

**Research Article****The Interrelationships of Iranian EFL Learners' Reflective Thinking, Ego State, and Learning Style**Ailin Mesbah, Mitra Zeraatpishe*  and Zahra Zohoorian Vahid Baghban 

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ABSTRACT**Introduction:** Individual differences arise from several factors like affect, behavior, reflective thinking, cognition, and motivation, which can crucially bring differences among learners. Ego state and learning style are among these differences. The present study aimed to investigate the interrelationships of Iranian EFL learners' reflective thinking, ego state, and learning style.**Methodology:** To conduct the study, 200 male and female English learners from different universities in Mashhad, Iran, were selected based on convenience sampling. The instruments of the study were three questionnaires, namely Reflective Thinking Questionnaire (Kember et al., 2000), Learning Style Questionnaire (Honey & Mumford, 1986b), and Ego State Questionnaire (Hay, 1996).**Results:** The analysis of data revealed that the proposed model had a perfect fit with the empirical data after modification. Moreover, the results of the Pearson correlation indicated that total learning style correlated positively and significantly with students' reflective thinking. Moreover, learning style correlated positively and significantly with internal parent and internal adult.**Conclusion:** The findings indicated that internal adult is a significant positive predictor of all four learning styles.**1. Introduction**

It is a common observation that people differ from each other, yet it is less obvious why and how they differ. The field of study that deals with individual and group differences in human behavior is called differential psychology. As Revelle et al. (2011) believe, individual differences arise from several factors, such as affect, behavior, cognition, and motivation which in turn are affected by biological causes and environmental events.

One of the factors that can crucially bring differences among learners is their ego state. Erikson (1968) posited that ego state is a component of individual differences as the personality component which undergoes a time of special ascendancy during the adolescent years. Ego states are a set of related behaviors, thoughts, and feelings that make up our personality at a given time. Berne (1961), the founder of Transactional Analysis, the theory behind ego state, understood that persons adopt three certain sets of thoughts, feelings, and behaviors at different moments of time. He called these sets of ego states child, adult, and parent ego states. Child is the first stage of development

and is crucial for the first five years of personality development. The child is similar to the Freudian concept of identity operating on the pleasure principle, unconscious, aimed at gratification and fulfillment of needs. Child is about expressing feelings and being intuitive (Berne, 1961). Functionally, the child's ego-state comprises two aspects, namely The Natural (Free) Child, which is spontaneous, intuitive, creative, and pleasure seeker; and the adapted child, which is compliant and conforms to wishes and demands of others, particularly parents. According to Woollams and Brown (1979), the *Natural Child* ego state is a spontaneous part of human behavior from infancy to old age. The adapted child ego state represents human response, including negative reaction and deeper hostility. Berne (1961) says that when someone is thinking, feeling, and behaving in a way copied from their parent, or parental figures, they are said to be in their parent ego state. Joines and Stewart (2007) refer to the adult ego state as the "computer" part of ourselves. When in the adult ego state, an Individual offers and asks

for information, based on the data, he/she makes decisions. The function of the adult is a fact-based one.

When in the adult ego state, the person uses logical thinking to solve problems, he/she is also a mediator between the child ego state and the parent ego state. It can be said that the ego is an identity of our own construction, an identity which is false. If we take all the beliefs of what we are, beliefs about our personality, talents, and abilities, we have the structure of our ego.

According to Bang (2009), wisdom, such as reflectivity, positively affects one's ego identity. Ego can be related to the learners' reflective thinking in language. In the current study, Reflective thinking has been laid upon Kember et al.'s (2000) framework, which based reflective thinking on four constructs of habitual action, understanding, reflection, and critical reflection. "Habitual action is what has been learned before and through frequent use becomes an activity that is performed automatically or with little conscious thought" (Kember et al., 2000; p.384).

Reflective thinking leads to reflective learning (Dewey, 1997) which is a way of allowing students to step back from their learning experience to help them develop critical thinking skills and improve on future performance by analyzing their experience (Costa & Kallick, 2008). This type of learning, which helps move the student from surface to deep learning, can include a range of activities, including self-review, peer review, and Personal Development Planning. Understanding assessment criteria and acting on feedback is also a way of encouraging students to reflect on what they have learned and how they will improve.

Based on Boud et al. (1985), through reflection, one can gain a better understanding and appreciation of his/her learning style. Thus, reflective thinking can affect learning styles as well.

According to Jaju and Kwak (2000), learning style is a way individuals prefer to learn. Coffield et al. (2004) are of the opinion that educators and students understand new concepts in different ways which are learning styles. Witkin (1973) believes that persons' learning styles differ from one another. So, different people may prefer different kinds of learning styles.

According to Alavi and Toozandehjani (2017), differences in students' ego identities, emotions, and abilities can influence their learning style. Learning Style Theory was investigated by a lot of scholars, such as Fleming and Mills (1992), Kolb (1984), Reid (1995), but the framework of the current study relies on Honey and Mumford (1986). Honey and Mumford experimented with various approaches to assess individual differences in learning preferences before producing the Learning Styles Questionnaire in 1982 (Coffield et al., 2004).

According to the theory of individual differences, a student's learning style is unique. It means that each person has his/her own way of learning. This is what Iranian teachers fail to consider and employ the same teaching methods for all (Fahim & Samadian, 2011). Besides, as another component of individual differences, ego state exists among all human beings along with its three states in different situations with the dominance of

usually one. Therefore, the ego that every student has in the class may have a preventive or a contributive role in language learning. If the teacher knows this ego, they can engage students in making a balance among the three states of ego. Besides, being aware of the ego state of the learners can help teachers choose an appropriate teaching style which goes well with the learners' learning style (Mahmoudi & Amirkhiz, 2011). Since little attention is given to the students in first and second language learning classes (Hlas et al., 2019), it is better to help learners become reflective thinkers by focusing their attention on their learning styles and ego states.

Consequently, this study aimed to investigate any probable significant interactions among these three variables, namely learning style, reflective thinking, and ego state, through a proposed model of associations among them.

To justify the model, based on the aforementioned literature, the following rationalizations are suggested. According to Bang (2009), reflectivity as an indicator of wisdom is strongly correlated with ego states since, according to Berne (1961), persons adopt three certain sets of thoughts, feelings, and behaviors at different moments of time (child, parent, adult states). According to Boud et al. (1985), one can better understand and appreciate his/her learning style through reflection. Since reflection allows students to step back from their learning experiences to help them develop critical thinking skills and change their learning styles in case necessary to improve on future performance by analyzing their experience (Costa & Kallick, 2008). So, reflectivity can affect one's learning styles. On one hand, reflectivity impacts learning styles; on the other hand, ego state seems to have a crucial role in the dominant learning styles of the learners (Alavi & Toozandehjani, 2017), differences in students' ego identities, emotions, and abilities can influence their learning style. Besides, being aware of the ego state of the learners, teachers can also choose an appropriate style which fits those of the learners (Mahmoudi & Amirkhiz, 2011). Thus, one's ego state can affect his/her learning style.

Thus, a question was raised to probe the aforementioned paths of relationships among reflective thinking, ego state, and learning style, to see if they can show enough adequacy for the context of Iran.

2. Methodology

2.1. Participants

According to Kline (2015), to run structural equation modeling (SEM), in particular, path analysis of at least 200 participants is needed. Thus, the sample of this study consisted of 200 English learners from different universities in Mashhad, Iran, namely Islamic Azad University, Tabaran Institute of Higher Education, and Toos University of Mashhad. They were both male and female from different age groups ranging from 18 to 35. Their major was Teaching English as a Foreign Language at both BA and MA levels. The procedure of data collection was through convenience sampling for availability and manageability reasons.

2.2. Instruments

In the present study, three questionnaires were used, namely Reflective Thinking, Learning Style, and Ego State.

Reflective Thinking was assessed through Kember et al.'s (2000) scale. Students indicated their level of agreement with 16 statements on a five-point Likert scale using five capital letters, including "A" for definitely agree, "B" for agree with reservation, "C" when there's no definite answer, "D" for disagree with reservation, and "E" for definitely disagree. The questionnaire covers four main constructs, namely, Habitual action, something which is done automatically or unconsciously via frequent use (items 1, 5, 9, 13), Understanding, a kind of wise thinking through using the existing knowledge (items 2, 6, 10, 14), Reflection, looking at things in a critical way for problem-solving (items 3, 7, 11, 15), and Critical reflection, a promotion of reflection to challenge the premises (items 4, 8, 12, 16). Each of them contains four statements. Thus, there are 16 statements in total. The total time which is considered for answering this questionnaire is 10 minutes. The reliability of this questionnaire is .77.

The second instrument employed was Honey and Mumford's Learning Style Questionnaire (1986) to examine students' preferred learning style. The questionnaire consisted of 80 statements in front of which there was a box. The students were asked to place a tick in the boxes if they agreed more than disagreed with that item. Twenty items were allocated to each learning style. Then, the researcher went back over learners' responses and simply circled the question number in the table, including learning style components, namely Activist, Reflector, Theorist, and Pragmatist. The given time for answering this questionnaire was about 20 minutes. The reliability of this questionnaire is .81.

Ego State Questionnaire was adopted from Hay (1996), including 21 items. Students allocated a grade on a four-point Likert score, ranging from 0 (*not true*), to 3 (*extremely true*) to each item to indicate how much it matches with their own thinking. The given time to answer this questionnaire was 15 minutes. The reliability of this questionnaire was calculated to be .71.

2.3. Procedure

A total of 200 Iranian EFL learners from different universities in Mashhad, Iran, participated in the current study. Collecting data started in late April 2018 and took about one month. Learners completed three questionnaires. Then, the collected data was analyzed using SPSS software (version 22) for correlational analysis and Amos (version 14) for running the proposed model through path analysis.

3. Results

To check the normality of data distribution, the

Table 1.
The Results of K-S Test

	Statistic	df	Sig.
Learning style	.09	200	.06
Reflective thinking	.07	200	.10
Ego state	.05	200	.12

Kolmogorov-Smirnov test was employed. Table 1 presents the results of the Kolmogorov-Smirnov test.

As it can be seen, the obtained sig value for all variables is higher than .05. Therefore, it can safely be concluded that the data is normally distributed across all the variables.

Table 2 presents descriptive statistics of four sub-constructs of learning styles, including the mean, standard deviation, maximum and minimum scores. The comparison of these scores appears in the following pages. The possible range of scores for all four sub-constructs of learning styles with 20 items was 0-20 and 0-80 for total learning style.

Table 2.
Descriptive Statistics of Sub-constructs of Learning Styles

	N	Minimum	Maximum	Mean	Std. Deviation
Activist	200	2.00	19.00	9.71	3.16
Reflector	200	2.00	20.00	12.49	3.71
Theorist	200	3.00	19.00	11.35	3.55
Pragmatist	200	2.00	20.00	11.25	3.49
Learning Style	200	18.00	71.00	44.81	9.73

Table 3.
Descriptive Statistics of Sub-constructs of Ego State

	N	Minimum	Maximum	Mean	Std. Deviation
Parent	200	5.00	20.00	12.79	3.24
Adult	200	.00	20.00	12.60	3.79
Child	200	2.00	19.00	10.72	3.85

The first column of Table 2 shows that 200 students participated in the present study. As Table 2 indicates, the minimum and maximum scores for total learning style Scale were 18 and 71, respectively, and the mean score was 44.81. As the results show, among four sub-constructs of learning styles, Reflector had the highest mean score (12.49), and activist had the lowest mean score (9.71).

As can be seen in Table 3, the possible range of score for all three sub-constructs of ego state with seven items was between 0 and 21. Among the 200 participants, the minimum and maximum scores of 5 and 20 were for the internal parent, respectively, with a mean score of 12.79 (Table 3). In addition, minimum and maximum scores for internal adult were, respectively, 0 and 21 and the mean score was 12.60. Finally, the minimum and maximum scores for internal child were respectively 2 and 19 and the mean score was 10.72. Accordingly, internal parent had the highest mean score (12.79), and internal child had the lowest mean score (10.72).

Table 4.
Descriptive Statistics of Sub-constructs of Reflective Thinking

	N	Minimum	Maximum	Mean	Std. Deviation
Reflective thinking	200	34.00	76.00	55.30	8.51

According to Table 4, the possible range of score for reflective thinking with 16 items was between 16 and 80. The minimum and maximum scores for the total reflective thinking Scale were respectively 34 and 76, and the mean score was 55.30.

Table 5 summarizes the information obtained from Cronbach alpha analyses. As can be seen, the utilized questionnaires gained acceptable indexes of Cronbach alpha as a whole: Learning Style Scale (.81), Reflective thinking Scale (.77), and Ego State (.71).

Table 5.
Results of Cronbach Alpha Indexes after Reliability Analysis

Scale	Subscales	Cronbach alpha
Ego state	Parent	.70
	Adult	.76
	Child	.74
	Total ego state	.71
	Activist	.82
Learning style	Reflector	.77
	Theorist	.79
	Pragmatist	.80
	Total learning style	.81
Reflective thinking	-----	.77

Table 6.
Goodness of Fit Indices before Modification

	X ² /df	GFI	NFI	CFI	RMSEA
Acceptable fit	<3	>.90	>.90	>.90	<.08
Model	6.50	.81	.86	.85	.099

Note. GFI = Goodness of fit; NFI = Normed fit index; CFI = Comparative fit index; RMSEA: Root mean square error of approximation

As demonstrated in Table 6, the chi-square/df ratio (6.50), RMSEA (.099), GFI (.81), NFI (.86) and CFI (.85) did not lie within the acceptable fit thresholds. Therefore, the model needed some modification. In order to modify the model, five non-significant paths were removed to be problem-solvers, including reflective thinking to activist internal child to the theorist ($\beta = -.08, p > .05$), internal child to pragmatist ($\beta = -.02, p > .05$), and internal child to reflective thinking ($\beta = -.09, p > .05$).

As can be seen in Table 7, the chi-square/df ratio (2.93), RMSEA (.077), GFI (.96), NFI (.92), and CFI (.96), all the fit indices were within the acceptable fit thresholds. Hence, it can be concluded that the proposed model had a perfect fit with the empirical data after modification (Figure 1).

Table 7.
Goodness of Fit Indices after Modification

	X ² /df	GFI	NFI	CFI	RMSEA
Acceptable fit	<3	>.90	>.90	>.90	<.08
Model	2.93	.93	.92	.96	.077

Note. GFI = Goodness of fit; NFI = Normed fit index; CFI = Comparative fit index; RMSEA: Root mean square error of approximation

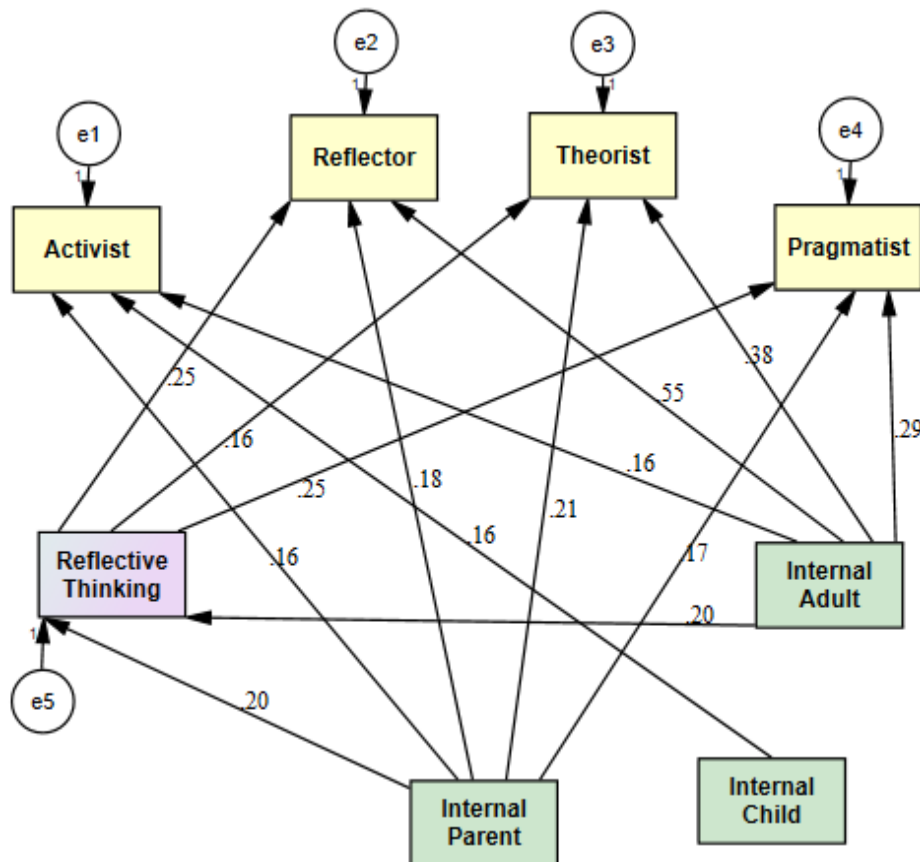


Figure 1.
The Model after Modification

4. Discussion

Among four sub-constructs of learning style, only activist was not predicted by reflective thinking. Reflective thinking is a significant positive predictor of reflector, theorist, and pragmatist. Total learning style correlated positively and significantly with students' reflective thinking. Internal child was a significant predictor of activist. Internal parent was a positive significant predictor of all four learning styles. The internal adult was a significant positive predictor of all four learning styles. Moreover, among three sub-constructs of ego state, internal child was not a significant predictor of reflective thinking. However, internal parent and internal adult could positively predict reflective thinking.

Regarding the interrelationships, there was a significant relationship between Iranian EFL learners' reflective thinking and their learning style was found. Another finding, however, was a non-significant relationship between reflective thinking and activist learning style. The probable reason for this might be that risk-takers do not reflect and think a lot about the consequences of their choices and actions. The results showed that there was no relationship between internal child and reflector.

Similar to the findings of the current study, Rossi-Le (1995) found a consistent result as the major learning style preferences for most participants required an experiential and practical approach to learning. The findings of the current study were also congruent with the results obtained by Shih and Gamon (2002), who reported a correlation between learning strategies and ego state of EFL learners. The results showed no relationship between internal child and reflector. The probable reason is that children do not think much about what they do. They do things inherently. The findings demonstrated no relationship between internal child and theorist. The reason might be due to the fact that children are more interested in concrete activities and things and do not enjoy conceptualization. Finally, the results indicated that there was no relationship between internal child and pragmatist. The reason behind this might be the fact that children do not have the ability to focus very much to solve issues. So, they cannot be problem-solvers. In line with the findings of the current study, Kizilkaya and Askar (2009) came to the conclusion that female and male learners had a moderate level of reflective thinking skills for problem-solving.

According to Bang (2009), reflectivity can affect ego state. Moreover, Keogh and Walker (1985) concluded that reflectivity could affect one's learning style. Besides, Alavi and Toozandehjani (2017) claim that the more reflective the learners are, the more aware they are concerning the choice of their learning styles. Therefore, it can be concluded that one's ego state can influence his/her learning style.

5. Conclusion

To uncover a so-far-hidden side of the

interrelationships of Iranian EFL learners' reflective thinking, ego state, and learning style, the current study was conducted. The findings were suggestive of the a positive correlation between total learning style and students' reflective thinking. Moreover, learning style correlated positively and significantly with internal parent and internal adult.

In light of the results and the literature in the field of reflective thinking, ego state, and learning styles, the following implications were drawn for their development. The findings of this study can be useful for teachers to develop learning styles of the learners. The present study can, therefore, help researchers and teacher educators recognize the effect of these styles in their classes. Consideration of individual differences is a must for any language teachers. This can also be considered from the other way around which means that if some learners are eager to be more reflective, they can hope to improve their learning styles as well.

Moreover, English teachers are expected to be familiar with the concept of reflection, ego state, and learning styles to strive hard first to enhance the improvements of their learners. Material developers are required to include techniques which pay more attention to learning styles, leading the learners to more self- and other-discovery.

Teacher identification of students' learning-style preferences can guide the selection of appropriate instructional methods and materials to maximize student learning. Knowledge of student learning-style profiles can be used to guide instructional organization for individuals or for groups of students with the same style preferences.

Declarations

Competing interests

Authors declared no competing interests.

Authors' contribution

Mitra Zeraatpishe was the supervisor and designed the study. Zahra Zohoorian Vahid Baghban was the advisor and performed the statistical analysis. Ailin Mesbah collected the data and wrote the manuscript. All authors checked and confirmed the final draft of the manuscript before submission to JCLR journal.

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