METALANGUAGE AWARENESS AND ITS IMPACT ON TEACHERS' WRITTEN OUTPUT

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Abstract
The present study sought to examine the impact of teacher metalanguage awareness on their writing performance with respect to two dimensions of syntactic accuracy and complexity. All 40 pre-service teacher participants were randomly divided into either experimental or control group. A pre-test was administered to gain the necessary background knowledge on teacher participants' subject-matter knowledge in writing skill. To measure the two groups' performance on their written output, a post-test followed the ten-session explicit instruction on the established areas. Using a range of measures, the obtained findings revealed significant differences between the two groups in terms of syntactic accuracy and complexity. The findings suggest that teacher metalanguage awareness can be developed through various strategies, and its incorporation in teacher language education programs should be considered as a principle goal.

Key Words: Teacher Metalanguage Awareness, Accuracy, Complexity.

INTRODUCTION

Over the past two decades, Language Awareness (LA) has become a burgeoning area of educational enquiry. A number of studies (e.g., Berry, 2009; Henry & Roseberry, 1999; Hu, 2002, 2011; Jessner, 2005; Masny, 1997; Robinson, 2005; Roehr, 2007; and White & Ranta, 2002) have made an effort to investigate the role of the concept in first and second language (L2) learning contexts and its impacts on learners' language performance. In tandem, recent years have witnessed various attempts by practitioners, theorists, and researchers to characterize how LA affects teacher behavior. This recent interest has attracted the attention of few researchers (e.g., Andrews, 2003, 2006, 2007; Berry, 2004, 2014; Borg, 2011; and Svalberg, 2007, 2012) to further investigate Teacher Language Awareness (TLA).

TLA, to be more specific, is a sub-field of teacher knowledge (Andrews, 2003) which explores the teachers' knowledge about language systems. Andrews further argues that not only implicit and explicit language knowledge are a prerequisite for a particular language teacher but she also needs to “reflect upon that knowledge and ability, and upon her knowledge of the underlying systems of the language, in order to ensure that her students receive maximally useful input for learning” (1999b, p. 163).

Thornbury (1997), a prominent scholar in TLA, provides a rather thorough definition of the concept which is more relevant to TLA in L2 education: “the knowledge that teachers have of the underlying systems of the language that enables them to teach effectively” (p. X). This view, accordingly, suggests that TLA is essentially
concerned with subject-matter knowledge and its impact upon teaching. The definition further implies that the relationship between teachers’ subject-matter knowledge and their classroom teaching tend to be a complex one and that mere subject-matter knowledge cannot guarantee the effective and successful application of TLA in pedagogy (Andrews, 2007).

Wright (2002), furthermore, argues that “a linguistically aware teacher not only understands how language works, but understands the student’s struggle with language and is sensitive to errors and other interlanguage features” (p. 115). In the same vein, Andrews (2003) argues that the TLA has a number of defining characteristics: a) TLA involves both knowledge of subject-matter (knowledge about language) and language proficiency (knowledge of language); 2) the LA of the teacher is metacognitive in nature. It involves an extra cognitive aspect of reflections upon both knowledge of language and knowledge about language, and 3) TLA embraces an awareness of language from the learners' perspective and her developing interlanguage and an awareness of the degree to which the language content of lessons cause difficulties for learners.

Although Andrews (2001) argues that “TLA is an area of perennial concern to language teacher educators” (p. 88), there have been only a few studies to explore its effect in TLE. The studies range from the role of TLA in grammar (e.g., Berry, 2004; Elder, Erlam & Philp, 2007; Hislam & Cajkler, 2005; Shuib, 2009) and teacher cognition (e.g., Andrews, 2006; Borg, 2003a) to its effect in foreign language learning (e.g., Soon, 2008) and English metalinguistic terms (e.g., Lan, 2011).

Andrews (1999a) investigated TMA in relation to grammar with four groups of teachers whose explicit knowledge of grammar and grammatical terminology were explored through a test with four tasks (recognition, production, correction, and explanation tasks). The results revealed that the local English teachers outperformed other groups in the correction task, and their mean score in the recognition task was higher than that in the production task. They were, however, weak in the explanation task. Comparing the four groups’ performances, Andrews (1999a) suggested that knowledge of grammar and grammatical terminology were affected through such factors as teaching experience and study background.

Andrews (2006), adopting Borg’s (2003a) definition of cognition, conducted a follow-up investigation of his 1999 study with three of the teacher participants. The study focused on L2 teachers’ subject-matter cognitions (i.e., TLA) in relation to grammar. The obtained findings suggested that the teachers’ TLA and their cognition about grammar had not differed significantly. The absence of large change in teachers’ TLA about grammar implied that teaching experience does not essentially ensure a higher degree of confidence in using metalanguage.

Following this line of inquiry, Andrews and McNeill (2005) investigated teachers’ grammatical and vocabulary awareness. Studying the notion of ‘Good Language Teacher©, they asked teachers to complete language awareness tasks on grammar and vocabulary metalanguage. With respect to grammar tasks, the three teacher participants gained the highest and lowest scores in the correction and explanation tasks respectively. In terms of vocabulary tasks, two of the teachers performed the worst in the explanation task; however, all three teachers gained the highest score in the correction task. With respect to recognition and production tasks, there was some variation among the participants.

In another investigation on teachers’ awareness of English vocabulary, McNeill and Lai (2008) administered two sets of pre/ post-vocabulary awareness tests to teacher participants. The two tests aimed at exploring TLA in terms of vocabulary awareness (e.g., word structure & lexical relations) and vocabulary-related error awareness (correction & explanation of lexical errors). The findings revealed that the teacher participants’ performance improved in the post-test on vocabulary awareness whereas there was not a significant difference in their performance on the post-error awareness test.

It is, hence, safe to argue that the role of TLA in the writing proficiency and its impact on teacher participants’ writing performance have not been investigated in the field. To the best of our knowledge, no empirical study has addressed TLA in relation to teachers' written output. However, quite a number of studies (e.g., Kormos, 2011; Larsen-Freeman, 2006; Ojima, 2006; Ong & Zhang, 2010) have investigated writing proficiency in terms
of syntactic accuracy and complexity in relation to other variables (e.g., concept planning, task complexity, and group work) and their impacts on learners’ behavior. Since one of the concerns in this study is towards the teachers’ knowledge of writing proficiency in terms of syntactic accuracy and complexity, a review of some related literature appears relevant for better understanding.

Johnson, Mercado, and Acevedo (2012) explored a large group of Spanish-speaking learners’ written performance in terms of writing fluency, grammatical complexity, and lexical complexity under pre-task planning conditions. Pre-task planning condition was found to have a small significant effect on writing fluency, whereas its impact on lexical complexity and grammatical complexity was insignificant. In a study conducted by Shang (2007), he made an attempt to measure the learners’ writing performance in three aspects of syntactic complexity, grammatical accuracy and lexical density through e-mail application and its impact on 40 EFL Taiwanese students, employing qualitative and quantitative methods. Improvements on syntactic complexity and grammatical accuracy were observed in students’ written output; however, with respect to lexical density, the results did not demonstrate any improvements.

Ojima (2006), in a similar attempt, examined three Japanese students’ writing performance to explore the effect of concept planning (as a resource-dispersing factor and as a form of pre-task planning) on their learning. The results indicated that while pre-task planning triggered greater fluency and complexity, grammatical accuracy did not improve. Following this line of inquiry, Wigglesworth and Storch (2009) conducted a study in order to determine whether pair and individual working produced any identifiable differences in the learners’ essays. The essays were analyzed for fluency, complexity, and accuracy. Their findings revealed that collaboration had a positive effect on accuracy, but did not affect fluency and complexity of language production.

To investigate the effect of task complexity on linguistic and discourse features of narrative writing performance, Kormos (2011) reported that FL participants produced more lexically complex texts. In addition, the findings indicated significant differences between L1 and FL narratives in terms of lexical variety, complexity, and syntactic complexity. Sadeghi and Mosalli (2013), following Kuikn and Vedder (2008) and Ishikawa (2006), examined the influence of manipulating task complexity on learners’ lexical complexity, fluency, grammatical accuracy, and syntactic complexity in writing an argumentative essay. The findings indicated that increasing task complexity: 1) did not result in differences in lexical complexity, but it did lead to significant differences when mean segmental type-token ratio was used to measure lexical complexity; 2) produced significantly less fluent language; 3) led to more grammatically accurate language in the least complex task; and 4) demonstrated significant difference in syntactic complexity.

Obviously, to investigate the role of TLA in L2/foreign language contexts and its effects on teachers’ behavior, much effort has to be exercised in the field. The studies conducted mainly focused on the role of TLA in grammar. It appears that, the relationship between TLA writing skill needs to be empirically studied for further insights in an EFL setting. The present study, therefore, attempts to examine metalanguage awareness (MA) in relation to writing and its impacts on pre-service teachers’ performance with respect to accuracy and complexity. More specifically, the present study was set to address the following research questions and hypotheses:

R.Q1. Does MA influence the syntactic accuracy of Iranian pre-service teachers' writing performance?
R.Q2. Does MA impact the syntactic complexity of Iranian pre-service teachers' written output?

METHOD

Participants
In this study, 40 pre-service novice English teachers participated from Novin English language institute in Tabriz, Iran. They were B.A graduates in English language teaching major from Iranian universities. The participants had no prior teaching experience. The teacher participants were randomly assigned as experimental and control groups (20 novice teachers per each group). The former received training in grammar, vocabulary, and techniques of essay writing; however, the latter received no training as treatment.
Instruments

Pre-test
To ensure the homogeneity of novice pre-service teachers, a pre-test was administered to both groups of the study prior to the treatment. An argumentative topic selected from TOEFL iBT sample was given to the participants to plan, write, and revise a 250-word essay within 50 minutes. The reason for this selection was that an argumentative task is a cognitively-demanding task and is commonly used for academic writings.

Treatment Course
Following pre-test, adequate knowledge about the teachers' proficiency in writing skill and their strengths and weaknesses in related areas of writing were detected. An attempt, therefore, was made to assist the teachers to improve the quality of their written output through education. For this to happen, the participants in the experimental group received ten sessions of treatment immediately after the pretest. The course included training in grammar (e.g., subject-verb agreement, adjective & noun clauses, parallel structure, verb tenses, conditionals, and conjunctions) for five sessions and another five sessions for writing skill (e.g., essay types, stages & techniques of essay writing, writing mechanics, and essay organization). To accomplish the objectives of the study and a higher quality of writing performance, a further attempt was made to incorporate interactive activities and tasks for teaching grammar and writing skill. The participants, however, did not receive any direct treatment on vocabulary. Two advanced vocabulary textbooks were introduced for self-study, and necessary recommendations were offered for better learning and retention of newly learned words. The treatment sessions continued for ten days within two weeks. No treatment and training were given to the control group in the afore-mentioned areas and on their pre-test performance.

Post-test
To compare the two groups' writing performance and the effectiveness of the treatment on experimental group, a post-test similar to the pre-test was administered to both groups of the study. A newly assigned topic, however, required the participants to plan, write, and revise an argumentative essay within 50 minutes. To ensure the effect of metalanguage awareness on teachers writing performance, the participants did not receive any assistance or guidance during the test.

Procedure
To achieve the objectives of the study, we followed four stages during the research. The participants, initially, were randomly assigned to two groups of the study, namely, experimental and control groups. To commence the first stage (week one) and ensure the participants' homogeneity in their written performance, a pre-test was administered to both groups of the study. After collecting the first set of data, the researchers examined the participants' written essays to identify the teachers' poor areas of written output on which the education program was based. Following this, the experimental group was required to attend the planned TLE program to receive necessary education on grammar, writing skill, and vocabulary expansion strategies. To initiate the second phase of the study, the experimental group attended a ten-session TLE program in the following week. The first and second five sessions were devoted to grammar and writing instructions respectively. Every attempt was made to equip the teacher participants with the necessary knowledge on grammar and essay writing to make them metalinguistically aware on the language. In the third stage of the research, a similar writing task was administered as the post-test with new argumentative topic to two groups of the study. The post-test was aimed at comparing the influence of explicit teacher education program on teachers' MA and their written performance. As the final stage, teachers' essays were quantified in order to measure the influence of MA on the teachers' written output in the pre/post-tests and compare its impact with the teachers' performance in the control group. The measurement of teachers' written output is explained in detail below.

Measurement
In this study, we included the two dimensions of syntactic accuracy and complexity to measure the teacher participants' written output. To achieve this, all teachers' written outputs were coded for T-units. A T-unit is an
independent clause along with all subordinate clauses attached to or embedded in it (Ramirez, 2000), and it may be simple or complex sentence (Long, 1991; Kern, 1995).

Syntactic accuracy (SA): Wolfe-Quintero, Inagaki, & Kim (1998) define accuracy as the degree of divergence from a particular norm which can be conceived of as errors. To measure this, the number of errors per T-unit was employed for further analysis. That is, first, we counted the number of errors and then we divided the number of errors to the number of T-units. To be more specific, errors in word order and missing elements or errors of morphology such as errors in use of articles and prepositions, verb tense, subject-verb agreement were included in the measurement. In this measure, the lower the number, the higher the grammatical accuracy would be.

Syntactic complexity (SC): To measure this, the number of dependent clauses per T-unit was used in this study (Wolfe-Quintero et al., 1998). To calculate this, the number of embedded clauses was initially counted, and then the total number of all embedded clauses was divided to the number of T-units. Following Humphrey, Droga, & Feez (2012), embedded clauses included defining relative clauses, interrupting clauses, and non-finite clauses. Therefore, the higher the number, the higher the syntactic complexity would be.

FINDINGS

Following the data collection, the pre-service teachers' performances on the pre-test and post-test were then submitted to statistical analyses which included four different Independent Samples t-tests. The participants' written outputs were measured with respect to two dimensions of syntactic accuracy and complexity through an argumentative essay. The following section explains the findings in detail.

Teachers' MA and their written performance in the pre-test

In order to check the comparability of the two groups in terms of syntactic accuracy and complexity, two independent samples t-test were run with the alpha set at 0.05. Table 1 depicts descriptive statistics and the results of the independent samples t-tests. As indicated in Table 1, there was no statistically significant difference between the two groups in terms of accuracy and complexity. It can be, therefore, argued that the two groups of the study were homogeneous with respect to two dimensions of written output.

Table 1: Descriptive Statistics And Independent Samples t-Test For The Pre-test Scores

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>N</th>
<th>Std.</th>
<th>t</th>
<th>df.</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The pre-test SA</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control group</td>
<td>0.60</td>
<td>20</td>
<td>0.1507</td>
<td>0.181</td>
<td>38</td>
<td>0.85</td>
</tr>
<tr>
<td>Experimental group</td>
<td>0.62</td>
<td>20</td>
<td>0.2692</td>
<td>0.181</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>The pre-test SC</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control group</td>
<td>0.53</td>
<td>20</td>
<td>0.095</td>
<td>0.86</td>
<td>38</td>
<td>0.39</td>
</tr>
<tr>
<td>Experimental group</td>
<td>0.57</td>
<td>20</td>
<td>0.1621</td>
<td>0.86</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TMA and SA

To answer the first research question: Does MA influence the SA of Iranian pre-service teachers' written output? an Independent Samples t-test was run to see whether there are any statistically significant differences between the two teacher groups in terms of SA. Table 2 illustrates the results of the t-test.
Table 2: Descriptive Statistics And Independent Samples t-Test For The Posttest SA Scores

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>N</th>
<th>Std.</th>
<th>t</th>
<th>df.</th>
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</tr>
</thead>
<tbody>
<tr>
<td>The post-test SA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control group</td>
<td>0.54</td>
<td>20</td>
<td>0.1432</td>
<td>-3.593</td>
<td>38</td>
<td>0.001</td>
</tr>
<tr>
<td>Experimental group</td>
<td>0.37</td>
<td>20</td>
<td>0.1436</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

The obtained results, as illustrated in Table 2, indicated that there was statistically significant difference between the two teacher groups for the measure of SA ($p < .05$). In the case of SA, the lower the number, the higher the SA. Therefore, the experimental pre-service teachers outperformed the control group in terms of SA.

**TMA and SC**

The second research question addressed the effect of MA on the SC of pre-service teachers’ written performance. The post-test SC indices were also submitted to an Independent Samples $t$-test; table 3 presents the obtained results.

Table 3: Descriptive Statistics And Independent Samples t-Test For The Posttest SC Scores

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>N</th>
<th>Std.</th>
<th>t</th>
<th>df.</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The post-test SC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control group</td>
<td>10.5</td>
<td>20</td>
<td>0.1324</td>
<td>2.206</td>
<td>38</td>
<td>0.033</td>
</tr>
<tr>
<td>Experimental group</td>
<td>0.61</td>
<td>20</td>
<td>0.1384</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

The results of Independent Samples $t$-test for SC indicated that there was also a significant difference between the two teacher groups in terms of SC ($p < .05$). The mean score for the control and experimental groups are 0.51 and 0.61 respectively. With respect to SC, the higher the score, the higher the SC. Therefore, the results suggested that the teachers in the experimental group outperformed those in the control group with a significant difference.

**DISCUSSION AND CONCLUSION**

The present study sought to examine the impact of MA on pre-service teachers’ written performance with respect to two dimensions of SA and SC in an EFL setting. The underlying rationale is that making teachers linguistically aware equips the language teachers with the underlying systems of that language and, consequently, enables them to teach effectively. As White (2002) argues, TLA is more than simply awareness-raising; it is a process that aims to create and develop connections between subject-matter knowledge and classroom activity. It is safe to argue that not only doing LA is a strategy to make teachers reflective about language but also LA must be a principle goal of LTE.

Using a range of measures, the researchers found some evidence that MA does have an impact on teachers’ linguistic behavior. This lends support to the previous studies on TLA conducted by Andrews (2003, 2006), Lan (2011), and McNeill and Lai (2008). This implies that a linguistically aware teacher not only understands the underlying system of the language but also it enables teachers to become a reflective language user.

The first research question, in this study, addressed the influence of SA on pre-service teachers’ writing performance. The findings converge with those of Sadeghi and Mosalli (2013), Shang (2007), and Wigglesworth and Storch (2009). This implies that providing teachers with necessary linguistic knowledge can develop their awareness of the underlying system of the language and, hence, improve the accuracy of their written output.

The second research question addressed the impact of MA on the SC of pre-service teachers’ written output. The obtained results revealed significant statistical differences in terms of SC. Regarding SC dimension, the
findings of this study are in line with those of Kormos (2011), Ojima (2006), Sadeghi and Mosalli (2013), and Shang (2007) who observed a significant difference in the participants’ writing performance; however, the results are not consistent with those of Johnson, Mercado, and Acevedo (2012) and Wigglesworth and Storch (2009).

To sum up, the obtained findings demonstrated that metalanguage awareness does affect pre-service teachers’ SA and SC. Furthermore, the findings suggest that LA is an indispensable aspect of each teacher’s subject-matter knowledge and teaching process which can be raised and developed through various awareness-raising activities. Incorporating TLA in LTE programs, however, does not resolve all linguistic and pedagogical issues in teacher education.

WJEIS’s Note: This article was presented at World Conference on Educational and Instructional Studies - WCEIS, 06-08 November, 2014, Antalya-Turkey and was selected for publication for Volume 4 Number 4 of WJEIS 2014 by WJEIS Scientific Committee.

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