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Investigation Into the Multiple Intelligences of the English Major Postgraduates in a Normal University

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Abstract

Multiple Intelligences Theory (Gardner, 1983) mainly involves seven kinds of intelligence, which are linguistic intelligence, logical mathematical intelligence, special intelligence, bodily/kinesthetic intelligence, musical intelligence, interpersonal intelligence, intrapersonal intelligence. All the various types of intelligence are respectively independent but interconnected. Various intelligence and intellectual combination result in individuals' various abilities and ways to think about the problems and to solve the problems. This study is carried out to investigate the overall condition of multiple intelligences of the English major postgraduates in normal university, to find out on which types of intelligences English major postgraduates perform better. A multiple intelligences questionnaire has been administered in order to elicit 133 English major postgraduates' responses. According to the results, English major postgraduates in normal university perform negatively on multiple intelligences, especially musical intelligence and linguistic intelligence. While among the seven types of intelligences, participants perform best on intrapersonal intelligence. Such result can not only provide inspirations for English postgraduate education, but also deserves both teachers' and postgraduates' reflection in the aspect of their teaching or learning styles, the design of teaching activities, course arrangement, etc. as well.

Key words: Multiple intelligences; English major postgraduates; Traditional notion; Normal university; Learning styles

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INTRODUCTION

The traditional notion of intelligence measured by IQ testing has been suspected to be far too limited. As Gardner (1983) suggested that there is not only two ways to be intelligent, but many ways, so he puts forward Multiple Intelligences Theory, which classifies the intelligence as linguistic intelligence, musical intelligence, logical-mathematical intelligence, spatial intelligence, bodily/kinesthetic intelligence, intrapersonal intelligence, and interpersonal intelligence. He points out that all these different types of intelligence are respectively independent but interconnected. Various intelligence and intellectual combination result in individuals' various abilities and ways to think about the problems and to solve the problems. Multiple Intelligence Theory believes each type of intelligence can be cultivated and created to maximize one's potential, which should be taken seriously by the educational circle to bring about a great advance in students' all-round development and exploit their potentialities.

The present study attempts to research on the status quo of multiple intelligences of the English major postgraduates in normal university. In this paper, Gardner's Multiple Intelligences Theory is employed. Postgraduates, especially English major postgraduates, have distinct characteristics on their personality, relationship, learning style, etc. We are to discuss English major postgraduate's overall performance on multiple intelligences and their performance on seven intelligences respectively.

1. LITERATURE REVIEW

1.1 The Concept of Intelligence

Intelligence has traditionally been named as wisdom, also known as brainpower. It's the ability to understand objective things and apply knowledge to solve practical problems. Though many definitions and hypotheses about intelligence have been put forward, it is difficult to reach a consensus about them by scholars.

Alfed uto-critique". Since French psychologists Alfred Binet and Theodore Simon made up the first Intelligence Quotient (IQ) tested in 1905, it has been a controversial topic. Based on the first IQ test, one's lever of intelligence is mainly identified according to the test score, but his cognitive and affective process is ignored. Such aspect has been criticized by later researchers, as their views shown in Mainstream Science on Intelligence that intelligence is not merely book learning, a narrow academic skill, or test-taking smarts. It is a very general mental capability that, among other things, involves the ability to reason, plan, solve problem, think abstractly, comprehend complex ideas, learn quickly and learn from experience.

In the course of the measurement of adult intelligence, Wechsler (1944) gives the notion of intelligence as "the aggregate capacity of the individual to act purposefully, and to deal effectively with his environment".

Humphreys (1979), focusing on assessing individual differences in human behavior, extends more specific construct of intelligence. He believes that intelligence results from "the process of acquiring, storing in memory, retrieving, combining, comparing, and using in new context information and conceptual skills."

In his book entitled Frames of Mind, Howard Gardner innovatively puts forward a new theory: The Theory of Multiple Intelligences (1983). He regards intelligence as "the ability to solve problems that one encounters in real life; the ability to generate new problems to solve; the ability to make something or offer a service that is valued within one's culture" (Gardner, 1983). He consider human's intellectual competence containing a set of problem-solving skills, the potential for finding or creating problems, as well as laying a foundation for the acquisition of new knowledge.

From the view of psychologists in the area of cognition, intelligence refers to the ability to deal with cognitive complexity (Gottfredson, 1998). Besides, in Feuerstein, R.'s theory of Structure Cognitive Modifiability (1979, 2002), in order to adapt to the changing demands of a life situation, human beings access to the intelligence to modify the structure of their cognitive functioning.

With the deeper study on intelligence, though there exist various definitions of intelligence, these definitions blend and complement with each other, equipping people with a broader vision while understanding what intelligence is.

1.2 The Dimension of Intelligence

In 1904, Spearman (1904) tested how well people performed on various tasks relating to intelligence by using a statistical procedure, named factor analysis. He develops the two-factor theory of intelligence: g factor (general intelligence) and s factor (specific intelligence). The basic factor g, is owed to one's genetic inheritance, mainly manifesting in general life performance. While s factor varies from person to person on a task.

However, Thorndike (1911) identifies three rather than two factors of intellectual abilities: (a) abstract intelligence: mental ability, especially to process language and mathematical notation; (b) concrete intelligence: to solve problems; (c) social intelligence: to deal with interpersonal relationships.

L. L. Thurstone tested subjects on 56 different abilities; from his data he established seven primary mental abilities relating to intelligence. He categorized them as: spatial ability, numerical ability, word fluency, memory, perceptual speed, verbal comprehension, and inductive reasoning. Various factors grouped together result in one's unique intellectual entity.

Developing the views of Thurstone and Guilford (1967) proposes the structure of intellect model: three-dimensional model with contents, operations, and products. Under each model, there exist $5\times6\times6=180$ intellectual abilities or factors. Each ability stands for a particular operation in a particular content area and results in a specific product.

Vernon's view (1979) of intelligence was a geographic metaphor meaning. He viewed intelligence as a map of the mind. At the top of his hierarchical model was spearman's g and then there were two major group factors: verbal-educational ability (v: ed) and practical-spatial-mechanical abilities (k: m) which could always be decomposed into smaller factors.

Gardner (1983) introduced Multiple Intelligences (MI) theory in his book, Frames of mind, in which he describes different forms of knowing, which provides a much more comprehensive picture of intelligence. Gardner's theory of Multiple Intelligences utilizes aspects of cognitive and developmental psychology, anthropology, and sociology to explain the human.

Sternberg (1983) agreed with Gardner that there was multiple intelligences, stressing the importance to solve problems during the course of cognition. But he narrowed his scope to just three in his triarchic theory of intelligence: analytical, creative, and practical. He wanted to coordinate the contradiction between monism and pluralism with the theory of triple intelligence.

Gardner initially identified seven intelligences. However, in the mid-1990s, he concluded that an eighth intelligence, naturalistic intelligence. So far Gardner's MI theory has been the widely accepted.

1.3 The Measurement of Multiple Intelligence Tests

On the international, one of the widely recognized assessment scale was designed by Harvard professor Branton Shearer (1987). Inspired by Multiple Intelligences Theory, the Multiple Intelligences Developmental Assessment Scales (MIDAS) was designed. MIDAS includes 5 scales with regard to individuals of 5 age levels. MIDAS provides individuals with an effective tool by using which subjects can be aware of their own condition of multiple intelligences. The test report of MIDAS describes individual's skill, ability and intellectual potential, which can help the testers to realize their intellectual strengths and weakness, and help to provide guidance for individual's learning and development. Amstrong (1993) designed a Multiple Intelligence Inventory that applies to the adult. Based on the 8 types of intelligence, the inventory consists of 8 sub-scales. The result of the test will be presented by a bar chart, in which the length of each bar expresses the level of each intelligence.

In China, the relatively authoritative multiple intelligence measurement system was designed by professor Wu (2008). He and his team revised MIDAS, and created the Chinese version, called Chinese Version of Multiple Intelligences Developmental Assessment Scales (CMIDAS). It consists 3 scales with regard to individuals of 3 age levels. In 2011, a Multiple Intelligences research group of Peking University designed a multiple intelligences assessment scale, which is applied to the children between 3 to 7 years old. According to the Multiple Intelligences Theory, this assessment scale includes 8 sub-scales: Logical Intelligence Scale, Linguistic Intelligence Scale, Interpersonal Intelligence Scale, Intrapersonal Intelligence Scale, Spatial Intelligence Scale, Natural Intelligence Scale and Musical Intelligence Scale.

3. METHODOLOGY

2.1 Research Question

This research are supposed to answer the following questions:

(a) What is the status quo of multiple intelligences of the English major postgraduates in normal university? Which types of intelligence do postgraduates perform better on?

(b) What are the reasons that cause such condition of English major postgraduates' multiple intelligences?

2.2 Participants

In this research, the samples consist of 133 English major postgraduates coming from Jiangxi Normal University, male (8) and female (148) within 20 to 26 years old. All of them have been studying English for at least 10 years, 3 years at Junior Middle School, 3 years at Senior High School, and 4 years in college. And most of them (99.6%) majored in English language in college as well. These 133 postgraduates come from 3 different professional disciplines: English language and literature; Subject English; Translation.

2.3 Instruments

This study will use the Multiple Intelligences questionnaire designed by Mary Ann Christison (in Reid, 1998b, pp.157-159). The questionnaire is composed of two parts. The first part is the participants' personal information, for example, the name, gender, student number. The second part is the main part, the MI survey.

MI survey consists of 70 Likert-type questions that represent 7 intelligences such as Linguistic intelligence, Musical intelligence, Logical mathematical intelligence, Spatial intelligence, Bodily/Kinesthetic intelligence, Intrapersonal intelligence and Interpersonal intelligence with 10 items in each subscale. The responses will be formatted using a 3-point Likert scale and range from "strongly agree" to "strongly disagree", the higher the score is, the better performance of the intelligence is. And through the analysis of reliability, the Cronbach's Alpha is 0.806>0.7, so the questionnaire is reliable.

Table 1
The Reliability Statistics of the Multiple Intelligences Questionnaire

Reliability statistics	
Cronbach's Alpha	***N* of items**
.806	133

2.4 Data Collection and Analysis

Data collected from the Multiple Intelligences Questionnaire is analyzed by Microsoft Excel.

3. RESULTS AND DISCUSSION OF THE RESEARCH

3.1 The Overall Characteristics of Multiple Intelligences by English Major Postgraduates

Table 2 reveals the results of the English major postgraduates' overall performance on multiple intelligences, the results include the number of the questionnaire, the means, the ranges and the standard deviations of the overall scores and seven kinds of intelligence of English major postgraduates' performance in normal university.

From Table 3, we can find out that the overall mean score is 73.56, less than the cut-off score 84, the lowest overall score is 39, the highest is 115, and the standard deviation is 15.22, which suggest that the English major postgraduates in normal university have a relatively negative performance on multiple intelligences.

Table 2
The Overall and the Seven Intelligences' Scores of English Major Postgraduates

Variables	*N*	Range	Mean	Std. deviation
Overall score	133	39-115	73.56	15.22
Linguistic intelligence	133	1-19	9.32	2.84
Musical intelligence	133	1-16	9.88	3.91
Logical mathematical intelligence	133	2-19	10.62	3.15
Spatial intelligence	133	2-20	10.97	3.49
Bodily/kinesthetic intelligence	133	0-19	10.69	3.24
Intrapersonal intelligence	133	5-18	11.41	2.49
Interpersonal intelligence	133	4-18	10.67	3.13

Note. The overall cut-off score is 84; the subscale cut-off score is 12.

As for the seven types of intelligence, their mean scores sequence from the highest to the lowest are as follow: intrapersonal intelligence (11.41), spatial intelligence (10.97), bodily/kinesthetic intelligence (10.69), interpersonal intelligence (10.67), logical mathematical intelligence (10.62), musical intelligence (9.88) and linguistic intelligence (9.32)

Among their mean scores, the score on intrapersonal intelligence is the highest, but this one score is below the cut-off score 12. So are the other six intelligence, which shows the negativity to them, especially musical intelligence and linguistic intelligence.

These results show the overall current situation of the performance on multiple intelligences among English major postgraduates in normal university, which means a serious deficiency in multiple intelligences. And next, more detailed analyses of the results will be done and the related discussion will be presented.

3.2 Detailed Analysis of the Seven Intelligences

3.2.1 The Analysis of Linguistic Intelligence

Linguistic intelligence is what English major postgraduates mainly focus on. Whatever their disciplines are, having a general awareness of their condition of linguistic intelligence is an assistance for their academic development. Gardner (1999) defined the linguistic intelligence as the sensitivity to speak and written language, and the ability to accomplish goals, as well as the ability to learn new language. In the postgraduate phase, English majors study more intensively on language, especially second language. Table 3 will provide the results concerning the English major postgraduates' Linguistic intelligence

Table 3
the Scores of Linguistic Intelligence

Linguistic intelligence	Range	Mean	Std. deviation
Total score	1-19	9.32	2.84
Q1	0-2	0.55	0.62
Q2	0-2	1.14	0.70
Q3	0-2	0.88	0.65
Q4	0-2	0.82	0.72
Q5	0-2	0.72	0.71
Q6	0-2	0.99	0.65
Q7	0-2	0.82	0.59
Q8	0-2	1.20	0.68
Q9	0-2	1.05	0.64
Q10	0-2	1.17	0.70

Note. The overall cut-off score is 12; the subscale cut-off score is 1.2.

Table 3 shows that among the ten questions, no questions' mean scores are higher than the subscale cut-off score 1.2, suggesting participants' negative performance on such intelligence. The performance of English major postgraduates on linguistic intelligence is the worst of the seven intelligences, which is beyond expectation. Since primary school, students have been trained to read, write and learn a second language. A serious amount of time and energy invested in linguistic intelligence do not achieve the desired effect, a good performance on linguistic intelligence. It is worth reflecting on education.

As can be seen from the table, Q10 and Q1 are related to the ability of writing, but each mean scores (1.17;

0.55) is lower than the cut-off score (1.2). Only a few participants "have written something that they like", the number of them who "like to write articles and have them published" is even smaller. Student's linguistic intelligence is embodied in the way of the oral language ability as well as of written language skills (Gardner, 1999). But there exist two common phenomenon among students: Students are afraid of writing, or they are not able to write. Though most postgraduates write articles and have them published, it's not out of their sincerity and interest. In addition, postgraduates' writing is restricted to paper writing, the aims of which are to meet supervisors' requirements and to earn credit. And such writing vary in quality. For some postgraduates, they have no passion for paper writing, because of lacking academic spirit and lacking the patience to specialize. As for English major, writing in English is another major obstacle to writing.

Listening is an integral part of linguistic intelligence. It is one of the important channel to gain information. The mean score (0.88<1.2) of Q3 shows that less than half participants "listen to the radio, cassette tapes of lectures, and books". Even though the input of language materials from listening is sufficient: Internet makes a great quantity of professional lectures available to postgraduates and schools also invite professors to deliver academic speeches termly for students to listen, the participation passion of listening is not high. Besides, listening not only means listening clearly to what speakers have said, it should be accompanied by the listener's ability to understand the lectures and know the lectures' intention. But few students autonomously make the conclusion of what they have listened. Thus the effect whether they understand or not is unclear.

Postgraduates' lagged development of their linguistic intelligence manifests as narrow knowledge, poor vocabulary and empty head. Those are neither able to express their ideas efficiently, nor to make themselves understood. The occurrence of such phenomenon results from students' limited range of reading. They are immersed in those textbooks and learning reference materials almost without reading other valuable books. Even if participants will "read something almost every day that isn't related to their work" (Q2:1.14<1.2), they read something mainly from mobile software to entertain themselves, which do not contain deep culture implications and rich culture nutrition and do not facilitate the development of their linguistic intelligence.

3.2.2 The Analysis of Musical Intelligence

Musical intelligence is concerned with the ability to perceive and compose music and the sensibility of rhythm, melody, tone. Musical performers, singers, composers, and musical critics can use this kind of intelligence to express their thoughts and emotional ability during their composing, playing and singing (Gardner, 1999). Apart from linguistic intelligence, musical intelligence is the second naturally related with regard to language learning. The research done by Jerzy (2009) revealed that music can facilitate language learning. Language learners with "music smart" possess the good ability of phonemic coding and the component of language (Carrol, 1965; Skehan, 1989; Zybert, 2000). So finding out the condition of English major postgraduates' musical intelligence can reflect on their linguist ability to a certain extent. Table 4 presents the detailed information about English major postgraduates' musical intelligence:

Table 4
The Scores of Musical Intelligence

Musical intelligence	Range	Mean	Std. deviation
Total score	1-19	9.32	2.84
Q1	0-2	0.80	0.63
Q2	0-2	0.93	0.65
Q3	0-2	0.92	0.75
Q4	0-2	1.02	0.76
Q5	0-2	0.37	0.62
Q6	0-2	1.06	0.70
Q7	0-2	1.05	0.73
Q8	0-2	1.65	0.58
Q9	0-2	1.16	0.67
Q10	0-2	0.93	0.68

Note. The overall cut-off score is 12; the subscale cut-off score is 1.2.

English major postgraduates do not perform well on musical intelligence. According to the data, the overall mean score (9.32) of musical intelligence is the second lowest, which confirms the result of Jerzy. Z's research that there is a positive connection between the production of music and language oral performance. To get high musical intelligence, people have to be specially trained for music or have intuition to music, which neither do most English major postgraduates have.

Some researchers roughly divide musical intelligence into three stages (Wang, 2004). The primary stage that most people can reach is music appreciation. Music appreciation is an aesthetic activity, targeted at

the specific music pieces, by means of listening and other supplementary means, to experience music and comprehend music, so as to satisfy individuals' spiritual need of pleasure. From Table 4, the mean score of Q8(1.65) is higher than the cut-off score 1.2, showing that most English major postgraduates achieve the primary stage, music appreciation, of musical intelligence, they like "listening to music they like and are in the mood for making them feel good". This result can be regarded as the consequences of the popularization and convenience of mobile phones and computers. Mobile phones and computers make various kinds of music accessible and available for postgraduates to appreciate. Besides, listening to music is one of the most convenient ways for students to relax themselves, for postgraduates are facing the enormous pressure from schoolwork and employment. Music has the powerful function on stress reduction. This is a good phenomenon that students appreciate music. Music cannot just be assigned as an entertaining or recreational tool, but an excellent pedagogical tool in language teaching (Zybert, 2009). Musical rhythm is in common with English language flow. While appreciating music, students can seize the rhythm of English phonetics, which can promote their listening competence. However, music pedagogy is seldom applied in the academic learning for English major postgraduates.

When it comes to the second stage, the musical intelligence shown by postgraduates turns lower. The second stage that ordinary people can reach is singing. Singing is one of expressions of human feeling and one of the most economical and practical ways to cultivate students' musical intelligence (Tong, 2007). It's a method, by which can bring inner emotion into full play, and detect directly the aesthetics of music. However, English major postgraduates do not perform well on singing, which can be concluded from the data of Q1(0.80<1.2) and Q7(1.05<1.2).

The demands for the third stage are obviously higher, people at this stage appreciate rhythm and composition (Wang 2004). They have a "good ear" for music so that are able to recognize sounds, tones and rhythm. They are gifted with the ability to compose, sing and/or play instrument(s). As non-music major postgraduates, it is hard to reach. So it is reasonable that Q3 "I can tell if someone is sing off-key" and Q6 "I can always remember the tune, if they hear a new song once or twice" get their mean scores lower than the cut-off score. The proportion of those who can "play a musical instrument and play it frequently" even less. This situation can be attributed to the long-term examination-oriented education. Though present quality education claims comprehensive development, increasing attention to musical intelligence, schools and teachers, even students themselves do not attach great importance to music class. Differing from the undergraduate stage, the curriculum at the postgraduate stage is much greater targeting, optional courses are related to their major field. But non-music major postgraduates concentrate on their own professional courses and researches, hardly train themselves in specialty, unless a fraction of them have great passion on music.

3.2.3 The Analysis of Logical Mathematical Intelligence

Gardner (1993) described logical/mathematical intelligence as "the ability to recognize significant problems and then to solve them." This definition suggests powerful reasoning ability. People who have high logical/mathematical intelligence are good at scientific investigations, identifying relationships between different things and understanding complex and abstract ideas (Jelisaveta, 2016). And Jelisaveta's research (2016) on applying logical/mathematical activities to English teaching as a second language provides a reference that language learner can do better with strong logical/mathematical intelligence, so this type of intelligence cannot be neglected by English major postgraduates. Table 5 will provide the results concerning the English major postgraduates' Logical Mathematical intelligence.

Table 5
The Scores of Logical Mathematical Intelligence

Logical mathematical intelligence	Range	Mean	Std. deviation
Total score	2-19	10.62	3.15
Q1	0-2	1.36	0.66
Q2	0-2	0.99	0.61
Q3	0-2	0.91	0.69
Q4	0-2	0.80	0.73
Q5	0-2	1.41	0.71
Q6	0-2	1.21	0.66
Q7	0-2	0.91	0.62
Q8	0-2	0.81	0.68
Q9	0-2	1.12	0.56
Q10	0-2	1.09	0.61

Note. The overall cut-off score is 12; the subscale cut-off score is 1.2.

English major postgraduates do not perform well on logical mathematical intelligence, which was mainly caused by the school curriculum. As English major, the courses college have arranged for postgraduates are obviously related to language. English major postgraduates are hardly exposed to the courses related to mathematical logic, so fewer and fewer practice or training for logical mathematical intelligence have been done.

According to Table 5, the mean scores of Q1(1.36) and Q5(1.41) are higher than the cut-off score 1.2. Participants "feel more comfortable believe an answer is correct if it has been measured or calculated in some way". And they "believe that most things have a logical and rational explanation". These results of data are reasonable. All the postgraduates are adult, they have already experience something complex more or less, contributing their mental growth. Their thinking tends to be mature and rational, so as not to get too emotionally involved. They are mature enough to solve problems in a relatively rational way.

The data of Q3(0.91) and Q6(1.21) shows participants have some interest in "card games such as hearts, gin rummy, and bridge" or "brain-teaser games". Different from mathematical course learning in class, cultivating logical mathematical intelligence by playing games are more acceptable by students. Card games and brain-teaser games are full of interestingness, attracting lots of students to play to relax, which are respectively easy for English major postgraduates to learn.

When it comes to the ability to Q2(0.99) "calculate numbers easily in head", English major participants show their disadvantages. Calculation needs a little bit talent, but a tremendous amount of acquired learning and training plays the key role. However, most English major has stopped mathematical practice since they entered the college. Besides, some students have no passion for mathematic and present their fear for it, leading to the result that they choose language as their major so that they will study without learning mathematic, which they have gone through during high school days. So Q4 "I like math classes in school", its mean score (0.8) is lower.

3.2.4 The Analysis of Spatial Intelligence

Spatial intelligence is to feel, distinguish, memorize, and change the spatial relationship between objects, by which to express ideas and emotions (Gardner, 1999). The spatial intelligence manifests as people's sensitivity to lines, shape, texture, color or spatial relationships, which is widely reflected in this multimedia age. Language learners receive information form pictures or videos and get the knowledge they need after processing such information by exerting spatial intelligence (Liu, 2003). Table 5 presents the detailed information about English major postgraduates' spatial intelligence:

Table 6
The Scores of Spatial Intelligence

Spatial intelligence	Range	Mean	Std. deviation
Total score	2-20	10.97	3.49
Q1	0-2	1.50	0.58
Q2	0-2	1.33	0.70
Q3	0-2	1.26	0.61
Q4	0-2	0.82	0.76
Q5	0-2	0.81	0.72
Q6	0-2	1.43	0.60
Q7	0-2	1.20	0.65
Q8	0-2	0.85	0.68
Q9	0-2	0.71	0.78
Q10	0-2	1.08	0.58

Note. The overall cut-off score is 12; the subscale cut-off score is 1.2.

People's spatial intelligence appears more and more good trend. Visual experience is the most reliable experience, for people believe "seeing is believing". We are in an age which can be called as "visual age". People are flooded by the information ocean. The advertisement, movie, TV media, internet have a huge impact on our way of thinking (Hegarty, 2010). The researches on spatial intelligence are more significant and valuable. Though the score of spatial intelligence ranks the second high according to Table 2, its mean score (10.97<12) still shows English major postgraduates' negative inclination towards spatial intelligence.

Table 6 reveals that the mean score of Q1 "I pay attention to the colors they wear and colors other people wear" is 1.5, higher than the cut-off score 1.2. Almost all the postgraduate subjects are female. With regard to individual's sense of color, females' sensitivity of various colors is higher, for females demonstrate higher sensitivity of color, so they may pay attention to the color people wear unconsciously or consciously. Besides, most

postgraduates are in their early 20s, young and energetic. Image is key for them, the selection of colors of clothes should be more prudent.

As for Q2 "I take lots of photographs on trips and vacations", its mean score is also higher than the cut-off score (1.33>1.2). The emergence of social software provides a platform to show themselves. People, including postgraduates, share photographs not only on trips and vacations but in daily life on social networks. Many young people take up photography as their hobby, some even take high-quality pictures. They pursue the esthetic beauty of lines, texture and color.

The data of Q6(1.43>1.2) and Q7(1.2) reveals that participants "like to read articles with many pictures" and "are partial to textbooks with many pictures". American scholars Lenie and Lentz conducted 3,115 experimental researches, the result shows that illustrated books have advantages over the books without illustrations in the aspect of teaching effectiveness. Books containing illustrations have diverse effects on learners. They can deploy various senses to participate in learning. They can boost memory, imagination and brain power. Illustrations can convey the information that words cannot explicate clearly. People prefer illustrated books, for such books can arouse their interest, increase reading speed and mobilize the enthusiasm of learners.

But illustrations are used less in postgraduate's professional books. However, multimedia teaching help make up for the deficiency. The multimedia teaching has the incomparable advantage compared with traditional teaching method. On the basis of digitalized processing, multimedia teaching combines with the texts, pictures, sound, videos, cartoons and other carriers of information, to supply students both static and dynamic information, which raise students interest and improve learning efficiency (Qiao & Gao, 2010). The data of Q3(1.26>1.2) shows participants agree "teacher use video in lessons". Multimedia teaching has been widely used in domestic universities.

Those who can remember places vividly, enjoy photography and are good with directions, have higher spatial intelligence. But according to the data of Q4(0.82<1.2), less than half participant find "it is easy for them to find their way around in unfamiliar cities". Postgraduates in this experiment have poor sense of direction, most of them are female is the main explanation.

3.2.5 The Analysis of Bodily/Kinesthetic Intelligence

According to Gardner (2005), Bodily/Kinesthetic Intelligence is about the capacity to use one's whole body or parts of the body to deliver information or to solve problems. Maria (2014) suggests that physical activities have an very positive influence on intellectual performance, for moment increases the amount of oxygen in the brain, which can make human brain active. And some researchers like Kivunja (2015) concludes from his own research that Bodily/Kinesthetic Intelligence can motive critical thinking, the ability of which English major postgraduates are in urgent need. Table 7 will provide the results concerning the English major postgraduates' Bodily/Kinesthetic intelligence.

Table 7
The Scores of Bodily/Kinesthetic Intelligence

Bodily/kinesthetic intelligence	Range	Mean	Std. deviation
Total score	0-19	10.69	3.24
Q1	0-2	0.74	0.70
Q2	0-2	1.33	0.75
Q3	0-2	1.21	0.69
Q4	0-2	1.00	0.69
Q5	0-2	1.42	0.59
Q6	0-2	1.31	0.67
Q7	0-2	1.60	0.64
Q8	0-2	0.85	0.81
Q9	0-2	0.88	0.61
Q10	0-2	1.23	0.63

Note. The overall cut-off score is 12; the subscale cut-off score is 1.2.

The result shows that English major postgraduates' performance on bodily/kinesthetic intelligence is at a relatively low level. The curriculum of postgraduate does not include Physical Education, so the lack of compulsory physical class may affect the situation of this intelligence.

Q7 "I love being in the outdoors", it's mean score (1.31) is higher than the cut-off score 1.2. This situation is relative to the development of society, internet and mobile phone are the chief culprits. Shopping, eating, relaxing can all be done via mobile phones, so that there is no need for going out for the most of time. One research on young people why they prefer staying at home to going outdoors indicates that the primary reason is over relying on networks. Besides, lacking friends in the real world

is another major reason. Postgraduates' interpersonal circle turns smaller, the competition between classmates is rather fierce, which makes postgraduates harder to make true friends than before. English majors consist of mainly females, who prefer going outdoors in company with others. If being alone, they may choose to stay indoors.

The mean score of Q2 "I like to dance" (0.74<1.2), and Q4 "I like to do things with their hands, such as knit, weave, sew, carve, or build models" (1.00<1,2) suggests participants' low passion for learning by using their body. Such activities require individuals' coordination of their legs and arms. The ability of such coordination varies with each individual. Only a small proportion of English major postgraduates with better physical coordination takes up these activities as their hobbies.

More and more people, especially females, have realized the functions of Physical exercise can benefit us both physically and psychologically. A research material from American Kenyon's physical activity attitude scale, college students do physical sports to shape their body, pursuing the physical beauty, and it is an approach to gain physical and psychological health. So the mean scores of Q3 "I engage in at least one sport" (1.21) and Q10 "most of their hobbies involve physical activity of some sort" (1.23) are higher than the cut-off score. In addition, doing physical exercise can bring individuals an active state of mind and stimulate their inspiration, but the mean score of Q6 "I often get ideas when they are jogging, walking, vacuuming, or doing something physical" (0.98<1.2) is not high, so English major postgraduates may prefer a relatively static way to think rather than thinking during doing something physical.

3.2.6 The Analysis of Intrapersonal Intelligence

In the book, Multiple Intelligences in the Classroom, Armstrong (1994) elaborates intrapersonal intelligence as the ability to understand oneself, including one's strength and weakness. It is also the capacity for self-discipline, self-understanding, and self-esteem. The attitude, motivation, and personality of English major postgraduates are connected to the intrapersonal intelligence. The development of such intelligence is of great benefit for students of foreign language (Maria, 2014). Table 8 presents the detailed information about English major postgraduates' Intrapersonal intelligence:

Table 8
The Scores of Intrapersonal Intelligence

Intrapersonal intelligence	Range	Mean	Std. deviation
Total score	5-18	11.41	2.49
Q1	0-2	1.20	0.61
Q2	0-2	1.38	0.58
Q3	0-2	0.89	0.75
Q4	0-2	1.03	0.50
Q5	0-2	1.01	0.51
Q6	0-2	1.07	0.64
Q7	0-2	1.06	0.57
Q8	0-2	1.48	0.62
Q9	0-2	1.07	0.57
Q10	0-2	1.23	0.64

Note. The overall cut-off score is 12; the subscale cut-off score is 1.2.

It's believed that those who become a postgraduate has relatively higher intelligences. According to the data, intrapersonal intelligence gains the highest score, which seems not to be irrational. Q8 "I have hobbies or interest that I enjoy doing on my own", it' mean score (1.43) is higher than the cut-off score 1.2. Most people's hobbies and interest are cultivated from childhood, which are relatively fixed and not ceased due to become a postgraduate. Besides, postgraduates relying on their hobbies and interest to lessen pressure from school work. And the time at their own disposal grows more, students are able to manage time properly to do what they interest in.

Participants more or less "consider themselves independent" (Q2:1.38>1.2), as the data shows. The universities in China are boarding schools, most students live far from home, so that they cannot meet or rely on their families and friends frequently. They should handle everything all by themselves, which tempers their independence. So when they get hurt or disappointed, they bounce back mainly by themselves.

Postgraduates need time to mediate, as the data of Q1(1.2) shows. And many of them need quiet time, thinking time to work alone or independently. "The Silent way emphasizes the development of students' thinking inside-intrapersonal intelligence, and encourages self-reflection on skills and learning preferences Self-regulated learning is an essential characteristic of postgraduate study." (Maria, 2014) Postgraduate stage provides students with large free learning space. Students are thoroughly the master of their time. Being a self-monitor appears to be immensely important. Postgraduate

study is a kind of advanced study. Self-control, profound thinking, actively participating in practice are critical to such learning. While external guide plays a supplementary role in knowledge internalization and creation. Hence, postgraduates should bring their subjective initiative into play. Besides, according to the requirement to solve issues, postgraduates are supposed to set goals for learning flexibly and autonomously, definite the learning tasks via self-cognition, further learning process by self-monitoring, and evaluate learning results with self-reflection.

On account of Chinese education in primary and middle schools, the scores, one of the foci of students is a very specific goal, especially the scores of college entrance examination is of tremendous influence. Therefore, teachers and parents implement strict management to facilitate students to study. Even if at the stage of undergraduate education, many students study for the test. Previous learning hierarchy before postgraduate stage is relatively low. However, the situation is completely different when it comes to the stage of postgraduate education. The learning hierarchy during such stage is high-level and complicated learning, a kind of hard brain work, based on inner motivation to the subject and professional studies. Postgraduates do not take exams as the main goal. The study result, paper, is the ultimate and the most important criterion to assess their study effect (Zhao & Zhu, 2010). Most postgraduates are adults. Schools and tutors relax the management of students. That is, postgraduates study with less pressure via supervision. Schools employ independent course selection, which requires the self-evaluation of students to figure out the right direction for improvement. In addition, postgraduate study is closely coupled with researches. Students are supposed to invest lots of time and efforts to academic researches, which requires a great deal of solitude, dedicating themselves to study alone or independently.

3.2.7 The Analysis of Interpersonal Intelligence

Interpersonal intelligence (Gardner, 1999) is referred to the ability to understand and perceive others' feelings and motivation. With good communication skills, teamwork spirit, and get along well with each other, they possess a relatively strong organizational capacity, leadership skill, negotiation capability, analytical ability, which play the important role in interpersonal communication, but also in language learning. As English major postgraduates, the particularity of their interpersonal communication and learning condition will affect their interpersonal intelligence. Table 9 presents the detailed information about English major postgraduates' Interpersonal intelligence:

Table 9
The Scores of Interpersonal Intelligence

Interpersonal intelligence	Range	Mean	Std. deviation
Total score	4-18	10.67	3.31
Q1	0-2	0.98	0.72
Q2	0-2	1.33	0.70
Q3	0-2	1.80	0.60
Q4	0-2	0.74	0.70
Q5	0-2	1.12	0.73
Q6	0-2	0.71	0.66
Q7	0-2	1.60	0.66
Q8	0-2	1.20	0.65
Q9	0-2	0.71	0.68
Q10	0-2	1.10	0.47

Note. the overall cut-off score is 12; the subscale cut-off score is 1.2.

English major postgraduates' performance on interpersonal intelligence does not show a positive condition. The result is consistent with Jia Chaoqin's research (2012) on the status quo of college students' interpersonal intelligence. Professor Jia finds that students lack of the ability of cooperation and communication during the process of English learning, witch verifies the negative result. In order to cultivate interpersonal intelligence, students should communicate with other frequently. However, many students are plagued by language anxiety. Language anxiety is the feeling of unease, worry and nervousness when having a conversation with others (Kang, 2005). Besides, Chinese students gain language anxiety while learning English mainly embody at focusing so much on grammatical and phonetic accuracy, so that criticized by the teacher and laughed at by classmates, which makes students lose the confidence and interest to express themselves (Jian, 2012). The psychological burden on these students makes them prone to focus on scores and exams, but contrary to the ultimate purpose of classroom teaching.

Prior to postgraduate education, students have terminated their undergraduate studies, during which the turn of students' interpersonal relationship from school to society has been basically completed, becoming a bit more spiritually mature. In the aspect of education mode,

both undergraduate and postgraduate education put more emphasis on student's subjectivity, students become self-learners and explorers of knowledge and solve problems. The transformation offers students more opportunities to cooperate with others, organize people and associate with them, such as presentation and teamwork task. Based on the data of Q10 (1.43>1.2), participants agree that they "have many chances to work with others".

However, the score of interpersonal intelligence is not high. When asking participants whether they feel "comfortable in a crowd or at a party with many people they don't know", the mean score of Q9 (0.71>1.2) shows in the negative. With the popularization of the internet, postgraduate's network interpersonal relationships account for a large proportion. Those whose interpersonal relationships excessively depend on internet are liable to be plagued by psychological barriers, which lead to emotionally lost, be indifferent to others and hardly ever participate in group activities. Their sense of social belonging fades away, while the sense of isolation increases, building the interpersonal hindrance in the real world.

Postgraduates have formed fixed interpersonal circle (Tu, 2006). There exist less club activities and students show little interest in them. Meanwhile, influenced by specialized direction, the breadth of interpersonal communication is relatively limited. Compared with undergraduate stage, though class organizational system is similar, the contact between classmates and between students and teachers become looser and looser. Their characteristic of independent study results in their contact merely in class.

CONCLUSION

Based on this research, the result can be concluded that English major postgraduates do not perform well on multiple intelligences. Among the seven intelligence, English major postgraduates perform relatively better on intrapersonal intelligence, while their performance shows negativity on musical intelligence and linguistic intelligence. The overall negative performance deserves teachers, schools as well as postgraduates themselves' serious attention. Gardner believes that every person is a blend of "intelligence" talents that should be recognized and cultivated. Each person has the potential and need for developing intelligences, and postgraduate stage plays an important role for the development of postgraduates' multiple intelligences. One can make an ideal performance if he or she studies by the intellectual strength or the combination of intellectual strengths. So postgraduates are supposed to be aware of their intellectual strength or the combination of intellectual strengths, and then apply it to their study with the assistance of teachers and schools.

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