to decide whether or not these sentences match the picture, and to repeat the statement when they heard a bell sound. The inclusion of picture plausibility of the storey is to ensure that a participant's attention is on meaning and not form. The study does not describe the overall goal of this task. According to literature in the field of implicit knowledge acquisition, the underlying assumption of this task is that if a participant could repeat the statement under time constrains and orally correct the ungrammatical articles spontaneously, it would imply that the participant had internalized the target articles.

Oral Production Task (OPT)

In this task, participants were required to narrate the identical storey that they had been exposed to in ELT but in their own words. It was hypothesized by the authors that that using the identical pictures could minimize cognitive load during performance and raise the possibility of language complexity. Participants, furthermore, were required to think that their audiences were children. The authors hypothesized that this technique can reduce the likelihood of reliance on hearer knowledge and hence the definite article was excessively used.

Grammaticality Judgement Task (GJT)

Participants in this task were asked to grammatically judge the underlined portions of sentences. The judgement scale was created as a confidence measure requiring coding such as: 1) correct, 2) probably correct, 3) probably incorrect, and 4) incorrect. Although such a task allows a participant to process the sentence for its form, time-constraint is hypothesized to stimulate a participant to access implicit knowledge. That is, the likelihood of the participant re-examining and monitoring the response is heavily reduced and that of intuitive linguistic judgement is raised, indicating a high degree of automaticity of the implicit knowledge.

Metalinguistic Knowledge Task (MKT)

Participants were required to correct 10 sentences and each sentence included an article error that was underlined (N = 10). Next, participants were required to give written explanations for the ungrammatical articles (N = 5). Participants were provided unlimited time to complete the task, and conducted two practice items prior to commencing. Responses were scored as either correct (1 point) or incorrect (0 points).

As has already been described, the participants of experimental and control groups were exposed to each measure three times (pretest, posttest, and delayed test). To find out if the explicit instruction exerted an influence on implicit and explicit knowledge, the mean of the observed data in each measure was calculated to explore the extent to which the mean of (ex. EIT) in the pretest was statistically different from the posttest and delayed test and different between the two groups. A statistical test in this case should be employed to test the strength of mean differences between the three testing stages within one group and between the two groups. One-way ANOVA, thus, was the appropriate technique to employ in this case.

The study provided a detailed and complex description of statistical data; for instance, the observed data of each measure in each group (experimental and control) was divided into four sections: non-generic articles,

generic articles, grammatical articles, and ungrammatical articles. Descriptive statistics were also calculated for each section. The author has sought to reorganize part of the observed data of one measure in a way that gives a patent representative sample of the results.

Table 1
Elicited Imitation Task (Sample)

20 articles	Experimental group				Control group		
	M	SD	N	D	M	SD	N
Pretest	10.29	3.202	49	-0.20	10.96	3.567	45
Posttest	13.80	2.993	49	0.79	11.14	3.690	45
Delayed test	14.98	3.058	49	1.37	10.64	3.276	45

The output presented above shows that the scores generally increased over both posttest and delayed test in the Experimental Group, which outperformed the control group. ANOVA was computed to test the mean differences of the three testing stages of the elicited imitation task between the two groups. A statistical difference was found in the posttest ($F(1,92) = 14.866$, $p = 0.000$) with an increase in the delayed test ($F(1,92) = 44.023$, $p = 0.000$). The results elucidated, based on the measure "EIT", that implicit knowledge can be promoted by explicit instruction.

ANOVA was also computed for the other tasks and revealed that there is no significant difference between groups in the posttest of OPT ($F(1,92) = 1.609$, $p = 0.208$), but there was a significant difference in the delayed task ($F(1,92) = 5.161$, $p = 0.025$). It also offered no significant difference between the groups in the posttest of GJT ($F(1,92) = 3.496$, $p = 0.065$). However, it revealed a significant difference in the delayed test ($F(1,92) = 4.457$, $p = 0.037$). Finally, ANOVA showed a significant difference between the groups in the posttest of MKT ($F(1,92) = 28.787$, $p = 0.000$). This was sustained in the delayed test ($F(1,92) = 27.344$, $p = 0.000$). *(In statistics, a p-value can never be exactly zero, but the zero here was reported based on SPSS output.)*

The overall findings suggest that implicit and explicit knowledge can be developed as a result of explicit instruction. In addition, the study demonstrated that the measures of implicit and explicit grammatical knowledge can be reasonably separate. The two measures of implicit knowledge required time constraints and a focus placed on the meaning. The other measures of explicit knowledge did not entail time pressure and a focus placed on form *(greater discussion will be presented under "critique of the study").*

Critique of the Study

As suggested in the introduction, the author is going to present a concise critical discussion of measures of implicit knowledge and explicit instruction. The former was selected because one of the biggest challenges in psycholinguistics-based research is how best to assess the spontaneous level of acquired language (implicit knowledge). The latter was chosen because it is the independent variable upon which the change in the dependent variables (explicit and implicit knowledge) occurs.

Measuring implicit knowledge entails more cautious treatment to ensure that it accurately assesses the unconscious status of specific acquired structures, unlike explicit knowledge. Historically, oral production task has been employed to measure implicit knowledge, and although it supplies an amount of natural speech, it lacks the accurate elicitation of the spontaneous use of a specific language structure (Ellis, 2009). Put differently, it might give the learner a chance to use his/her explicit knowledge (to plan and monitor their

responses) rather than to test the spontaneous, contextualized use of a specific structure. This appears in Akakura's study, where the oral production task reflected the difficulty of generating the specific articles. Thus, we find that the impact of explicit instruction was evident only in the delayed test, although the effect was supposed to appear in the posttest.

The elicited imitation test task has been later developed (more description of this task is provided under The Summary of the Study), but some threats have appeared that might potentially affect the validity level of the EIT. Studies have revealed that an L2 learner's attention could be turned to the *form* of the sentence rather than the meaning. Other studies have also elucidated that L2 learners imitate the stimulus statement by rote (Erlam, Loewen, & Philp, 2009); they repeat the statement verbatim without understanding the stimulus sentence. Akakura's (2012) research study could achieve a pioneering success in enhancing the control of these two limitations to provide a higher level of validity. The picture plausibility is employed in the task to make a participant's attention focus on meaning rather than on form. In addition, it provides a chance for delaying repetition so that participants do not repeat the sentence verbatim. In Rebuschat and William's (2012) study, semi-artificial grammar is used and participants are required to listen to statements on an item-by-item basis, to judge the plausibility of the semantics of the stimulus statement, and then to repeat the statement. In Erlam, Loewen, and Philp's (2009) study, the statements are designed to enable the subjects to decide whether they agree with, disagree with, or do not comprehend a statement. However, a storey-based elicited imitation test had not been previously employed to measure implicit knowledge, and it is considered, to my knowledge, that its first use was in the Akakura (2012) study.

When a deeper scrutiny is applied to measures of implicit knowledge, we explore that the EIT includes a choice that can increase the level of internal validity, such as the choice *not sure* (if the sentence fits with the picture). This is because, if some participants guessed the option correctly more by luck than by judgement, it is expected that they would not correctly guess during the posttest or delayed-test phase, and then that they would obtain a low score. This threat, statistically, implies that the scores in the distribution regress to the mean as a result of guesswork, not of the explicit instruction itself (Gravetter & Forzano, 2011).

The oral production test, as indicated above, might fail to bolster the rigour of the measure of implicit knowledge, and, additionally, it could be influenced by the tutors' personal prejudices, resulting in a low level of reliability. For instance, some tutors might lose control or their confidence when they are assessing enormous amounts of free natural speech, and, accordingly, they might be inclined to give participants scores in the middle range to ward off severe errors (Morgan, Dunn, Parry, & O'Reilly, 2003). The study further failed to provide a patent description of how the oral production test is achieved and how the data are gathered in a numerical pattern.

However, at the treatment stage of the study procedure, the study does not exactly elucidate the role of the researcher—for example, regarding who has taught the participants, the researcher himself or another hired tutor. In addition, the treatment stage is confined to only one learning condition. Other learning conditions of explicit instruction are not addressed in the study. Snobul and Schmitt (2013), for instance, employed three learning conditions—enriched input, enhanced input, and decontextualized input—to evaluate under which conditions both adult native speakers and advanced non-native speakers of English acquire collocations. Tagarelli, Mota and Rebuschat (2015) used two conditions: implicit and explicit input. In the implicit learning condition, subjects were aware of neither the underlying goal of the experiment nor the target knowledge that would be learned or tested. The explicit learning condition is similar to the condition employed in Akakura's

(2012) study, where participants were aware of what knowledge they would acquire. The author considers that the Akakura (2012) study could be enhanced if more learning conditions were included to determine which implicit knowledge and explicit knowledge of English articles might best be developed.

In summary, the study succeeded in bolstering control of the limitations of EIT, in clearly describing the instruction process and in employing the appropriate statistical test (ANOVA). Nonetheless, some threats in the study need to be reduced by a more careful treatment related to validity and reliability, such as guesswork and an oral production task. Some further directions have been suggested to improve the treatment stage, such as employing more than one learning condition in the treatment stage.

Finally, the method used has many crucial implications, and the most promising one appears to be pedagogy. For instance, when an L2 learner obtains a high score in grammar, this does not imply that the learner has externalized the target rule and thus can use it spontaneously and in unplanned language use. Rather, it shows how well a learner might apply the rule in a context in which close analysis of text is involved. Therefore, policy makers in education should be aware of the learning conditions that enhance not only explicit knowledge but also implicit knowledge, which is considered the chief aim of language learning.

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