On the Interrelationships among Undergraduate English Foreign Language Learners' Speaking Ability, Personality Traits, and Learning Styles

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Abstract:

The vital role individual differences, such as personality variation, play has long been discussed as the origin of different learning abilities. Accordingly, a cross-sectional survey and a descriptive study was conducted. Data was gathered from a sample of 150 students of both genders (107 females and 43 males) with an age range of 19-22. The translated and validated versions of the Big Five personality traits questionnaire and Kolb's learning styles inventory were administered. Also, a combination of the three speaking courses scores were considered as the speaking ability. To analyze the data correlational analysis and regression were run. Based on the findings it was concluded that openness turned out to have small and positive unique contribution with speaking ability. Also, there was a negative relationship between extraversion, conscientiousness, and agreeableness factors and speaking ability. Moreover, no significant relationship was found between neuroticism and speaking ability. The results indicated that abstract conceptualization turned out to have a small and positive contribution with speaking ability. On the other hand, active experimentation, reflective observation, and concrete experience had negative relationship with speaking ability. Finally, it was found that the Big Five traits and learning styles explained 23% of variance in speaking ability.

Keywords: Big five personality traits, learning style, individual differences, speaking ability

1. Introduction

Language, especially its spoken form, is now universally recognized as being highly complex, multidimensional, and variable according to a multitude of social and contextual factors (e.g. Bachman, 1990; Pawlak, 2016). One other aspect which merits attention in

examining the complexity is individual differences (IDs). Individual differences have a long tradition in second language studies (Dornyei, 2005, 2006, 2009). Although variability is an important feature of human species, some researchers and psychologists found other factors and features that affect language learning and learning in general. Thus, IDs research is still a powerful area within psychology, having its own society (Dörnyei, 2005). The importance of IDs lies in the fact that they appeared to answer this popular question that how people differ in learning (Revelle, 2016). In the same vein, Dörnyei (2005) highlights that due to the variation observed among learners in terms of their success, "the study of IDs, especially that of language aptitude and language learning motivation, has been a featured research area in L2 studies since the 1960s" (p.5).

IDs include anything that marks a person as a distinct and unique human being (Dörnyei, 2005) and differential psychology emphasizes individual variation from person to person only to the extent that those individualizing features exhibit continuity over time (De Raad & Schouwenburg, 1996). IDs are those characteristics of people that are firmed over time and situations. Although some degree of firmness is assumed for IDs, the likelihood of a particular individual difference variable foretelling thoughts, emotions, or behaviors will either widen or reduce similar to specific situations that will "afford" specific thought, feelings and behaviors (Gibson, 1977). IDs, as a unique area of psychology, reveal important sources of variation related to behavior. Thus, they relate to differences and sources of uniqueness rather than similarities (Chamorrd-Premuzic, 2015).

Learners' IDs, such as personality variation, have long been seen as the origin of different learning abilities, and researchers like the French psychologist Binet (1857-1911), and Simon (1905) have concentrated mainly on the individual's influences on learning. The Collins Cobuild Dictionary (2003) defines personality as one's "whole character and nature." According to Pervin and John (2001), personality represents those characteristics of the

person that "account for consistent patterns of feeling, thinking, and behaving" (p. 4). Personality theories, attempt to identify different traits and organize them into broad personality dimensions. Most psychologists believe that our personality is affected by different factors. Some of them believe in the role of genetics, others consider personality as a product of environment. In addition, some others include learning in factors influencing personality. However, the idea that personality is based on heredity factors is perhaps the oldest opinion in the study of personality. For example, Rainwater (1956) highlights the genetic basis in personality and is formed from the interaction of important figures that the child brings into interaction with certain biological principles, needs and drives, and intellectual capacities, which all determine the reaction to the way in which he is acted upon by these significant figures. One of the most favorable models for personality is Big Five since it has been translated into different languages and has shown validity and utility in many different contexts (Zillig, Hemenover, & DienStbier, 2002). The components of five factors are Neuroticism / Emotional Stability, Extraversion, Openness to experience, Agreeableness, and Conscientiousness. Neuroticism / Emotional Stability includes such aspects like anxiety, anger hostility, depression, self-consciousness, impulsiveness, and vulnerability. People high in this factor tend to engage in self -blame and to withdraw quickly from frustrating situations (Parkes, 1986), on the other hand, individuals who score low are in neuroticism, the more meaning they would find in life. Extraversion includes the aspects of warmth, gregariousness, assertiveness, activity, excitement-seeking, and positive Emotions. According to Brown (2007) "extraversion is the extent to which a person has a deep-seated need to receive ego enhancement, self-esteem and a sense of wholeness from other people as opposed to receiving that affirmation within oneself" (p.155). Openness to experience includes aspects such as fantasy, aesthetics, feelings, actions, ideas, and values. Dörnyei (2005) describes individuals with this trait as imaginative, curious, flexible, creative, moved

by art, novelty seeking, original, and untraditional; whereas those low in this trait are conservative, conventional, down-to-earth, inartistic, and practical. Agreeableness aspects include trust, straight- forwardness, altruism, compliance, modesty, and tender- mindedness. Scoring high means being friendly, good-natured, likeable, kind, forgiving, trusting, cooperative, modest, and generous; while scoring low equals being cold, cynical, rude, unpleasant, critical, antagonistic, suspicious, vengeful, irritable, and uncooperative (Dörnyei, 2005). Finally Conscientiousness as the last trait includes those aspects of competence, order, dutifulness, achievement striving, self-discipline, and deliberation. Those who score high will be systematic, meticulous, efficient, organized, reliable, responsible, hardworking, persevering, and self-disciplined. On the other hand, a low score associates to being unreliable, aimless, careless, disorganized, late, Lazy, negligent, and weak-willed (Dörnyei, 2005).

One other individual difference which is the focus of the present study is the learning style. A learning style is the way in which a person sees or perceives things best and then processes or uses what has been seen. Each person's individual learning style is as unique as a signature. As this study is conducted within the framework of Kolb's learning styles, Kolb's learning style (1985) constructs are reviewed which are based on the permutation of two main dimensions, concrete versus abstract thinking and active versus reflective information processing. The first construct as concrete experience focuses on being involved in experiences and dealing with immediate human situations in a personal way, emphasizing feeling as opposed to thinking (Dörnyei, 2005). The second construct, reflective observation, focuses on understanding the meaning of ideas and situations by carefully observing and impartially describing them; it emphasizes understanding as opposed to practical application (Dörnyei, 2005). Abstract conceptualization focuses on using logic, ideas, and concepts, emphasizing thinking as opposed to feeling (Dörnyei, 2005). It means a person conducts

logical analysis of the ideas and creates theories to help explain observations. Abstract concepts are the opposite of concrete examples, or the things that you can experience with the senses. To engage in abstract conceptualization means to use evidence to form ideas and theories that are separate from a specific concrete example (White, 2005). Active experimentation focuses on actively influencing people and changing situations; it emphasizes practical applications as opposed to reflective understanding, the stage of learning where a person uses theories to help them solve problems or make decisions (Dörnyei, 2005).

Many educational psychologists believe that both personality and learning styles are important IDs features in language learning studies, but there are many well-known psychology scholars consider them as two different dimensions of one construct rather than as only two types of individual difference. Like personality that is a personal preference, learning styles are also personal and one can be successful in one particular style due to different IDs. Ehrman, Leaver, and Oxford (2003) concluded in a recent overview of ID variables that the influence of personality variables on learning styles has increased greatly in recent years, promoted by the use of the 'Big Five' personality model.

According to Dörnyei (2005), many studies of language learners' IDs from the 19th century until now have been done in second language studies, and no researchers have yet rejected the effects of these ID factors like language aptitude, motivation, or learning styles in succeeding of learning a foreign language. Psychologists and applied linguists paid a lot of their attention to these IDs, because they are important for their works, as they are different in twins. As L2 related IDs, literature showed that researchers have made lists of IDs in Language learning. Thus, the concept of IDs is rather loose, containing certain core variables and many optional ones. Therefore, the researcher here chose these IDs like personality traits

that are the most individual characteristic of a human being as educational perspective that is stable and constant, and learning styles as key IDs. As there is a dearth of research in specifying the relationships among personality traits, learning styles as well as the speaking ability, the present study aims to fill the gap in literature and research. Accordingly the following research questions are stated:

Q_1. Is there any relationship between personality traits and EFL learners' speaking ability?

Q_2. Is there any relationship between learning style and EFL learners' speaking ability?

Q_3. To what extent do personality traits and learning style account for variance in EFL learners' speaking ability?

2. Methodology

A descriptive design through conducting a cross-sectional survey was employed.

2.1. Participants

A random sample of 150 students of both genders, 43 male (28.7%) and 107 female (71.3%), participated in the present study. The age of respondents ranged from 19 years to 36 years, with an average age of 22 years. Only few participants were older than 24 years. Participation was voluntary and anonymous. This accessible population included the BA university students in Mashhad studying English teaching and English literature during the first academic semester of 2017 at different public and private universities.

2.2. Measures

To collect data for the present study two instruments were employed. Personality traits were determined using the Persian version of the NEO PI-R, originally developed by Costa and McCrae (1992). This questionnaire has been translated into Persian by Garoosifarshi (1998).

The Cronbach alpha for each dimension was reported by Garoosifarshi as 0.83 for neuroticism, 0.75 for extraversion, 0.80 for openness, 0.79 for agreeableness, and 0.79 for conscientiousness (Garoosifarshi, 1998, cited in Fathi Ashtiani & Dastani, 2009).

Furthermore, Kolb's 1985 learning style inventory (LSI) was used to determine the learning styles. This questionnaire has 4 factors. It has 12 items for each of which there are 4 suggested options (Kolb, 1985). The LSI consists of a number of sentences and four potential endings for each sentence that the individual ranks in line with his/her preferences. Through combination of the scores for sentence endings the researchers calculated scores for concrete experience, reflective observation, abstract conceptualization and active experimentation. For the present study the Persian version of the questionnaire was employed which was translated by Mohamadzade Admalayi, and Izadi (2000). These researchers reported the Cronbach alpha for LSI questionnaire as 0.62 for concrete experience, 0.67 for abstract conceptualization, and 0.70 for active experimentation. Finally, the students' speaking skill scores based on the average of two successive semesters were calculated and used as the speaking ability score.

3. Data Analyses

This section includes the relevant statistical analyses of descriptive and inferential including correlation and regression. Table 1 demonstrates the descriptive statistics of the independent variables (personality traits and learning styles) as well as the dependent variable (speaking score). As is demonstrated, the Cronbach alpha of all the components of the personality traits is within an acceptable range.

Table 1
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Cronbach alpha Coefficient
Con1	150	10.25	20	17.57	1.96	
Con2	150	9	20	17.57	2.15	
Total N	150	4	62	25.04	8.24	.63
Total O	150	16	58	27.83	6.20	.54
Total E	150	11	43	27.50	6.59	.73
Total A	150	16	45	28.96	6.19	.61
Total C	150	12	48	33.10	6.46	.78

Note: Con = Conversation, N = Neuroticism, E = Extraversion, O = Openness, A = Agreeableness, C = Conscientiousness

3.1 Correlational Analyses

The relationship between the mean of the scores for the two speaking courses, and the independent variables: neuroticism, openness, extraversion, agreeableness, and conscientiousness, was investigated using Pearson product-moment correlation coefficient, and the significance of "r" was at 0.01 level. Preliminary analyses were performed to ensure there was no violation of the assumptions of normality, linearity, and homoscedasticity.

Table 2

The Correlations between Speaking and the Five Factors of Personality

		Con_M	Tot_N	Tot_E	Tot_O	Tot_A	Tot_C
Pearson correlation	Con_M	1	.01	-.03	.20**	-.18**	-.06
	Tot_N		1	-.56**	.05	-.31**	-.30**
	Tot_E			1	.10	.32**	.39**
	Tot_O				1	.01	.08
	Tot_A					1	.30**
	Tot_c						1

Note: Con = Conversation, N = Neuroticism, E = Extraversion, O = Openness, A = Agreeableness, C = Conscientiousness

**. Correlation is significant at the 0.01 level (2-tailed).

According to Table 2 there is a small positive correlation between conversation and openness (*r = 0.20, n = 150, p< 0.01*). There is no significant relationship between speaking ability and neuroticism (*r = 0.01, n = 150, p <0.01*). There is a negative relationship between conversation and extraversion (*r = - 0.03, n= 150, p< 0.01*). There is negative relationship between conversation and agreeableness (*r = -0.18, n=150, p<0.01*) and finally there is negative relationship between speaking ability and conscientiousness (*r = -0.06, n=150, p<0.01*).

Extraversion, agreeableness, and conscientiousness were negatively related to speaking ability. However, the negative correlations are very small and near zero. It is interesting that just one personality trait (openness) has a small and positive correlation with the speaking ability.

Table 3

The Correlations between Conversation Mean and the Four Aspects of Learning Styles

		Con_M	AE	AC	RO CE
Pearson correlation 03	Con_M	1	-.05	.18**	-.15 -
.29**	AE		1	-.25**	-.07 -
.51**	AC			1	-.48** -
.29**	RO				1 -
	OE				1

Note: Conv = Conversation, AE = Active Experimentation, RO = Reflective observation, AC = Abstract conceptualization, CE = Concrete experience

**. Correlation is significant at the 0.01 level (2-tailed).

According to Table 3 there is a small positive correlation between speaking and abstract conceptualization ($r = 0.18, n = 150, p < 0.01$). There is negative relationship between speaking ability and active experimentation ($r = -0.03, n = 150, p > 0.01$). There is negative relationship between speaking and reflective observation ($r = - 0.15, n= 150, p> 0.01$). There is negative relationship between speaking ability means and concrete experience ($r = -0.03, n=150, p>0.01$).

From the output given above, the correlation between learning styles are negative because when a student or a respondent has one learning style, he or she does not have another learning style; so, that is why there is a negative correlation among learning styles.

3.2 Regression Analyses

3.2.1 Test of Normality

The second objective of this study was to predict speaking ability in terms of some cognitive factors. To do this, multiple regression analysis was run. No cases that have standardized residual values above 3.0 or below -0.3 were found. Also, in Cook`s Distance, there were no cases with values larger than 1.

Figure 1 is a cumulative probability plot of standardized residuals. When all the points lie on a straight diagonal line from the bottom left to right, it can be said that the residuals are normally distributed. If the points are closer to the diagonal line, they will be better predictors. In the P-P Plot the points lie on a reasonably straight diagonal line from the bottom left to top right. As shown in the figure, it can be seen that most points lie on the diagonal line. This suggests no major deviations from normality.

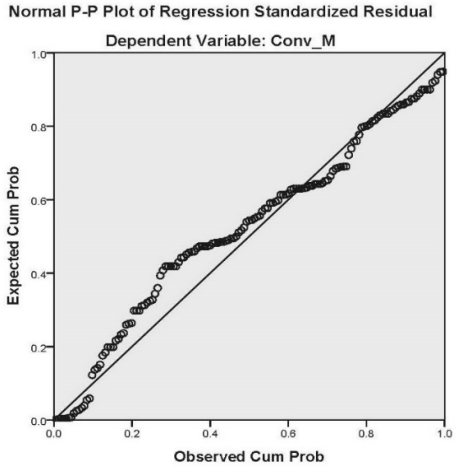

Figure 1 *Cumulative Probability Plot of Standardized Residuals*

3.2.2 Speaking Ability

Here regression analysis was used to predict speaking ability with cognitive factors including personality factors and learning styles. Here the dependent variable is speaking ability and the independent variables are personality types (neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness) and learning styles (Active Experimentation, Reflective observation, Abstract conceptualization, and Concrete experience).

Table 4

Model summary for the regression model

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.35[a]	.12	.07	2.70

a. Predictors: (constant). Tot_O, Tot_A, Tot_c, Tot_N, Tot_E, AC, AE, OE, Ro

b. Dependent variable: Con_M

The adjusted R square for this model equals 0.07. Adjusted R square is used to avoid overestimation of R square, which happens when the data sets have few cases relative to the number of predictors. When the data sets relate to a small sample and there are a large number of predictors, there will be a great difference between the obtained and the adjusted R square. Therefore, the smaller the difference between the obtained and adjusted R square, the better. The standard error of estimate shows the accuracy of the prediction. The smaller the

standard error of estimate is, the better is the prediction. The standard error of estimate in this study is 2.70.

The researcher examined how much of the variance in speaking was explained by cognitive abilities like: the big five personality traits and learning styles. After checking the assumptions such as outliers, normality, linearity, homoscedasticity and independence of residuals, multiple regression was run. The Big Five traits and learning styles explained 3% of variance in conversation means F (140) 2.24 $p < .02$, adjusted R Square = .07.

Table 5 indicates the standardized beta coefficients, which are interpreted similar to correlation coefficients. In multiple regressions, the size of coefficient for each independent variable shows the size of the effect that the variable has on dependent variable. When there is more than one independent variable in multiple regression, the coefficient indicates how much the dependent variables is expected to increase if the independent variable increases by one, holding all the other independent variables constant. The t value and the sig opposite each independent variable indicates whether that variable is significantly contributing to the equation for predicting speaking. The results of this phase of analysis are presented in Table 5.

Table 5

The Beta Weights and Part Correlation for the Independent Variables.

IV	Beta	Part	T	P
Openness	.20	.20	2.53	.01
Conscientiousness	-.03	-.02	-.32	.74
Neuroticism	-.09	-.07	-.89	.37
Agreeableness	-.01	-.15	-1.91	.05
Extraversion	-.07	-.05	-.68	.49
Abstract conceptualization	2.61	.15	1.93	.05
Concrete experimentation	2.61	.14	1.87	.06
Reflective observation	1.93	.14	1.79	.07
Active experimentation	1.42	.14	1.82	.07

As table 5 shows abstract conceptualization, concrete experimentation, neuroticism, and agreeableness did not have a significant contribution to explain conversation means. Agreeableness (beta= -.01), abstract conceptualization (beta= 2.61), and concrete experimentation (beta= 2.61). Neuroticism (beta= -.09), Conscientiousness (beta= -.03), Extraversion (beta= -.07), Reflective observation (beta=1.93), and Active experimentation (beta=1.42) also did not make a statistically significant contribution in explaining conversation means. Openness contributes (beta=.20) a small contribution to explain conversation means.

By looking at the column marked P, we understand that neuroticism makes a small contribution to the prediction of speaking ability ($p < .01$) while other personality traits and learning styles do not suggest a significant unique contribution to the prediction of conversation ability. Openness has a partial correlation co-efficient of .20. If we square this

and multiply it by 100, we get .08 indicating that openness uniquely explains 8 per cent of the variance in speaking scores.

Figure 2 is a cumulative probability plot of standardized residuals. When all the points are on the diagonal line, it can be said that the residuals are normally distributed. If the points are closer to the diagonal line, they will be better predictors.

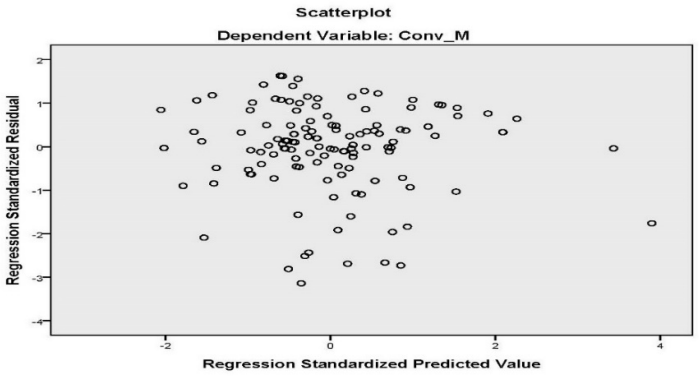

Figure 2 Cumulative Probability Plot of Standardized Residuals

In this scatter plot, the residuals are roughly rectangularly distributed, with most of the scores concentrated in the center (along with the 0 point).

4. Discussion of the Findings

The first significant finding of the study is that English foreign language learners` speaking ability does not relate to learner`s personality traits and their learning styles. They indicate that is to say, all the EFL learners were found to have different learning styles including active experimentation, reflective observation, concrete experience, abstract conceptualization and personality traits including openness to experience, agreeableness, neuroticism, conscientiousness, extraversion with speaking ability.

The findings from multiple regressions also supported the hypotheses; all variables had some contribution to explain the speaking ability, but none of them significantly. Thus,

the results indicated that openness turned out to have a small and positive unique contribution to speaking ability. These people are creative, inventive, curious, and open-minded. This was in line with previous the study of Hazrati-Viari, Tayarani Rad, and Torabi (2012). In their study, openness to experience significantly predicted academic performance. Their results indicated that students who scored high in openness would be more successful. Openness to experience predicted academic achievement suggesting that those who are high on openness tend to be intellectually curious, intelligent, insightful, aesthetic, and interested. These qualities can demonstrate why students who are high in openness perform better. For example, being interested and insightful, they desire to gain a deeper understanding things. This interest can orient to new strategies of learning and new academic issues that result in academic achievement. The results were also in line with prior research; indicating that there is a relationship between openness to experience and intelligence. For instance, Chamorro-Premuzic and Furnham (2005), proposing the ‘‘investment” role of openness to experience as a determinant of higher IQ, argue that IQ is separately affected by fluid intelligence and openness to experience and affected deep learning, which in turn led to higher grades.

Moreover, there was a negative association between extraversion, conscientiousness, and agreeableness factors and speaking ability. Individuals with a low score in extraversion construct are more sociable, their sources of stimulation are internal ones such as ideas, impressions, and emotions, and they are called introverts. They prefer to work independently, but they may perform well in small groups (Isacss, 2009). Furthermore, those with a low score in agreeableness construct are suspicious of others and aggressive. Those with a low score in conscientiousness are less focused, less careful, and less dependable.

On the other hand, no significant relationship was found between neuroticism and speaking ability. Individuals high in neuroticism are insecure, and experience emotional distress and may be perceived as unstable. People who are low in neuroticism are more

relaxed, have less emotional swings, and are perceived as more stable. Neurotic individuals are characterized as being anxious, emotional, nervous, and tensed. Whereas several earlier studies have indicated a negative effect (Chamorro-Premuzic & Furnham, 2005; Furnham & Monsen, 2009; Lounsbury, Sundstrom, Loveland, & Gibson, 2003), other research reported no or even a positive impact of neuroticism (Furnham et al., 2003; Komarraju et al., 2009; Nguyen et al., 2005; Rosander, Bäckström, & Stenberg, 2011).

The results of the present study showed that various learners have different learning styles that would not affect their speaking ability, and it also shown that people with different personality traits would have only one learning style, a person cannot have two learning styles. Moreover, different types of learners from various ranges of personalities or learning styles had somehow difficulty with speaking ability. The results of the present study were in line with Ghaffari, Ranjbarzadeh, Fathi Azar, Hassanzadeh, Safaei, Golanbar, Mazouchian, and Abbasi(2013). In their study also, there was no significant relationship between the students' academic achievement and their learning styles.

The result indicated that abstract conceptualization turned out to have small and positive contribution with speaking ability. Abstract conceptualization means to use evidence to form ideas and theories that are separate from a specific concrete example. On the other hand, active experimentation, reflective observation, and concrete experience had negative relationship with speaking ability. The first stage, concrete experience, is where the learner actively experiences an activity such as a lab session or fieldwork. The second stage, reflective observation, is when the learner consciously reflects back on an experience. The fourth stage, active experimentation, is where the learner is trying to plan how to test a model, theory, or plan for a forthcoming experience (Kolb, 1939).

5 Conclusion

From the results of this study, it can be concluded that EFL learners` personality traits and their learning styles are not related to their speaking abilities. Openness to experience made a small positive contribution in explaining speaking ability. Conscientiousness, agreeableness, Extraversion, and neuroticism also made a statistically negative contribution in explaining the speaking ability. According to De Raad and Schouwenburg (1996) extraversion, conscientiousness, and openness to experience are educationally relevant. However, here, the researchers noticed that only openness to experience had a small correlation with speaking ability, suggesting that one of the reasons for individuals who have a higher performance in speaking is that they are more open to new experiences, have active imagination, innovative, studious, and intellectual curiosity. It can be useful for students who are curious making insightful connections across their courses, organizing information into meaningful units, and finding personal relevance in what they learn. Extraversion, conscientiousness, agreeableness, and neuroticism had no considerable correlation with the speaking ability.

Furthermore, learning style was not a predictor of speaking ability. Abstract conceptualization, concrete experimentation, Reflective observation, and Active experimentation did not make a statistically significant contribution in explaining conversation means.

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