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Metaphorical Competence in Chinese EFL learners

The role of gender and language proficiency

Abstract: This article examines the possible relationship between Chinese EFL learners' metaphorical competence (MC) and their language proficiency and gender based on empirical studies of 110 Chinese EFL male and female students. Emphasizing the importance of context in understanding metaphors and the multifaceted connotation of MC, the study describes three facets of MC: (i) the ability to identify and interpret metaphors in context, (ii) fluency of metaphor interpretation, and (iii) originality of metaphor production. SPSS 16.0 was run to analyze the collected data of MC tests and language proficiency test CET Band 4. The results demonstrate that female Chinese EFL learners were significantly better at identifying and interpreting metaphors than their male counterparts especially in context, while their ability to produce creative metaphors did not significantly surpass that of the males. I also found that the participants' language proficiency was significantly related to identifying and interpreting metaphors in context and the fluency of metaphor interpretation. It was not, however, significantly related to the ability to produce creative metaphors. EThe results are elucidated, and the implications of these findings are discussed.

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1 Introduction

It has become increasingly clear from research in both linguistics and psychology that metaphor plays a central role in human linguistic (and indeed non-linguistic) behavior. Declaring that an individual's ordinary thoughts and actions are mostly metaphorical, Lakoff and Johnson (1980: 78) confirmed that "people understand

the world using metaphors." Winner (1982: 55) pointed out that if individuals are severely restricted to "literal language, communication would be severely curtailed, if not terminated." Littlemore's (2001a) study further revealed that metaphors have been shown to be a serious stumbling block for non-native speakers when they attempt to follow spoken discourse. "It is a topic of considerable relevance to virtually all foreign or second language learners" (Low 1988: 112) and places a central role in L2 learning and communication (Danesi 1994; Sacristan 2004).

One of the earliest and most significant contributions in the area of using metaphor to specify language was Low's (1988) notion of "metaphorical competence (MC)" (Littlemore and Low 2006). Three leading scholars (Low 1988; Danesi 1992; Littlemore 2001a) further introduced the construct of MC into the field of second language teaching and learning.

Recently, the significant role that MC plays in the development of L2 proficiency has become widely recognized and been stressed by a number of researchers in English-speaking countries (e.g. Danesi 1992, 1995; Low and Cameron 1999; Kecskes 2000; Littlemore 2001b, 2011; Littlemore and Low 2006). They argue that in L2 teaching and learning, MC is as essential as the linguistic and communicative competences (Danesi 1992). This trend was enthusiastically echoed by Chinese researchers in L2 teaching of English (e.g. Cai 2005; Su 2012).

Thus far, much research has been done on the subject of metaphor and MC concerning individual variables. Johnson and Rosano (1993), Littlemore (2001b, 2010), and Yi-chen Chen (2014) analyzed EFL learners' cognitive styles' effect on MC and concluded that the cognitive factor was an important individual variable in the development of MC. Another individual variable that has been noticed and stressed is language proficiency. There are two kinds of contradictory claims on the relationship between MC and language proficiency. One claim is that MC is not significantly related to an individual's language proficiency (Johnson and Rosano 1993; Yuan 2012, 2014); the other is that EFL learners' MC is positively and significantly related to their language proficiency (Trosborg 1985; Rezaei 2013; Aleshtar 2014). The two divergent findings seem to be conflicting and therefore demand further exploration.

One important individual variable, gender, which may have an effect on MC, is neglected and seldom mentioned. The only study reported was by Mahmood Hashemian (2012), who demonstrated that the Iranian upper-intermediate female L2 learners' MC level was significantly higher than that of their male counterparts by analyzing t-test results of 126 Iranian university EFL learners.

Despite these intriguing findings, research on the variables of gender and language proficiency neglect the fact that "metaphorical competence must not be seen as a homogeneous trait. Rather, it is, to some extent, a multifaceted entity"

(Littlemore 2010: 46). In addition, the focus of previous research about the correlation between individual variables and MC was on decontextualized linguistic metaphors, and the findings tell us little about a language learner's ability to understand and produce contextualized linguistic metaphors.

The researcher in this study emphasized the importance of understanding metaphors in context and investigated thoroughly how language proficiency and gender correlated to different facets of MC based on an empirical study of 110 Chinese EFL learners. By doing so, the contradictory claims on the relationship between MC and language proficiency were clarified. Moreover, the results are elucidated, and the implications of these findings are discussed.

2 Literature review

2.1 Definition and facets of metaphorical competence (MC)

Motivated by pedagogical considerations, Low (1988) adopted a skill-based approach in defining MC as consisting of seven skills that learners needed to master if they were to attain real skills with a second or foreign language. Danesi (1992: 125) suggested the concept of MC as an individual's knowledge representing the language concepts' reproduction by means of metaphorical structures. Pollio and Smith (1980: 33) defined MC as "originality of metaphor production, fluency of metaphor interpretation and ability to find meaning in metaphor." Littlemore (2001a: 461) adds a fourth component, i.e., speed in finding meaning in metaphor. It is apparent that Littlemore's definition emphasizes the mental process involved in metaphor production and comprehension. Some other scholars consider MC encompasses abilities of identifying, interpreting, understanding, and producing metaphors (Masumi 2005; Iijima and Murrow 2006). Despite these differences, one consensus among L2 scholars is that MC consists of both metaphor-comprehension ability and metaphor-production ability.

Recently, the importance of context in metaphor comprehension has been highlighted. The context here includes linguistic, cultural, and social context and the topic of the discourse in its broader sense as Kovecses (2015: 126) defined it. However, "the by now dominant view of metaphor—conceptual metaphor theory—still suffers, in general, from a lack of integrating context into its modal of metaphorical meaning making" (Kovecses 2015: 143), although it has been clear all along that context is crucial to the production and comprehension of metaphors

in the real world (see, e.g., Goatly 1997, 2007; Musolff 2004; Kovecses 2005; Semino 2008; Schmid 2012).

Motivated by the context consideration, combining the former definitions given by L2 scholars, this study defines MC as "originality of metaphor production, fluency of metaphor interpretation, and ability of identifying and interpreting metaphors in context" which can also be considered as different facets of MC, as shown in Figure 1.
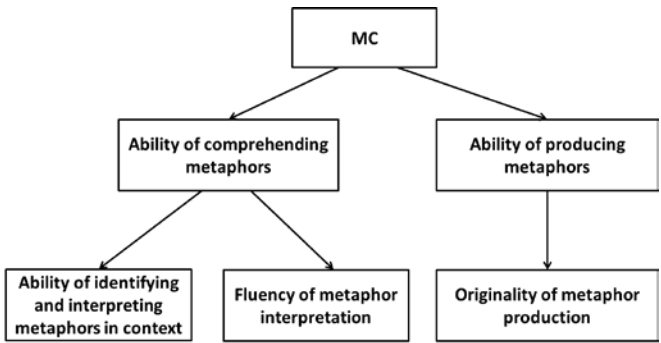

Figure 1: Different facets of MC

2.2 MC and gender

Gender differences are defined as not only biologically but also socially influenced characteristics helping people to identify male and female (Myers 2002), which can be seen as a fundamental feature in an individual's life. Gender role restrictions are also present in various countries (Teekens 2003). The Muslim countries of the Middle East, North Africa, and South Asia still have a distinct gender disparity in literacy and education. Women attend different schools from male students. Female students read different versions of textbooks, with a special edition for female students only. Walsh (2001: 87) suggests that, "[g]ender does not simply reflect a pre-existing identity, but helps to constitute, maintain and transform that identity in everyday situations via talk and the paralinguistic behavior that accompanies it."

Gender differences are also important in a person's learning of a second language and have been studied in a number of EFL investigations (Grant and Rong 1999; Wong, Lam and Ho 2002). Controversial ideas revolve around the two genders' performance. Some studies (Geiger and Litwiller 2005) assert that males

have better memory of words and their meanings; however, according to Gurian and Ballew (2003), the majority of females' brains develop earlier and faster than males, and therefore, females attain complex verbal skills earlier than males. Accordingly, some studies (Anderson 2001; Lowe, Mayfield and Reynolds 2003) emphasize the fact that females' verbal and language tasks are better than those of males.

Currently, despite contradictory findings, several studies have attempted to explore the differences between male and female L2 learners' learning strategies in reading comprehension (e.g. Chavez 2001), listening comprehension (e.g. Bacon 1992), and other diverse L2 skills. Understanding L2 metaphorical expressions is also a skill, and its rate is influenced by gender. In line with Kovecses (2005), metaphorical understanding is different in relation to gender as a social division. Accordingly, it can be hypothesized that male and female L2 learners would possess different levels of MC. On the whole, a need is felt to shed more light on exploring the role of gender in the MC level of L2 learners.

The literature pertaining to gender and metaphor is easily summarized. Anthropologists Holland and Davidson (1983) incorporated gender with metaphors in a folk model approach. Kathleen Ahrens (2009) drew on a wide range of corpus data to determine to what extent metaphors used by women in political power differ from or remain the same as that of men. Federica (2014) found that female politicians in Italian parliament employ more violent metaphors than their male counterparts in debates. More general discussions of metaphors (e.g. Lakoff and Johnson 1980), however, do not consider the question of gender.

In spite of multiple research attempts of the abovementioned studies on gender and metaphor, there is a paucity of research regarding the effect of gender on EFL learners' MC level. The only reference I could find was by Mahmood Hashemian (2012), in which the t-test results demonstrated that the Iranian upper-intermediate female L2 learners' MC level was significantly higher than that of the males without showing us how and to what extent gender affects different facets of MC. The current study attempts to see whether and, if so, how the individual variables of gender relate to different facets of MC, and the results may possibly contribute to L2 pedagogy.

2.3 MC and language proficiency

Language proficiency refers to (communicative) language competence or language ability. Danesi (1986) and Low (1988) recognized that MC is of equal importance in language proficiency at very early age. Recently, the importance of MC as an

integral part of language proficiency has become widely recognized. Littlemore and Low (2006) argued, giving a range of examples of language use and learner difficulty, that metaphorical competence has in fact an important role to play in all areas of communicative language competence. But does it mean that metaphorical competence and language proficiency always go together?

A number of scholars (Danesi 1992; Kecskes and Papp 2000; Littlemore 2010, 2011; Hashemian and Nezhad 2007) noticed that L2 learners' MC is at very low level regardless of language proficiency level during the process of examining the development of MC at a particular point in time. Chinese researchers (Fengshi Yuan 2012; Yuanlian Su 2012) also found that EFL learners' MC is far from being adequate even after more than ten years of English study. In a Chinese EFL learners' classroom setting, there exist abundant unnatural (though sometimes not ungrammatical) uses of expressions despite their advanced language proficiency level. Yuan (2012: 56) claimed that "language proficiency is not significantly related to metaphorical comprehension ability" based on the empirical studies of 251 Chinese English majors, in which the researcher asked the participants to score 32 metaphorical sentences on a 5-likert scale ranging from "most difficult to understand" to "easiest to understand."

In contrast, Trosborg (1985) found that the learners' ability to analyze and understand the meaning of unknown metaphorical expressions is correlated with their proficiency in the target language. Rezaei (2013) and Aleshtar (2014) claimed that MC and language proficiency correlate with each other significantly, that is, L2 learners who enjoy high language proficiency can comprehend and produce metaphors better as well. Many Chinese scholars also drew the conclusion from their empirical analyses that EFL learners' MC is positively and significantly correlated with their language proficiency (Zhao 2002; Dong 2006; Jinfang Shi 2012).

To sum up, there are two kinds of claims on the relationship between MC and language proficiency altogether. One claim is that MC, or certain facets of MC, is not significantly related to an individual's language proficiency. The other is that EFL learners' MC is positively and significantly related to their language proficiency. These two kinds of findings seem to be conflicting, and therefore the possible relationship between Chinese EFL learners' MC and their language proficiency is yet to be determined, particularly in context, and a multifaceted definition of MC is required.

3 Methodology

3.1 Research questions

I organized my research according to four questions:
1) Does MC in Chinese EFL learners relate to gender and, if so, how and to what extent?
2) Does MC in Chinese EFL learners relate to language proficiency and, if so, how and to what extent?
3) Will the gender variable affect Chinese EFL learners' language proficiency?
4) What are the teaching implications we may get from the relationship between MC and individual variables of gender and language proficiency?

3.2 Participants

The participants in this study were 110 Chinese EFL learners from Nanjing Audit University in China, including 23 males and 87 females. The discrepancy in number between the male and female participants is due to the overall imbalance between the number of male and female students at the university. We chose the participants from two typical College English classes randomly. All of the participants were in their second year, aged from 18 to 20 years old, enrolled in different departments of the university, but taking the same College English course. They were native Chinese speakers and had learned English for at least ten years from primary school, a few even from kindergarten. The participants' English proficiency levels ranged from intermediate to high-intermediate. Learners with such levels of English proficiency possess sufficient English lexical knowledge, although they are still unfamiliar with more advanced language use, and they are believed to be the most responsive group. The participants were told that the results of the study were for educational purposes and were asked to write their names so that they would take the tasks seriously.

3.3 Tests and scoring criteria

To answer the research questions, I designed and administered a series of MC tests to 110 Chinese EFL learners from Nanjing Audit University.

3.3.1 MC Test 1: Test of ability to identify and interpret metaphor in context

This test was devised to appraise the participants' ability to identify and interpret metaphors in context. The test includes one pre-test question concerning reading frequency and two test paragraphs (see Appendix A). In each paragraph there are seven metaphorical expressions to be identified and interpreted by the participants (see Appendix A). The scores are given on the number of metaphors the participants can identify and interpret, respectively. Initially, ten EFL learners resembling those in the main enquiry participated in a pilot study to detect the appropriateness of the test items. The test-retest and coefficient alpha estimates for the metaphor tests obtained in the pilot study support its suitability. The results indicated that it was highly reliable ($\alpha = 0.86$), which indicated good internal consistency. As for validity, the test was reviewed by three native English speakers to ensure grammaticality and authenticity. In sum, the test was found to be highly reliable and valid, and thus, it was administered in this study. The scoring criteria are: one point for identifying and underlining one metaphorical expression, another one point for interpreting it reasonably. The full score is 28 points since there are 14 metaphorical expressions in the two paragraphs altogether.

3.3.2 MC Test 2: Fluency of metaphor interpretation test

This test is developed based on one of Littlemore's (2001b, 2010) tests of metaphorical competence. In this test, the participants were asked to write down as many interpretations as they could think of for five L2 metaphors (see Appendix B). The scoring criteria were developed from Johnson and Rosano's semantic-mapping model (1993) which assumes that in interpreting a metaphor, the subject selects some semantic aspect or facet of the vehicle and maps it to the topic. Therefore, the mean number of the semantic aspects of interpretations given by each participant was taken as a measure of fluency of metaphor interpretation in this study (see Table 1 for the scoring criteria).

Table 1: Criteria used in scoring fluency of metaphor interpretation test (taking "A dream is a solar eclipse" as an example")

Score	Criteria	Examples
5	The participant offers three or above reasonable metaphorical interpretations.	(1) A dream is beautiful like solar eclipse. (2) A dream is glorious but far to reach like solar eclipse. (3) The chance of realizing a dream is rare like solar eclipse.

Score	Criteria	Examples
4	The participant offers two reasonable metaphorical interpretations.	(1) Dream will disappear gradually like eclipse. (2) Realization of a dream must go through darkness like solar eclipse.
3	The participant offers one reasonable metaphorical interpretation.	A dream will be realized gradually like solar eclipse.
2	The participant offers one illogical interpretation without any likeness between the two things.	A dream is limitless.
1	The participant offers literal translation without any interpretation.	A dream is like a solar eclipse.

3.3.3 MC Test 3: Originality of metaphor production test

The test of original metaphor production was adapted from a technique originally used by Gardner et al. (1974) to test children's capacity to create and appreciate novel metaphors. It was subsequently used by Trosborg (1985) and Littlemore (2001b, 2010) to investigate the ability of foreign language students to produce novel metaphors. In this study, the participants were given eight very short expressions in English (see Appendix C). These items had been selected on the basis of statistical reliability (using Cronbach's alpha) from an original 20 items used in a pilot test (n=43) (Littlemore 2010). Participants were asked to complete the sentences as creatively as possible. The average score was then calculated for each participant (see Table 2 for the scoring criteria, which were adapted from Littlemore 2010). A high score indicates that the participant had a preference for original metaphor production, while a low score indicates that the participant had a preference for literal production (inappropriate responses are few). The mean score over the eight items was therefore considered to be a measure of originality of metaphor production.

Table 2: Criteria used in scoring originality of metaphor production test

Score	Criteria	Examples
5: Novel metaphor completion	At least one of the following[a]: (a) The topic is projected onto a sensory domain where it is not literally applicable, and the resulting metaphor is not a familiar English saying.	Dr. Livingstone had been walking across the Sahara for five days without any water. His throat was beginning to feel as dry as . . . a sheet of paper.
	(b) The topic, which is typically associated with the physical world, is	We could tell by the look on

Score	Criteria	Examples
	projected onto a psychological state or the reverse, and the resulting metaphor is not a familiar English saying.	the teacher's face that his anger was . . . like a rocket searching its target.
	(c) The topic remains in its customary domain (sense modality or physical reference), but a radical shift in perspective is required, and the resulting metaphor is not a familiar English saying.	When I was a child, I was frightened of my grandma's teeth soaking in the glass in the bathroom. They made me think of . . . an old wreck forgotten in the sea.
4: Conventional metaphor completion	The resulting metaphor is a familiar English saying.	We could tell by the look on the teacher's face that his anger was like burning fire.
3: Illogical metaphor completion without likeness between the two parts	The resulting metaphor is illogical without any likeness.	Dr. Livingstone had been walking across the Sahara for five days without any water. His throat was beginning to feel as dry as . . . an apple.
2: Literal completion	The adjective remains in its customary domain.	What a beautiful day! The clear sky reminds me of . . . my home country.
1: Inappropriate completion	Neither of the two judges can find a meaning.	Agnes is always knocking things over. You might say . . . that it's a bit for her.

[a] If a participant provided a completion that was basically a conventional metaphor, the simple addition of a novel word or phrase did not qualify the response as novel.

3.4 College English Test Band 4

In most universities in China, a CET Band 4 is necessary for the students to graduate, thus this is used in this study to measure the participants' language proficiency. This test is a nationwide English proficiency test designed for university students and has been administered for over twenty years. It has been constantly developed and adjusted and therefore proved to be reliable and authoritative to evaluate the university students' English language proficiency. The

test consists of Essay Writing, Reading Comprehension (including Skimming and Scanning and Reading in Depth), Listening Comprehension, Cloze or Error Correction and Translation or Short Answer Questions with a full score of 710.

3.5 Procedures and data collection

The MC tests were administered to the participants from Nanjing Audit University in April 2015 during the 2014–2015 academic years in their classroom. In this session, the participants sat far enough apart that they could not see each other's answers. They were then given a booklet containing the MC tests and asked to finish in 20 minutes. During the process, the participants were totally aware that they may resort to electronic tools to look up any word they felt unsure about in order to remove the linguistic difficulty or variable from the tests. After the session, two independent English teachers at the university majoring in cognitive linguistics, the author and another researcher, scored the test. Both of the judges were instructed carefully in the scoring criteria. They discussed and achieved full agreement in their assessment and scoring of responses, then the scores of MC Test 1, Test 2, and Test 3 were collated. The sum of the three tests represents the score of General MC Test.

In June 2015, all the participants took part in the nationwide English language examination of CET Band 4, which is administered by the Educational Department of China and arranged in detail by the university. In August 2015, the scores were available, and the author downloaded the scores from the Office of Teaching Affairs of the university, then the scores of the language proficiency test in the current study were collected.

4 Analysis and results

4.1 Research question 1: Does MC in Chinese EFL learners relate to gender and, if so, how and to what extent?

To explore this research question, SPSS 16.0 (Pallant 2013) in general and independent-samples t-tests in particular were run to analyze the collected data, comparing the MC performances of the 23 male participants and 87 female

participants. The effect size was calculated for independent-samples t-tests. The results are shown in Table 3 below.

As to the General MC Test, there is a significant difference between the male (*M* = 41.13, *SD* = 13.68) and female (*M* = 52.37, *SD* = 12.59; t = -3.74, p = 0.00 (two-tailed)) Chinese EFL learners in terms of their General MC Test (the sum of the three tests). The effect size was moderate (Eta^2 = .12). Expressed as a percentage, 12 percent of the observed variance in the General MC Test was explained by gender.

As to MC Test 1, there is a significant difference between the male (*M* = 5.96, *SD* = 4.19) and female (*M* = 10.82, *SD* = 5.24; t = -4.12, p = 0.00 (two-tailed)) Chinese EFL learners in terms of ability to identify and interpret metaphor in context. The effect size was large (Eta^2 = .15). Expressed as a percentage, 15 percent of the observed variance in MC Test1 was explained by gender.

As to MC Test 2, there is also a significant difference between the male (M = 11.39, SD = 3.56) and female (M = 13.72, SD = 2.85; t = -3.30, p = 0.01 (two-tailed)) Chinese EFL learners in terms of the fluency of metaphor interpretation. The effect size was moderate (Eta^2 = .09). Expressed as a percentage, 9 percent of the observed variance in MC Test 2 was explained by gender.

As to MC Test 3, male (*M* = 23.78, *SD* = 9.94) and female (*M* = 27.82, *SD* = 9.96; t = -1.73, p = 0.09 (two-tailed)) Chinese EFL learners do not differ significantly in terms of originality of metaphor production, although the females still perform better than the males. The effect size was small (Eta^2 = .03). Expressed as a percentage, only 3 percent of the observed variance in MC Test 3 was explained by gender.

Table 3: Comparison of mean scores of MC tests between male and female Chinese EFL learners

Test	N	M	SD	t	Sig. (2-tailed)	Eta^2 (effect)
General MC Test				-3.739	0.000	.115 (moderate)
Male	23	41.130	13.679			
Female	87	52.367	12.587			
Test 1: Ability to identify and interpret metaphor in context				-4.116	0.000*	.151 (large)
Male	23	5.957	4.193			
Female	87	10.827	5.243			
Test 2: Fluency of metaphor interpretation				-3.305	0.001*	.092 (moderate)
Male	23	11.391	3.564			
Female	87	13.724	2.852			
Test 3: Originality of				-1.727	0.087	.026 (small)

Test	N	M	SD	t	Sig. (2-tailed)	Eta^2 (effect)
metaphor production						
Male	23	23.782	9.940			
Female	87	27.816	9.966			

*Significant at the 0.05 level (two-tailed)

Note that SPSS does not provide Eta squared values for t-tests. The formula for Eta squared in independent-samples t-test, according to Pallant (2013: 180), is as follows:

$$\text{Eta}^2 = \frac{t^2}{t^2 + (N1 + N2 - 2)}$$

$N1$ is the number of subjects in the first group (here males) and $N2$ the number of subjects in the second group (here females). The guidelines (proposed by Cohen, 1988) for interpreting Eta squared values are:

0.01= small effect,

0.06 = moderate effect, and

0.14 = large effect.

According to Pallant (2013: 180), eta squared is the most commonly used effect size statistics which represents the proportion of variance in the dependent variable that is explained by the independent (group) variable.

Further supporting evidence was the following histogram (Figure 2) about the distribution of the participants' scores which illustrates more visually and clearly the results.
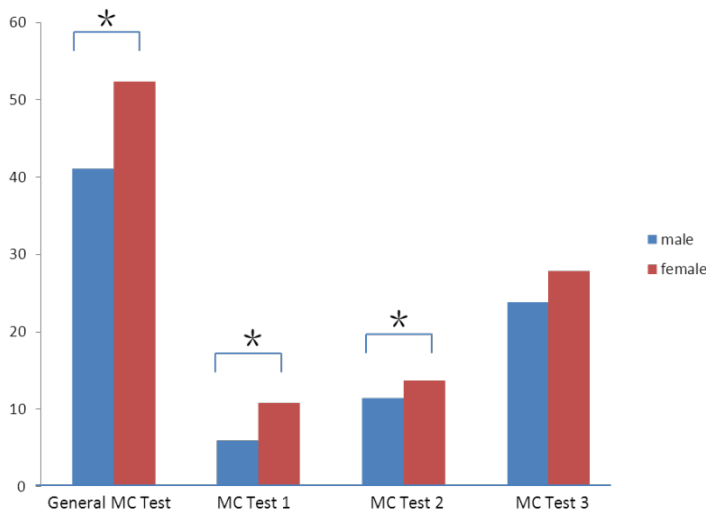
Figure 2: Comparison of mean scores of MC tests between male and female Chinese EFL learners (∗ denotes significant difference between male and female participants at p < 0.05 (two-tailed))

There is a significant difference between the male and female Chinese EFL learners in terms of their General MC Test. But if I explore further the different facets of metaphorical competence, I find that there is no significant difference identified between males and females in their ability to produce creative metaphors, although the females do better than the males. The female participants have significantly higher scores than the male participants in the test of identifying and interpreting metaphors in context and the test of frequency of metaphor interpretation.

These results echo those offered by Mahmood Hashemian (2012), who claims that the Iranian upper-intermediate female L2 learners' MC level was significantly higher than that of the males. The current study further explores the different facets of MC and its relationship with gender, therefore offering more thorough and detailed illustration and results.

4.2 Research question 2: Does MC in Chinese EFL learners relate to language proficiency and, if so, how and to what extent?

To answer the second research question, the Pearson product-moment correlation was run to see the relationship between different facets of MC and language proficiency (as measured by CET Band 4).

The results are set forth in Table 4. As is evident in the table, the correlations between language proficiency and MC Test 1 [r = .30, $\underline{n}$ 109, $\underline{p}$ =.001] or MC Test 2 [r = .30, $\underline{n}$ 109, $\underline{p}$ =.001] are significantly positive whilst the correlations between language proficiency and MC Test 3 [r = .12, $\underline{n}$ 109, $\underline{p}$ =.21] or General MC Test [r = .29, $\underline{n}$ 109, $\underline{p}$ =.002] are not significant.

To get an idea of how much variance the two variables share, the r value is squared and then multiplied by 100, indicating the shared variance percentage. According to this calculation, in the current research, language proficiency helps to explain about 9 percent of the variance in participants' scores in MC Test 1 and Test 2, which were medium significant, while in MC Test 3, language proficiency only explains nearly 1.5 percent of the variance, which is a very small effect and not significant (p>.05).

Table 4: Pearson Correlations between MC tests and CET Band 4 (CET band 4 is used to measure the participants' language proficiency.)

		General MC Test	TEST1	TEST2	TEST3	CET Band 4
CET Band 4	Pearson Correlation	.288**	.302**	.304**	.122	1
	Sig. (2-tailed)	.002	.001	.001	.208	
	N	109	109	109	109	109

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

The guidelines (Cohen 1988) for interpreting the value of Pearson correlation (r) are:

r = .10 to .29 or r = -.10 to -.29 small

r = .30 to .49 or r = -.30 to -.49 medium

r = .50 to 1.0 or r = -.50 to -1.0 large

Another supporting finding which was provided after analyzing the data was the following simple scatter graphs (Figure 3) about the distribution of the participants' scores.
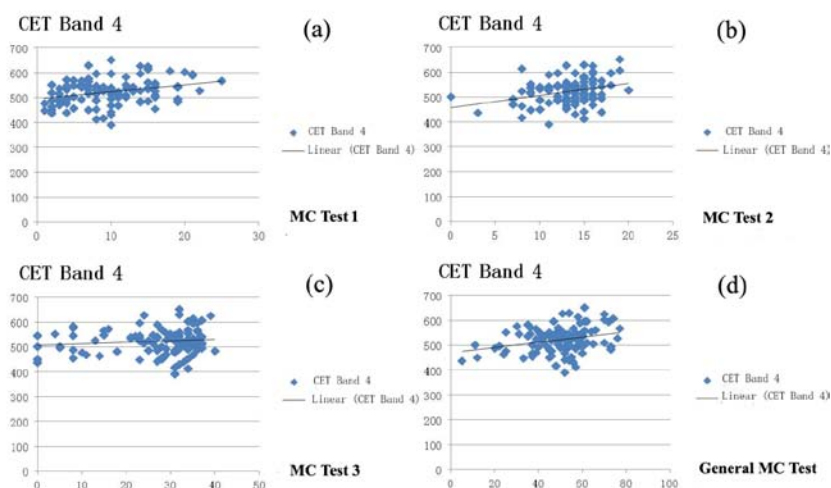

Figure 3: Scatter plots of the MC test scores versus the CET Band 4 scores

Interesting findings were gained after these analyses. In general, the Chinese EFL learners' MC is not significantly related to their language proficiency (see Figure 3 (d)). But if I explore further the different facets of MC, I find that the participants' ability to identify and interpret metaphors in context (see Figure 3(a)) and their fluency of interpretation (see Figure 3(b)) are significantly positively related to language proficiency although their originality of metaphor production is not significantly correlated to language proficiency (see Figure 3(c)).

These findings explained well the two kinds of seemingly contradictory claims on the relationship between MC and language proficiency by revealing that the participants' language proficiency is only significantly correlated to some facets of MC, which suggests the necessity and importance of our analyzing MC from different facets. Therefore, the current findings are hopefully more convincing and

may bring more enlightenment and implications for metaphor learning and EFL teaching.

4.3 Research question 3: Will the gender variable affect Chinese EFL learners' language proficiency?

To explore this research question, SPSS statistical program in general and independent-samples t-test in particular were run to analyze the collected data. The effect size was calculated for independent-samples t-tests.

As is obvious from Table 5 below, there is no significant difference between the male (M = 5.05E2, SD = 41.02) and female (M = 5.27E2, SD = 51.37; t = -1.92, p = 0.06 (two-tailed)) Chinese EFL learners in terms of language proficiency measured by CET Band 4. The effect size was small (Eta^2 = .03). Expressed as a percentage, only 3 percent of the observed variance in CET Band 4 was explained by gender.

Table 5: Comparison of mean scores of CET Band 4 between male and female Chinese EFL learners

	N	M	SD	t	Sig. (2-tailed)	Eta^2 (effect)
CET Band 4				-1.920	0.058	.033 (small)
Male	23	5.046E2	41.016			
Female	87	5.269E2	51.373			

Another supporting finding was the following histogram (Figure 4) about the distribution of the participants' scores.
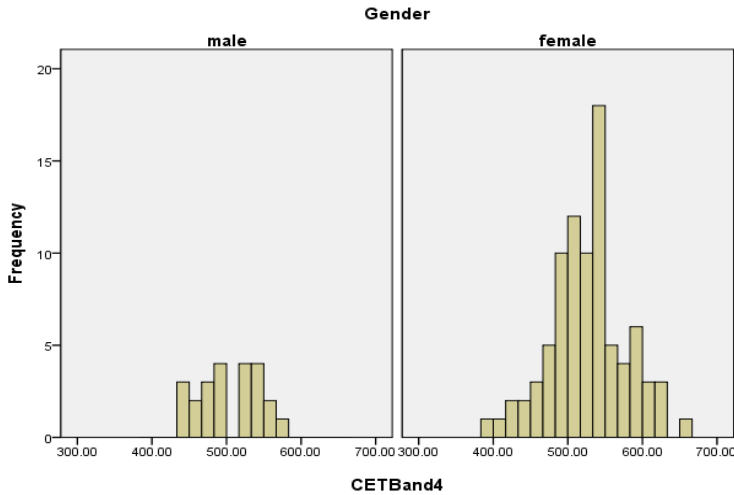
Figure 4: Comparison of mean scores of CET Band 4 between male and female Chinese EFL Learners

The histogram shows that although the difference between the male and female participants is not significant, there exists the tendency that the females perform better than the males in the language proficiency test CET Band 4.

5 Discussion

The first finding from this small, exploratory study suggests that, in general, female learners' MC is significantly higher than that of their male counterparts with the moderate effect size of 0.11. As to different facets of MC, female learners are significantly more capable of identifying and interpreting metaphors especially in context, with the largest effect size of 0.15, while their originality of metaphor production does not significantly surpass that of the males.

The second finding shows that Chinese EFL learners' language proficiency is only significantly correlated to some facets of MC, that is, the ability to identify and interpret metaphors in context and the fluency of metaphor interpretation. It was not, however, significantly related to the ability to produce creative metaphors.

The third finding suggests the tendency that female Chinese EFL learners perform better than their male counterparts in the English language proficiency test.

Possible reasons to explain these findings are suggested as follows:

Firstly, female learners' performing better in understanding and interpreting metaphors especially in context may be attributed to the tendency that female learners perform better than male counterparts in the language proficiency test analyzed in this study, which covers L2 linguistic and contextual knowledge. This tendency will definitely be helpful for females to better understand and interpret metaphors in context. This tendency also confirmed that "girls are regularly superior to boys in terms of overall achievement in foreign languages which is enhanced by the interaction of neurological, cognitive, affective, social and educational factors" (Lopez 2006:189).

Secondly, Dornyei and Clement's (2001) report could be another reason for the first finding, which revealed that females tend to score higher on most attitudinal and motivational measures. Their study evinced that females have more positive attitudes and are more motivated during the EFL learning process. Therefore, females would be more motivated to focus their attention on L2 metaphorical expressions so as to be efficient communicators in the second language. And according to Lopez (2006), females consistently manifest an evident liking for the culture, the country, and the speakers of that language. Metaphors are full of cultural elements which will surely attract more attention by females than males and are therefore better grasped by females.

Thirdly, it may be hypothesized that reading frequency has an effect on EFL learners' MC. To test this, the participants in this study were asked to answer a pre-test question about whether they often read English journals, magazines, or novels before they start doing MC Test 1. The choices of the answer were on a 5-likert scale ranging from "completely no" to "absolutely yes". The participants were asked to tick out the best matching choice and the scores of their reading frequency were given on their choices. Then independent-samples t-tests were run to analyze the collected data, comparing the reading frequency of the male and female participants.

As is obvious from Table 6 below, there is a significant difference between the male (M = 1.87, SD = 0.70) and female (M = 2.36, SD = 0.87; t = -2.81, p = 0.007 (two-tailed)) Chinese EFL learners in terms of reading frequency. The effect size was moderate (Eta^2 = .07). Expressed as a percentage, 7 percent of the observed variance in reading frequency was explained by gender.

Table 6: Comparison of mean scores of reading frequency between male and female Chinese EFL learners

	N	*M*	SD	*t*	Sig. (2-	Eta^2 (effect)

				tailed)		
Reading Frequency				-2.805	0.007**	.073 (moderate)
Male	23	1.870	.694			
Female	81	2.360	.870			

** Significant at the 0.01 level (2-tailed).

This result reveals that the female participants read English journals, magazines, or novels significantly more often than their male counterparts, which may partly explain why the female participants perform significantly better in understanding and interpreting metaphors especially in context.

Fourthly, both gender and language proficiency do not have a significant effect on participants' producing creative metaphors, indicating that there is another "important cognitive component in the development of MC" (Littlemore 2010: 78). The cognitive components like loose analogical reasoning and divergent processing function in the process of producing creative metaphors. These are thought to be important components of creative thinking (Guilford 1968; Henderson 1986). In the current study, the cognitive component of creativity and imagination definitely account for the originality of metaphor production, which decreases the influential power of gender and language proficiency on it.

One limitation of the study is the imbalance of male and female participants, and further study should be conducted with a larger sample of male subjects. To further demonstrate the relationship between MC and language proficiency and gender, participants from other nations or other cultures need to be tested to get a more general conclusion.

6 Implications for the L2 classroom

The findings suggest that metaphorical competence consists of different facets and that female students do identify and interpret metaphors better than male counterparts especially in context. Thus, educational systems should be sensitive to the specific needs of the female learners (Moghadam 2005). L2 learners' gender should be considered in metaphor and idiom classes. In addition, language teachers should not be surprised if the different aspects of MC develop independently and at different rates in different learners. The significant difference between male and female learners in reading frequency suggests that teachers should pay more attention to male students during the teaching process and encourage them to read more English articles. Furthermore, L2 material developers should particularly

expose L2 learners to motivational tools in L2 learning by considering L2 learners' gender when they develop materials that show the importance of involving L2 metaphorical expressions in an EFL classroom.

The fact that the participants' language proficiency is closely related to their ability to identify and interpret metaphors in context reminds us again that in the process of L2 teaching, the input of contextual knowledge, including social and cultural knowledge, should be emphasized and increased since too much attention has been paid to words and grammars in L2 classroom teaching.

Finally, the fact that there is another important cognitive component in the development of MC indicates that in the teaching of metaphors, EFL teachers should be conscious of improving the L2 learners' creative thinking ability. The following tasks may be helpful for EFL teachers in classroom teaching. Tasks that involve loose analogical reasoning include one discussed by McCarthy (1990: 46), in which students are encouraged to consider the implications of the various metaphors used to describe the mental lexicon (e.g. a dictionary, a thesaurus, a computer). In another task suggested by Rinvolucri and Davis (1995:105), students visualize and mime the different tenses that are used in target language sentences. Tasks that involve divergent processing include those in which students are encouraged to come up with alternative, metaphoric meanings for pieces of vocabulary and think of situations in which these meanings make sense. For example, they might know that an eye is an organ of sight in humans and other animals, but they might not know that potatoes, needles, and hurricanes can also have eyes. Students might also be encouraged to carry out word association and encyclopedic web tasks, such as those described by McCarthy (1990). Teachers may find that their weaker students tend to do well in these types of activities.

7 Conclusions

By emphasizing the importance of context in understanding metaphors and multifaceted connotation of MC, I have described three facets of MC and examined the possible relationship between Chinese EFL learners' MC and their language proficiency and gender based on empirical studies of Chinese male and female EFL learners. SPSS 16.0 was run to analyze the collected data of MC tests and language proficiency test. The findings in this study were not only considered in terms of significance, but also in terms of effect size.

The finding that female participants performed significantly better in identifying and interpreting metaphors especially in context may be attributed to

their higher reading frequency, motivation, and liking for the culture. Teaching implications were proposed to form an effective EFL classroom setting for development of MC in both female and male learners. Further study may focus on empirical analyses of the cognitive and educational factors like motivation, attitudes, and teaching methods, which may explain the gender differences in MC performances.

The result that both language proficiency and gender did not significantly correlate to participants' originality of metaphor production indicated that there was another important cognitive component in the development of MC, which implied that EFL teachers should be conscious of improving the L2 learners' creative thinking ability to help EFL learners speak in a more native-like manner.

By defining MC in a multifaceted way, I have clarified the contradictory claims on the relationship between MC and language proficiency. Moreover, the findings in this study offer further support for Littlemore's (2010: 69) claim that "metaphorical competence must not be seen as a homogeneous trait. Rather, it is, to some extent, a multifaceted entity." A student can, as shown in this research, be good at interpreting metaphors in context fairly quickly, but not be good at producing creative metaphors.

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Appendix A

Test 1: Test of Ability to Identify and Interpret Metaphor in Context

Please offer the following information before you start your test. Thanks!

Name_____ Gender_____ Age _____
School_____ Major _____

Pre-test question:
I often read English journals, magazines or novels. ( )
Absolutely yes.
Mainly yes.
Half as much yes.
Almost no.
Completely no.

Underline and interpret the metaphors in the following two paragraphs (You are allowed to use Chinese to interpret metaphors when you feel necessary.)

Para 1:
    I go to watch my football team, Manchester United, whenever I can. I love the atmosphere. The whole area around the stadium is full of people. The local pubs are overflowing with people having their drinks outside on the pavement.
    I go into the stadium early and watch people slowly coming in. By about two o'clock, there's a constant stream of people coming in and the stadium starts to fill up. Occasionally, people seem to arrive later than usual and everybody pours in fifteen minutes before the game starts. When it's full, all you can see is a sea of 50,000 faces.
    It always amazes me how quickly the stadium empties at the end of a game. Everybody floods out of the exits onto the streets and ten minutes after the game has finished, the place is almost empty. Occasionally, there's trouble with fans from opposing teams. You hear shouting and there's a sudden surge in the crowd as the people behind you try to escape the trouble. It can be quite frightening.

Para 2:

I'll tell you why we've got problems in this organization. The problems stem from being overstaffed and ploughing too much money into advertising. Too many people in this organization have been doing the same thing for too long. We need to weed out the weaker ones and re-train our best staff. If we want to be more efficient, we have to get rid of the dead wood especially in middle management.

In addition, we are in the middle of a recession. That means we all have to cut back on all unnecessary expense. That way, we may survive till better times. We can't go on investing lot money into advertising when people don't want our products. We need new products and we need them fast. We have published adult fiction for the past 50 years, but now we'd better branch out into a couple of new areas – probably children's books and travel. I'm sure if we reform and change, we will bear fruit at last and soon!

Appendix B

Test 2: Fluency of Metaphor Interpretation Test

Please offer the following information before you start your test. Thanks!

Name_____ Gender_____ Age _____
School_____ Major _____

Write down as many interpretations as you could think of for the five metaphors, that is, to find the relationship between two parts of each sentence as more as possible.

Remember, the metaphors are:

1. A dog is a walking stick.
2. Nature is a vast laboratory.
3. Smiles are the channels of future tears.
4. A dream is a solar eclipse.
5. Evolution is a lottery.

Appendix C

Test 3: Originality of Metaphor Production Test

Please offer the following information before you start your test. Thanks!

Name_____ Gender_____ Age _____
School_____ Major _____

Complete the eight sentences as creatively as possible:

1. In Winter, the weather in Scotland is extremely cold. As soon as you go out of the house your face starts to feel _____.

2. Tom hasn't cleaned his room for ages and it's starting to smell. The smell reminds me of _____.

3. We could tell by the look on the teacher's face that his anger was.......

4. The lake was a shining _____at the bottom of the valley.

5. Peter's violin playing isn't marvelous, but compared to that of Alf it sounds like _____.

6. Dr. Livingstone had been walking across the Sahara for five days without any water. His throat was beginning to feel as dry as _____.

7. What a beautiful day! The clear sky reminds me of _____.

8. When I was a child, I was always frightened of my grandma's teeth soaking in the glass in the bathroom. They made me think of _____.