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A Comparative Analysis of Language Teachers' and Learners' Preferences for Thinking Styles in EFL Classrooms

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ABSTRACT

Building on the assumption that a perfect match between teachers' preferences on learners' thinking styles and learners' own preferences would lead to fruitful learning and teaching experiences in a language classroom, this study aimed to investigate the patterns of the relationship between learners' thinking styles and teachers' preferences for those styles. As a descriptive correlational survey, the study was carried out in an EFL setting with two groups of participants (learners and teachers) from a public university in Turkey. The data were collected through two scales derived from the same tool and analysed through descriptive and inferential statistics. The major result indicated a highly similar pattern of preferences for thinking styles between teachers and learners and both groups were predominantly oriented to legislative style of thinking. Additionally, neither age nor teaching experience created any statistically significant differences in teachers' preferences. Also, there were not any significant correlations between teachers' performance in the TOEFL and their preferences. Similarly, no significant correlations were detected between learners' test scores in the proficiency exam and their thinking styles.

Learners' thinking styles, being a focal area of interest in educational research for a long time, is a significant issue that reflects individuals' intellectual functioning and mental government during a learning process, which in turn exerts possible influences on teachers' teaching approaches and strategies. However, there is another matter that requires as much attention as learners' thinking styles in this framework. That is teachers' preferences for their learners' thinking styles. Building on the assumption that a perfect match between teachers' preferences on learners' thinking styles and learners' own preferences would lead to fruitful learning and teaching experiences, this study aimed to investigate the patterns of the relationship between learners' thinking styles and teachers' preferences for those styles as well as the influence of other variables on both parties' orientations.

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2. Theoretical Base of Thinking Styles

The theoretical foundation of the study lies in Sternberg's (1988) theory of *Mental Self-government* and the assumption that students tend to achieve better when there is a match between students' and teachers' thinking styles (Zhang, 2002a). Thinking styles are considered to be as crucial as intellectual abilities for efficient learning to occur, because individuals' preferences for thinking styles might have far reaching influences on their decision-making, as a consequence on their achievement. Thinking styles are attributed to be distinct from abilities, which stand for what people can do. On the contrary, they were related to how people prefer to use or express their abilities (Cano-Garcia & Hewitt-Hughes, 2000; Grigorenko & Sternberg, 1997; Sternberg, 1997; Zhang, 2002a; Zhang & Sternberg, 1998, 2000). Therefore, thinking style was defined as the "interface between intelligence and personality" by Sternberg (1994, p. 169).

Research on thinking styles has drawn an increasing interest among scholars for the last three decades. As one of the milestones of the literature on thinking styles, Sternberg's (1988) work has received the biggest attention of the researchers so far. Sternberg's (1997) theory portrays 13 thinking styles through five dimensions of mental government: (1) *functions* (legislative, executive, and judicial styles), (2) *forms* (hierarchic, oligarchic, monarchic, and anarchic styles), (3) *levels* (global and local styles), (4) *scopes* (internal and external styles), and (5) *leanings* (liberal and conservative styles). As for the three styles within the *functions* dimension, which is the central focus of this paper, *executive* thinkers tend to follow established rules and pre-structured guidelines in learning; *legislative* thinkers, conversely, create their own rules in deciding what to do and how to do it. *Judicial* thinkers, on the other hand, favour evaluations and judgments on existing rules and works of others.

Sternberg's (1997) theory were validated through *Thinking Styles Inventory* (Sternberg & Wagner, 1992) in a variety of settings by various educational researchers in many different countries such as Hong Kong, (Zhang, 1999, 2001; Zhang & Sachs, 1997; Zhang & Sternberg, 1998, 2002); China (Zhang & Sternberg, 2000); South Africa (Cilliers & Sternberg, 2001; Murphy & Janeke, 2009); the Philippines (Bernardo, Zhang, & Callueng, 2002); Norway (Fjell & Walhovd, 2004); Turkey (Balkis & Isiker, 2005; Emir, 2013; Fer, 2005); Jordan (Turki, 2012); and Iran (Emamipour & Shams-Esfandabad, 2013). Those validations were conducted sometimes in the context of gifted education (Bernardo, Zhang, & Callueng, 2002; Dai & Feldhusen, 1999; Sternberg & Grigorenko, 1993) or secondary education (Black & McCoach, 2008; Zhang, 2001); and sometimes with a reference to emotional intelligence (Murphy & Janeke, 2009) or cognitive development (Zhang, 2002a) or critical thinking dispositions (Emir, 2013; Zhang, 2003).

Looking at the sources that might have possible relationships with thinking styles, it was seen that research on thinking styles put forward numerous findings about their connections to a variety of variables such as age, gender, personal characteristics, socioeconomic status, experiences, learning environment, school setting, academic achievement or performance (Bernardo, Zhang, & Callueng, 2002; Cano-Garcia & Hewitt-Hughes, 2000; Grigorenko & Sternberg, 1997; Sternberg & Grigorenko, 1993, 1995; Turki, 2012; Zhang, 1999, 2000, 2001, 2002b, 2004; Zhang & Postiglione, 2001; Zhang & Sternberg, 1998).

Some key findings of the studies on learners' thinking styles, in particular the ones on the *functions* dimension, underlined two major points. One was related to the relationship of thinking styles with some other constructs; the other one was about different orientations by gender. As an example for the first point, Zhang and Sternberg (2000) asserted that learners with legislative and judicial thinking styles tended to have a deep approach in learning, which indicates a real understanding of what is learned. In a similar vein, Zhang (2002a) put forward a significant relationship between judicial thinking style and cognitive development in individuals. Since judicial style was defined as critical evaluation of ideas, individuals having judicial orientations was attributed to have more powerful cognitive reasoning. As for the gender difference in preferences for thinking styles, Zhang (2002a) claimed that male learners reflected more legislative styles in thinking than female learners did in a study conducted in three states

(California, Iowa, and Texas) of the United States. A relatively similar finding was also obtained in a research in Jordan as female learners were more into executive thinking while male learners were more oriented to legislative thinking (Turki, 2012). In another study in an Iranian context, female learners were found to be more inclined to executive style of thinking; whereas male learners tended to be more judicial (Emamipour & Shams-Esfandabad, 2013).

Among the research focusing on thinking styles, only a few studies (Emir, 2013; Zhang & Sternberg, 2002; Zhu, 2013) attached importance to teachers' thinking styles. One of them was by Zhang and Sternberg (2002), who investigated the relationship between thinking styles and teachers' characteristics and reported that some characteristics (gender, professional experience, and perceived autonomy) of teachers were significantly correlated with their thinking styles. In another study, Emir (2013) examined the contributions of teachers' thinking styles to their critical thinking dispositions and found that teachers' critical thinking dispositions were measured by their thinking styles. The only study that followed a comparative perspective between students' and teachers' preferences with respect to thinking styles was by Zhu (2013), who found significant divergences between students' and teachers' thinking style preferences.

Another point was that almost none of the studies aiming to validate this theory were conducted in an EFL setting, except for Fer's (2005) research, in which only a number of participants were from an English Language Teaching Department at a public university in Turkey. Since the main objective of her research was to provide evidence for the validity and reliability of the Turkish version of the inventory, she did not provide any research questions and discussions in relation to the preferences of the participant learners; therefore, no conclusions were drawn from her findings, except for the validity of the instrument.

Considering the fact that a limited number of studies were conducted with both teachers and learners through a comparative perspective as well as in an EFL setting, this study aimed to focus on both EFL learners' preferences for thinking styles as well as EFL teachers' preferences for their learners' thinking styles.

2.1. Research Questions

In the aforementioned framework, four major research questions were addressed in the study:

- What is the prevalent thinking style among EFL learners?
- What is the prevailing preference of EFL teachers for their learners' thinking styles?
- What is the pattern of the relationship between the preferences of the two parties?
- What background variables are influential on the participants' preferences? Three background variables (age, teaching experience, and TOEFL score as an indicator of language proficiency) were tested for the participant teachers and one background variable (test score at the institutional proficiency exam) was tested for the participant learners.

3. Method

As a descriptive correlational survey, this study was carried out in an EFL setting in Turkey. The sample of the study comprised of two groups of participants from a public university: (a) 18-to-22 year-old learners of English majoring in various academic programs that offers an English-medium of instruction (n=70) and (b) 25-to-51-year-old EFL teachers teaching to those learners (n=40).

Both the learners' thinking styles and the teachers' preferences on those styles were surveyed through two scales which were constructed on the basis of Sternberg's (1988) *Theory of Mental Self-government* and Sternberg and Wagner's (1992) *Thinking Styles Inventory*. The scales administered to both

teachers and learners included only the dimension of *functions.* The rationale behind choosing only the *functions* dimension lies in its being more applicable to an EFL setting as the items were supposed to be adjusted to language learning processes more easily. Other concerns were related to the principles of practicality and comparability. Those 18 items were ideal to keep the scale short and thus doable by the participants. Besides, they were suitable to make comparisons between teachers and learners through a single scale.

Based on the *functions* dimension, learners' scale aimed to categorize the participant learners into three groups: executive, legislative, or judicial thinkers. In a similar way, teachers' scale aimed to categorize the participant teachers into three groups: executive learner-oriented, legislative learner-oriented, and judicial learner-oriented teachers. In both scales, *Likert* type items were adopted in five-level scale from (1) *Strongly Disagree* to (5) *Strongly Agree*. Both scales included 18 closed-ended items and certain questions inquiring demographic information about the participants. The reliability of the scales was computed through *Cronbach*'s alpha. The alpha values were .87 for the learners' scale and .91 for the teachers' scale.

The data were collected through printed copies of the scales and analysed through descriptive and inferential statistics such as means, standard deviations, t-test, and Pearson correlation coefficients. Necessary assumptions were checked in advance of the interferential analyses.

4. Results

On the basis of the research questions, the findings were presented in four headings: (1) General Tendencies among EFL Learners; (2) General Tendencies among EFL Teachers (3) Comparison of Learners' and Teachers' Preferences; and (4) Differences in Preferences by Background Variables.

4.1 General Tendencies among EFL Learners

As addressed in the first research question, learners' orientations to thinking styles when learning English were investigated through 18 items under three styles. According to the descriptive results, the participant learners tended to be legislative thinkers (*M*=4.02, *SD*=.49) compared to their tendencies towards the other two styles (see Table 1). In this context, EFL learners participating in this study preferred to use their own power to make language learning plans or initiate changes in their plans or implementations. As the item receiving the highest rating indicated, those learners seemed to be more comfortable with the activities allowing them to do language learning tasks in their own way (*M*=4.33, *SD*=.67).

Table 1
General Tendencies among Learners

Three Styles	Learners	
	M	*SD*
Executive Style	3.83	.66
Legislative Style	4.02	.49
Judicial Style	3.71	.59

4.2. General Tendencies among EFL Teachers

As for the second research question, teachers' preferences on their learners' thinking styles were also investigated through 18 items under the same three styles. The descriptive results indicated that the

participants predominantly tended to favour legislative thinkers (*M*=4.17, *SD*=.53) than the other two types of learners (see Table 2). More specifically, a great majority of the EFL teachers participating in this study were inclined to see good language learners as the ones who can take responsibility for their own learning (*M*=4.86, *SD*=.36).

Table 2
General Tendencies among Teachers

Three Styles	Teachers	
	M	*SD*
Executive Style	3.63	.83
Legislative Style	4.17	.53
Judicial Style	3.64	.81

4.3. Comparison of Learners' and Teachers' Preferences

With the purpose of examining whether there are significant differences in the preferences of learners and teachers, an independent-samples *t-test* was performed. As an initial step, *Levene*'s test for each dimension was computed to test the equality of variances. As the values were non-significant, it was assumed that homogeneity of variance was not violated. The t-tests did not exert any significant results for any dimensions, which revealed that there were not significant divergences between EFL learners' and teachers' preferences for thinking styles (see Table 3). As the mean values also indicated, both groups of the participants seemed to have very similar orientations towards thinking styles.

Table 3
Comparison of Learners' and Teachers' Preferences

Dimensions	Participants	*M*	*SD*	*N*
Executive Style	Learners	3,83	.66	70
t(108)=.89, *p*=.37	Teachers	3,63	.83	40
Legislative Style	Learners	4,02	.49	70
t(108)=-1.15, *p*=.25	Teachers	4,17	.53	40
Judicial Style	Learners	3,71	.59	70
t(108)=-.33, *p*=.74	Teachers	3,64	.81	40

Looking descriptively into the pattern of the relationship between learners' and teachers' preferences on a diagram, Figure 1 displays that there is a very similar pattern in the preferences of both groups. Legislative style hit the peak both for the learners and the teachers.

An item-specific examination was also performed descriptively to see whether there were any discrepancies between the orientations of the two groups by item. Although there were great convergences in their preferences for the majority of the items in the scale, the responses given to four specific items indicated a discrepancy to a certain extent. Accordingly, the learners preferred to criticize the way their teachers teach the language more than the teachers preferred to be criticized by their learners. On the other hand, the teachers favoured learners who can analyse, judge, and evaluate things and ideas; whereas the learners were less oriented to such tasks. While the learners tended to adopt the views of their teachers believe to be correct on a language point, the teachers did not rate that approach as much as the learners did. Similarly, the learners preferred to listen carefully to directives of their teachers in language learning; whereas the teachers did not rate that approach as much as the learners did (see Table 4 for the mean differences).

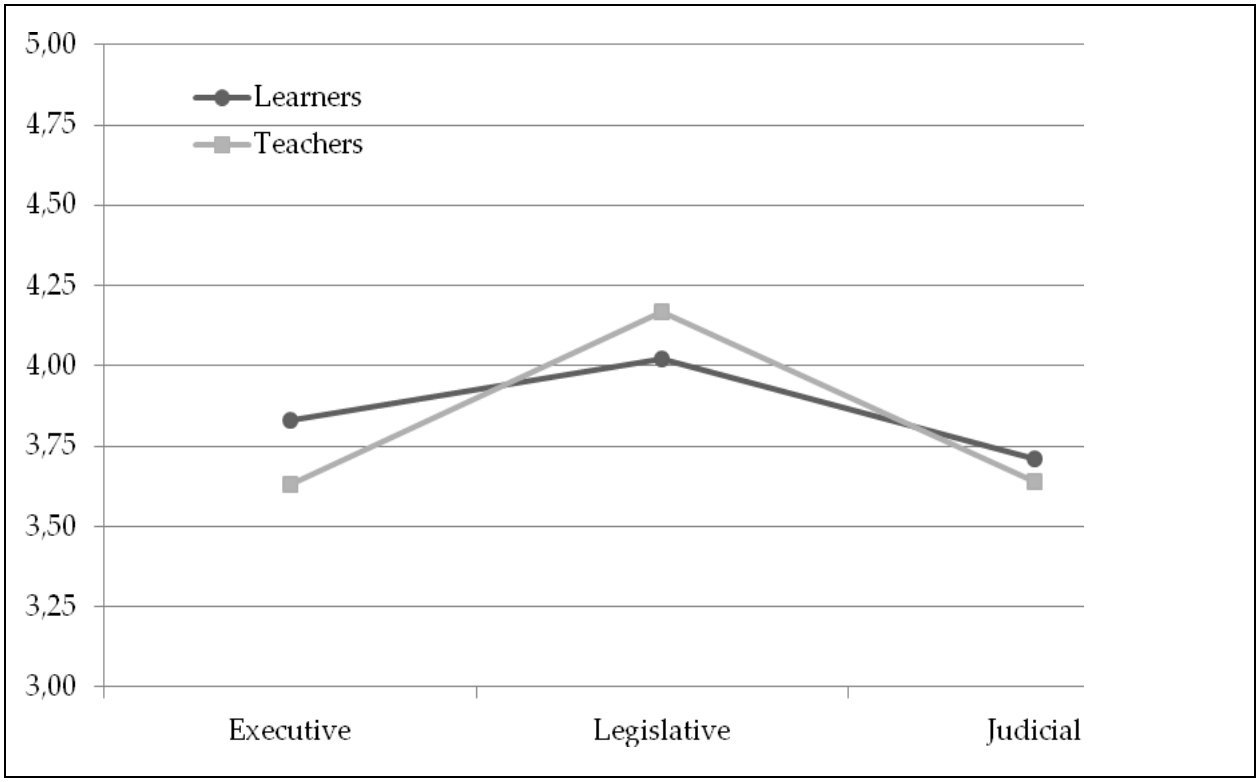

Figure 1
The pattern of the relationship between learners' and teachers' preferences

Table 4
Discrepancies in the Preferences by Specific Items

Items	Teachers		Learners	
	M	*SD*	*M*	*SD*
Criticizing the way teachers teach the language.	3.12	.95	4.00	.76
Favouring language tasks that enable to analyse, judge, and evaluate things and ideas.	4.17	.92	3.35	.90
Adopting the views teachers believe to be correct on a language point.	2.83	.87	3.60	.85
Listening carefully to directives of teachers in language learning.	3.80	.90	4.30	.67

4.4. Differences in Preferences by Background Variables

In order to see whether the teachers' preferences change significantly by age, Pearson correlation coefficients were conducted for each dimension in the scale. Using the Bonferroni approach to control Type I error across the 6 correlations, a p value of less than .008 (.05 / 6 = .008) was required for significance. The results of the analyses did not indicate any statistically significant correlations between

age and the teachers' preferences for their learners' thinking styles, $r(38)=-.31$, $p=.07$; $r(38)=-.07$, $p=.69$; $r(38)=-.02$, $p=.91$, respectively for legislative, executive, and judicial styles (see Table 5).

A similar analysis was conducted for the experience factor. The findings obtained from the Pearson correlation coefficients revealed that teachers' experiences in terms of years did not create any significant differences in their preferences for their learners' thinking styles, $r(38)=-.26$, $p=.14$; $r(38)=-.02$, $p=.91$; $r(38)=-.02$, $p=.90$, respectively for legislative, executive, and judicial styles (see Table 5).

To look into the relationship between the teachers' performance in the TOEFL and their preferences for their learners' thinking styles, Pearson correlation coefficients were conducted. However, none of the correlational analyses indicated statistically significant correlations between the teachers' performance in the TOEFL and their preferences for thinking styles, $r(38)=-.09$, $p=.12$; $r(38)=-.13$, $p=.02$; $r(38)=-.09$, $p=.10$, respectively for legislative, executive, and judicial styles (see Table 5).

Table 5
Correlations between teachers' background variables and preferences for thinking styles

Background Variables	Preferences	*Pearson Corr.*	*Sig. (2-tailed)*	*N*
Age	Legislative Style	-.31	.071	38
	Executive Style	-.07	.692	38
	Judicial Style	-.02	.911	38
Teaching Experience	Legislative Style	-.26	.143	38
	Executive Style	-.02	.910	38
	Judicial Style	-.02	.903	38
TOEFL Score (as an indicator of language proficiency)	Legislative Style	-.09	.122	38
	Executive Style	-.13	.022	38
	Judicial Style	-.09	.103	38

In another analysis, whether the learners' preferred thinking styles change significantly by their test scores in the proficiency exam was investigated through Pearson correlation coefficients. Using the Bonferroni approach to control Type I error across the 6 correlations, a p value of less than .008 (.05 / 6 = .008) was required for significance. The results of the analyses did not indicate any statistically significant correlations between the learners' test scores at the institutional proficiency exam and their preferred thinking styles, $r(68)=.06$, $p=.35$; $r(68)=.17$, $p=.39$, $r(68)=.37$, $p=.05$; respectively for legislative, executive, and judicial styles (see Table 6).

Table 6
Correlations between learners' test scores and thinking styles

Background Variable	Thinking Styles	*Pearson Corr.*	*Sig. (2-tailed)*	*N*
Test Score (at the institutional proficiency exam)	Legislative Style	.06	.353	68
	Executive Style	.17	.390	68
	Judicial Style	.37	.052	68

5. Discussion and Conclusions

The major result of the study indicated a similar pattern of preferences for thinking styles between the teachers and the learners. This result was confirmed by both descriptive as well as inferential statistics. The descriptive results revealed that neither *executive* nor *judicial* styles were rated as much as *legislative* style in the responses of the participants. Instead, both groups of participants (teachers and learners) were predominantly oriented to *legislative* style of thinking. According to inferential results, there were not any

statistically significant differences between the preferences of the teachers and the learners. All those findings implied that the EFL teachers and learners reflect convergent orientations and meet on a common ground in their preferences for thinking styles. This conclusion contradicts with Zhu's (2013) study, in which divergences between students' and teachers' thinking styles were claimed as the students displayed higher preferences for *legislative* and *judicial* styles but lower preferences for *executive* style than the teachers.

Examining the background variables, it was seen that neither age nor teaching experience created any statistically significant differences in the preferences of the teachers. However, Zhang and Sternberg (2002) stated that professional work experience was significantly correlated with teachers' thinking styles and Sternberg and Grigorenko (1995) found significant relationships between the length of the teaching experience and the thinking styles.

As for the correlation between learners' test scores in the proficiency exam and their preferences for thinking styles, there were not any statistically significant findings despite the papers asserting academic achievement as a significant variable connected to thinking styles. In this sense, Grigorenko and Sternberg (1997) claimed a negative significant correlation between the executive style of thinking and academic achievement. In contrast to this, Bernardo, Zhang, and Callueng (2002) put forward a highly positive correlation between the executive style and the academic achievement and not any significant correlation between the legislative style and the academic achievement. This was just the opposite of Zhang and Sternberg's (1998) findings stating that there was a negative correlation between the legislative style of thinking and the academic achievement.

As seen in the literature, there appear a variety of different findings about the thinking styles based on the setting in which the research is conducted. It is beyond any doubt that all the studies conducted so far in different educational contexts contribute to the literature to a great extend. This study took another step to portray the issue under investigation from a different perspective by including both teachers and learners in an EFL setting. Therefore, two significant contributions were made to the body of literature on thinking styles. First, it provided empirical data from an EFL context. Second, it focused on thinking styles' connection to EFL teachers.

On the basis of the findings reported in this paper, understanding their own thinking style preferences might allow EFL learners to reflect on how they receive, process, and communicate information in a learning environment. By this way, they might develop reflective thinking skills and become more aware of themselves. From the side of teachers, thinking styles of particular student groups appear as the best reflection of their dominant cognitive modes. Ignoring learners' thinking styles might hinder effective teaching practices. Therefore, effective teachers are supposed to be aware of possible differences in thinking styles of their learners so that they could take advantage of their learners' preferences. Without an active understanding of learners' thinking styles, teachers might risk their implementations in ways that are pedagogically ineffective.

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