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HIRING TRANSFORMATIONAL LEADERS IN EDUCATION: LESSONS LEARNED FROM STRUCTURED EMPLOYMENT INTERVIEWS

Denver J. Fowler, Ed.D.
The University of Mississippi
djfowler@olemiss.edu

Richard A. Posthuma, Ph.D., J.D.
University of Texas at El Paso
rposthuma@utep.edu

Wei-Chi Tsai, Ph.D.
National Chengchi University
weichi@nccu.edu.tw

Dr. Fowler is an Assistant Professor at The University of Mississippi in Oxford, Mississippi (United States). His research is focused on PreK-12 school leadership. More specifically, that of the superintendency.

Dr. Posthuma is a Professor at The University of Texas at El Paso in El Paso, Texas (United States). His research focuses on cross-cultural management, high performance work practices, negotiation and conflict resolution, staffing and training, surveys and focus groups.

Dr. Tsai is a Distinguished Professor at National Chengchi University in Taipei, Taiwan. His research focuses on human resource management, organizational behavior, and training in organizations.

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djfowler@olemiss.edu

Richard A. Posthuma
rposthuma@utep.edu

Wei-Chi Tsai
weichi@nccu.edu.tw

Abstract

In the educational setting, hiring transformational leaders is essential to a schools' success or failure. In this study, we examine Confucianism and country influence on structured employment interviews from both Western (United States) and Eastern cultures (Taiwan). Eastern cultures have certain values not prevalent in Western cultures that may reduce the use of transformational leadership questions in job interviews. Eastern cultures have higher levels of uncertainty avoidance, collectivism, and power distance. We examined questions asked in actual job interviews in Taiwan and the United States (N = 178). Additionally, we examined the three dimensions of interview structure including evaluation standardization, question sophistication, and questioning consistency. We found that the number of questions about transformational leadership were less common in Taiwan, with its lower selection ratios, and when question sophistication and consistency were higher. In the United States, we found that the number of questions about transformational leadership increased with selection ratio, question sophistication, and question consistency, but not in Taiwan. The results of this study have important implications to all workplace settings around the globe where it may be argued that it is advantageous to hire transformational leaders to improve any organization. However, the results of this study may have particular importance to the educational setting, in both China and the United States, and globally, where the need to attract and hire transformational leaders can be vital to a schools' success (or failure).

Keywords: leadership, employment interviews, transformational leadership, education

1. Introduction

"The global stage of education has added to the complexity of education reform. The continuous pressure to turn around education is an obsession of policy makers" (Kirtman & Fullan, 2016). Perhaps now more than ever, the need to hire transformational leaders in the education setting is vital to improving education, especially at the school district and building levels. According to Burgess (2002), "transformational leadership is vital to school improvement

initiatives" (p. 20). Transformational leadership is defined as the type of leadership that is collaborative, empowering, and participatory leadership. Furthermore, transformational leadership is leadership that "moves the follower beyond satisfying self-interests to a kind of followership that works for the good of the total organization" (Burgess, 2002, p. 39). Rooke and Torbert (2011) argue that "every company needs transformational leaders-those who spearhead changes" (p. 139). In Kirtman and Fullan's *Key Competencies for Whole-System Change: Leadership* (2016), the authors share seven leadership competencies that in many ways describe transformational leadership, further making the argument for, and supporting, the importance of transformational leaders in the education setting and elsewhere. There is little doubt, that through the interview process, organizations in all workplace settings are attempting to hire transformational leaders.

In this study, we compare two approaches to the study of employment interviews and transformational leadership. One perspective adopts previously-used methods of Western cultural frameworks for use in the Eastern context. In the first approach, we use an innovative method of overlapping culture constructs. In the second approach, we adopt a Chinese theory of management to the study of employment interviews and transformational leadership. In this approach, we base hypotheses on Confucian traditions (Barney & Zhang, 2009). We then compare these two approaches. A contribution of this study is that the Confucian approach seems to be better able to explain the relationships observed in this study.

Employment interviews have been shown to be one of the most effective methods for screening job applicants in Western cultures (Huffcutt & Arthur, 1994; Huffcutt & Woehr, 1999). There have been several studies that examined employment interviews in Confucian cultures. For example, in Hong Kong, when using interviews to hire auditors, subjective qualifications were shown to be the most important factor in determining who would be hired (Law & Yuen, 2011). However, the authors reported that unlike research results in the U.S., physical attractiveness, dress, and gender did not influence hiring decisions. Yet, studies in Taiwan have found that the physical attractiveness of the applicant does positively correlate with interviewer evaluations of applicants and hiring decisions (Tsai, Chen, & Chiu, 2005; Tsai, Huang, & Yu, 2010). These contradictory findings suggest that the degree to which Western research will generalize to Confucian cultures is unclear. Other scholars have called for more research that examines whether the research about job interviews that has been conducted primarily in Western cultures, will apply in other cultural settings (Adler, 1983; Chen, Chen, & Lin, 2013; Macan, 2009; Posthuma, Morgeson, & Campion, 2002).

In addition, although there is vast literature on the positive effects of transformational leadership, there is virtually no research that examines whether transformational leadership skills and abilities of job applicants can be measured at the time they are hired. Moreover, there is no research on how national culture affects the measurement of transformational leadership in employment interviews.

Transformational leadership is an evolutionary process in which leaders and workers work together to stimulate and inspire each other (Bass, 1999; Burns, 1978; Hsu & Chen, 2011). Transformational leadership has also been described as a process through which leaders inspire vision, offer charismatic appeal, provide intellectual stimulation, and give individual consideration to individual followers (Bass, 1985; Hsu & Chen, 2011). In a study conducted on ethical leadership in 2014, Fowler and Johnson reported "existing research of the ethical dimension of leadership have been predominantly focused on transformational leadership and

charismatic leadership" (2014, p. 13). However, Fowler and Johnson also noted that, in many cases, the two (transformational and charismatic leadership) are separate entities, but theoretically are somewhat similar. Essentially, transformational leadership "represents a shift from top-down, authoritarian behavior toward value-driven action grounded in continuous learning, shared decision-making, collaboration, creativity and diversity" (Burgess, 2002, p. 19).

It has been asserted that transformational leadership is universally effective across cultures (Bass, 1997, Bass & Avolio, 1993). Transformational leadership has proven to be an effective leadership style in China. In a cross-cultural study comparing China and Canada, Wang and Gagné (2013) found that transformational leadership can positively influence a subordinate's motivation. Another study found positive effects of transformational leadership on employee creativity (Wang, Rode, Shi, Luo, & Chen, 2013). High levels of transformational leadership in China that enabled team cognitive diversity to increase level of creativity was found in yet another study (Shin, Kim, Lee, & Bian, 2012). In the U.S., in the PreK-12 educational setting, Fowler and Johnson (2014) found that ethical leadership perspectives (what many would consider a form of transformational leadership) of school district superintendents were statistically correlated student achievement in their respective school districts. In Singapore, transformational leadership was the common style among research and development managers, and transformational leadership also increased innovation, whereas transactional leadership decreased innovation (Lee, 2008). Transformational leadership was shown to be related to increasing technological innovation in Taiwan, even though other factors such as a culture of innovation and compensation incentives for innovation may also be effective (Chen, Lin, Lin, McDonough, 2012).

Other research in Confucian cultures has examined whether other variables can influence the positive relationship between transformational leadership and positive outcomes for organizations. A study in Taiwan showed that the positive effect of transformational leadership on employee performance and on helping coworkers was partially mediated by the positive mood of the employees (Tsai, Chen, & Cheng, 2009). A study in China showed that psychological empowerment mediates the positive relationship between transformational leadership and creativity (Sun, Zhang, Qi, & Chen, 2012). In China, even in crisis situations, transformational leadership has been proven to be effective in part because of the leader's emotional control, the quality of the leader-member exchange, and the value congruence between leaders and followers (Zhang, Jia, & Gu, 2012).

Prior research has shown that applicant use of self-focused impression management tactics had a positive impact on interviewer evaluations of applicants in Taiwan (Tsai, Chen, & Chiu, 2005). In addition, transformational leadership in Confucian cultures encouraged team coordination and, thereby, helped teams to adopt a cooperative approach to conflict management (Zhang, Cao, & Tjosvold, 2011). However, this cooperative approach may sometimes encourage subordinates to remain silent even though voicing their ideas may help the organization to be more productive (Wang, Hsieh, Tsai, & Cheng, 2011). Therefore, the positive relationship between applicant use of self-focused impression management and interviewer evaluations of applicants may not hold when employers hire individuals for higher ranking positions in Chinese cultures where power distance and collectivistic cultural values are more dominant than they are in the U.S.

Moreover, while transformational leadership has been shown to be effective in China, even the proponents of transformational leadership who have claimed that it should be universally

effective, recognize that its form and function may differ across cultures (Bass, 1997). In some cultures, these differences could make it difficult to screen for and to hire individuals who have transformational leadership skills. We propose that in China, the form and function of transformational leadership take its roots from Confucian teachings (Wang, Tee, & Ahmed, 2012). In addition, tradition indicates that important personal characteristics include being modest, being submissive, and seeking lower positions (Lin, Ho, & Lin, 2013). In fact, one recent study used the following question to measure work values in Taiwan: "I am not desperate for a raise or promotion to obtain material enjoyment" (Lin, Ho, & Lin, 2013, p. 97). This could help to explain why another study found that in a matched sample of leaders of not for profit organizations, leaders in the U.S. were more likely to be expected to exhibit transformational leadership than leaders in Taiwan (Chao & Tian, 2011). In Taiwan, asking questions about transformational leadership would be seen as less expected and less likely to occur.

H1: Questions about transformational leadership skills will be asked less often in Taiwan than in the United States.

1.1 Gender of Interviewer

Several studies have shown that females tend to exhibit more transformational leadership skills than males (Bass, 1999). Therefore, they may have a greater tendency to perceive that transformational traits are important for future leaders. For that reason, we expect that when females interview potential job applicants, they will be more likely to ask transformational leadership questions than male interviewers.

H2: Questions about transformational leadership will be asked more often by female interviewers.

1.2 Validity and Selection Ratio

The validity and selection ratio of employee selection procedures interacted to jointly influence the usefulness of employee selection procedures. Validity is the degree of the relationship between a selection test score and an employee's job performance. The more valid the test is—the higher the validity. Validity numbers typically vary from a low of .10 up to a high of about .50, and are often expressed as correlation coefficients. The more valid the test, the better it predicts of future job performance of those who are hired.

The selection ratio refers to the number of people hired divided by the number of people who apply. A lower selection ratio means that the employer has selected only a few of those who have applied. Lower selection ratios are generally better than higher selection ratios. A lower selection ratio means that a company is being more careful in vetting the people who are hired.

Table 1 illustrates how this works (See Appendix A). Along the left column is a list of different selection procedures. Next to them are plausible levels of validity for each procedure. Along the top row is the selection ratio ranging from low .10 (i.e., 1 out of 10 applicants is hired) to high .90 (9 out of 10 applicants are hired). The numbers within the table show the likelihood that each person hired using that selection procedure will actually turn out to be employees with successful job performance after they are hired. These numbers also reflect the expected percentages of persons hired who will turn out to be successful according to which hiring procedure was used.

For example, suppose that an employer is recruiting people from a pool of job candidates. The data in Table 1 (See Appendix A) assume that in the labor pool, which is the source of

applicants, 50 percent would turn out to be successful even if picked at random. Thus, 50 percent of those who are hired would turn out to be successful regardless of the selection ratio. But suppose the employer uses a valid selection procedure, like a structured interview, to decide who will be hired. Reading across the bottom row, it becomes apparent that a low selection ratio enhances the value of using structured interviews. If the employer hires 90 percent of those who apply, the percentage of applicants who turn out to be successful from using a structured interview (54 percent) is not much better than selecting them at random. However, if the employer only hires 10 percent of those who are interviewed, then the chances of the person hired turning out to be successful increase quite dramatically to 84 percent.

Several implications follow from this analysis. First, recruiting more applicants enhances the usefulness of valid selection procedures. Second, the chances of hiring someone who will be successful when using a procedure with low validity are not much better than picking people at random. Third, at high selection ratios, even a valid test does not improve the probability of making a successful hire. Fourth, at low selection ratios, even a moderately valid test can greatly improve the chances of making a successful hire. Thus, it is important that employee selection procedures be valid, but also that employers use lower selection ratios. That is, employers who use valid selection procedures and only hire a small percentage of those who apply will have a much greater chance of hiring employees who will be successful after being hired.

Organizations can be thought of as multi-layered levels of employees in the shape of a pyramid. The number of employees decreases with each higher level. As employees seek higher level leadership positions in organizations, they are competing for positions with higher levels of compensation, responsibility, and prestige. Therefore, the number of people in the pool of applicants is likely to increase at higher level positions while the number of positions decreases. However, since leadership skills are more likely to be important at higher level positions, it is also more likely that as one moves up the organizational ladder, applicants will be asked questions about their transformational leadership skills in some way, shape, or form. Thus, the selection ratio is also likely to decrease as more applicants apply for the job openings at higher levels in the pyramid, albeit fewer. Again, it might be that, as the selection ratio decreases, it is more likely that applicants will be asked about transformational leadership skills, regardless of the interviewer gender.

H3: As the selection ratio decreases, more questions about transformational leadership will be asked in selection interviews.

1.3 Interview Structure

Numerous studies have shown that structured interviews can be reliable and valid predictors of future job performance (Conway, Jako, & Goodman, 1995; Huffcutt & Arthur, 1994; Huffcutt & Woehr, 1999; McDaniel, Whetzel, Schmidt, & Maurer, 1994). The more reliable the interview, the more likely it will yield valid predictions about the future performance of job applicants (Conway, Jako, & Goodman, 1995), and the more valid the interview, the more accurate the future job performance predictions will be. Interview structure has been shown to significantly increase validity (Huffcutt & Arthur, 1994). Structuring the employment interview improves its psychometric properties, thereby making it more useful (Campion, Palmer, & Campion, 1997). Previous research has proposed three broad categories of interview structure: question consistency, evaluation standardization, and question sophistication (Chapman & Zwieg, 2005). Unfortunately, there is little or no research that has studied the impact of these

elements of structure on the measurement of transformational leadership across cultures. Yet, it is likely that in different countries, national culture differences will impact the use of such structure. Therefore, we chose to study whether these elements of interview structure differ in Taiwan and the U.S.

Despite decades of scientific peer-reviewed studies of leadership in organizations, there remains a persistent practitioner belief that leadership is an art that is often difficult to define and study (Cleary, 2004; Scarnati, 1999). Even scholars sometimes referred to aspects of transformational leadership as an art (Bass & Steidlmeier, 1999). Therefore, we expect that when managers are choosing employees for leadership positions, they will be less likely to use scientifically and psychometrically sound selection procedures, such as structured interviews. For that reason, we expect that the more the interview focuses on transformational leadership, the less likely the three elements of interview structure will be used to assess job candidates.

H4a: Interview evaluation standardization will be negatively related to the frequency of questions about transformational leadership.

H4b: Interview question sophistication will be negatively related to the frequency of questions about transformational leadership.

H4c: Interview questioning consistency will be negatively related to the frequency of questions about transformational leadership.

1.4 Meta-Cultural Differences versus Confucian Influence

There is no extant research examining the influence country culture has on selection procedure validity and selection ratios. Given that combining selection procedure validity with low selection ratios can significantly improve performance, we chose to investigate the extent to which employers actually combine valid selection procedures with low selection ratios in two different countries, Taiwan and the U.S.

Valid employee selection procedures have been consistently shown to be part of the domain of High Performance Work Practices (HPWPs) in many countries around the world (Pereira & Gomes, 2012; Posthuma, Campion, Masimova, & Campion, 2013). Yet some employers still remain reluctant to use them. Prior research suggests that this reluctance may result from a variety of factors, including desire to imitate others, inertia, institutional resistance to change, political factors, threats from the environment, etc. (Johns, 1993). We suspect that, in addition to these constraints observed in other countries, Taiwan has its own unique historical cultural legacy that may impair the adoption of these potentially useful procedures.

In this study, we use two competing perspectives. The first is a meta-cultural perspective that is based primarily on culture frameworks that have been applied in many countries. The second is a Confucian perspective. The meta-cultural perspective is based on overlapping culture constructs that are found in several cultural frameworks. There are numerous theoretical frameworks that describe differences in cultures across countries (Hofstede, 2001; House et al., 2004 (GLOBE); Schwartz, 1994). Like overlapping circles in a Venn diagram, we can think of dimensions of cultures in these different frameworks as conceptually similar and overlapping. For example, collectivism is a culture construct that is found in both the Hofstede (2001) and GLOBE culture models (House et al., 2004). It is similar to and overlaps with the embeddedness construct found in the Schwartz (1994) culture framework. Previous research has reported a .66 correlation between GLOBE's measure of in-group collectivism on the society practices scale the

embeddedness scale used by Schwartz (1994). Thus even though these culture models were verified with data that were from different samples, collected using different methods, and collected at different points in time, they all point to the reliable cross-country differences in similar and overlapping culture constructs.

Using the multi-cultural perspective, we compared Taiwan to the U.S., using several overlapping culture constructs of uncertainty avoidance, power distance, and collectivism as one theoretical foundation for hypothesized differences in employment interviews. Thus, this study uses a multicultural theory-based foundation that goes beyond prior studies that relied on only one cultural framework. This is an innovative strength of this study, because it reduces the likelihood that methodological artifacts would be alternative explanations for our findings. For example, issues like the wording of survey instruments, question scaling, and sampling methods are much less likely to threaten the internal validity of this study.

Uncertainty Avoidance. Figure 1 shows the differences between Taiwan and the U.S. uncertainty avoidance. Two different measures of uncertainty avoidance are higher in Taiwan than in the U.S. (GLOBE = 4.6 percent, Hofstede = 50.0 percent). Thus, using the two different measures of culture reported by different researchers using different methods at different points in time, we see that uncertainty avoidance is higher in Taiwan than in the U.S.

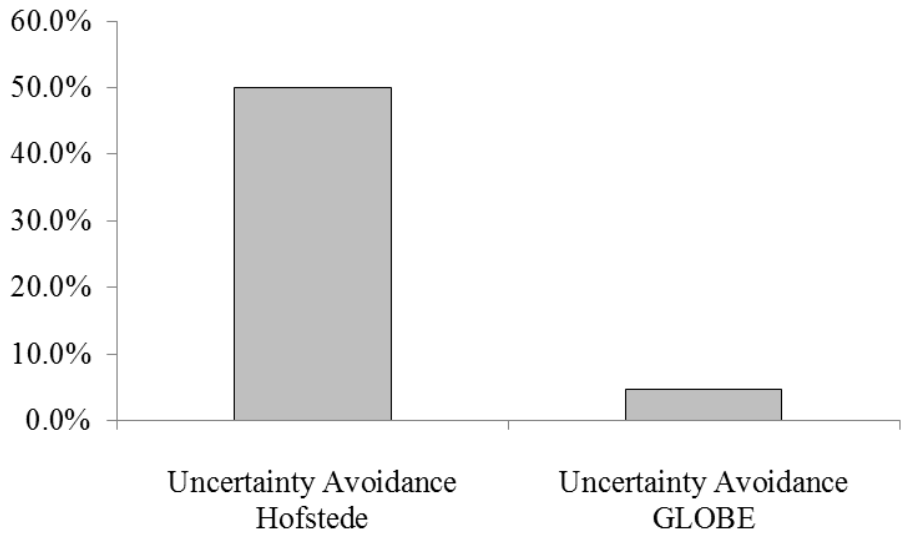

Figure 1. Taiwan uncertainty avoidance culture scores compared to the U.S.

In Western cultures, it would be appropriate for job applicants to anticipate that they would be expected to use self-promotion in job interviews in order to manage the impressions of the interviewer (Posthuma, Morgeson, & Campion, 2002). This kind of self-promotion impression management would be less expected in China (Han, Peng, Zhu, 2012). In China, humbleness, moderation, and stoicism are perceived as important values for leaders (Lai, Lam, & Liu, 2010; Zhang, et al., 2012). Those who exhibit self-promotion would be viewed with suspicion and as possibly arrogant (Lai, Lam, & Liu, 2010). Therefore, even when the selection ratio decreases as the jobs are higher in the organizational hierarchy resulting in a lower selection ratio, there will not be an increase in the use of transformational leadership questions in Taiwan.

Transformational leadership inherently implies that future leaders will seek some type of change in the relationship between employees and their leaders (Dvir, Eden, Avolio, & Shamir, 2002). Since change implies an uncertain future, we expect that in Taiwan, where the national culture prefers to avoid uncertainty, fewer transformational leadership questions will be asked even for higher ranking positions where transformational leadership skills would be expected.

H5: As the selection ratio decreases, more transformational leadership questions will be asked in the U.S. but not in Taiwan.

Power Distance. Figure 2 shows differences in power distance between Taiwan and the U.S. power distance has been consistently reported to be higher in Taiwan. Schwartz's egalitarianism, the opposite of power distance is 7.9 percent lower in Taiwan, but Schwartz's hierarchy is higher in Taiwan (15.5 percent). Two measures of power distance are higher in Taiwan (GLOBE = 6.1 percent, Hofstede = 45.0 percent).

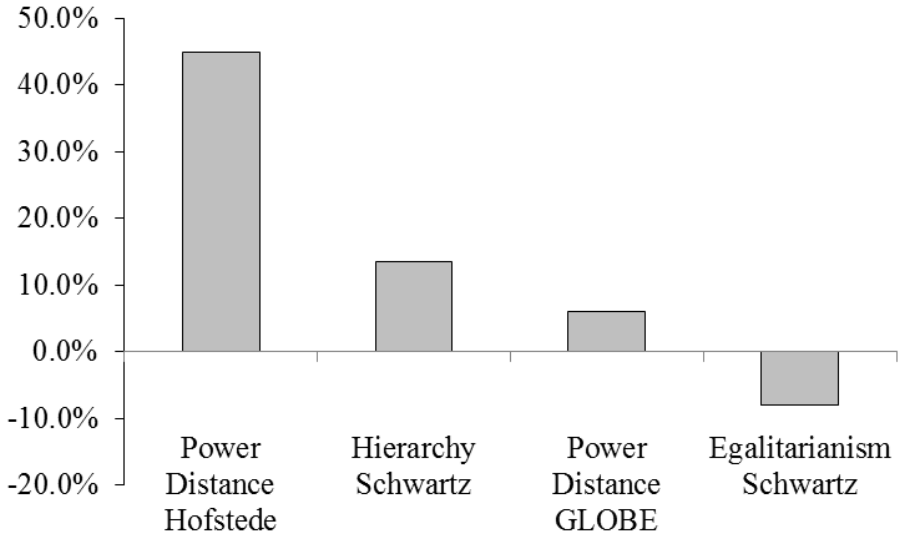

Figure 2. Taiwan power distance, hierarchy, and egalitarianism culture scores compared to the U.S.

Prior research has shown that the positive influence of transformational leadership on team performance was moderated by team potency, and that teams that were more collectivistic and had higher power distance had a stronger positive relationship between transformational leadership and team potency (Schaubroeck, Lam, & Cha, 2007). This suggests that there will be a positive influence of power on the likelihood that transformational leadership questions would be asked in interviews.

Other studies of employment interviews that were conducted in Taiwan but were based primarily on theories developed in Western cultures, have shown that adding structure to employment interviews was more acceptable because they are perceived as more procedurally just (Kuo, & Chang, 2011). These questions were even more acceptable when the interviewers were analytic, when there were strong organizational interview norms, and when the interviewers had a higher need for power (Chen, Tsai, & Hu, 2008). The analytic interviewers reacted more positively to interview structure when the jobs were highly complex. Thus, based on Western theoretical perspectives, for employment interviews in Taiwan, a culture with higher acceptance

of power distance, there will be a stronger relationship between interview structure and the frequency of transformational interview questions.

H6a: The higher power distance in Taiwan will increase the use of question sophistication for interview questions about transformational leadership more so than in the U.S.

However, we also propose an alternative hypothesis that is based on Confucian principles. Prior research has noted that followers in China are not encouraged to speak up and participate in making decisions because this would be perceived as a challenge to the authority of the leader (Lin, Ho, & Lin, 2013). Moreover, transformational leadership implies change, and change could disrupt the harmony in the organization (Lin, Ho, & Lin, 2013). Thus ironically, even though transformational leadership can be effective in China, it may be difficult to hire transformational leaders using interview questions because to do so would be to ask them to speak up about themselves and their beliefs, share their own ideas, and project change for the future of the given organization/position they are interviewing for. In addition, the more sophisticated the interview question, the more likely that the questioning could be seen as challenging the potential future leader.

H6b: The Confucian principles that are dominant in Taiwan, will dissuade interviewers from asking more sophisticated transformational leadership questions.

Collectivism. Figure 3 shows that collectivism has consistently measured as higher in Taiwan than in the U.S. Hofstede's individualism measure, which is the opposite of collectivism is 81.3 percent lower in Taiwan than in the U.S. Two measures of collectivism in GLOBE are higher in Taiwan (in-group = 31.5 percent, institutional = 9.3 percent). Schwartz's embeddedness, which is similar to collectivism, is also higher in Taiwan (4.1 percent).

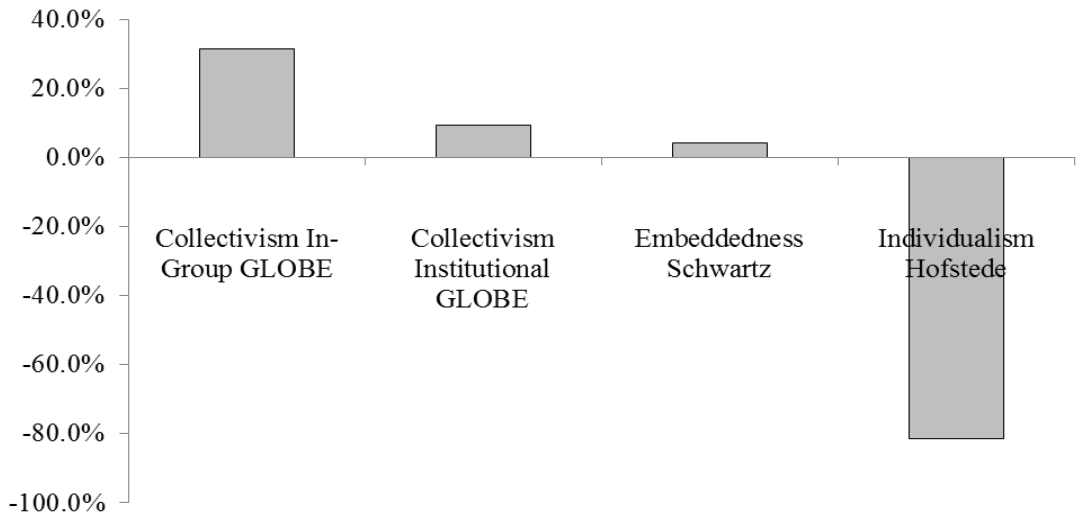

Figure 3. Taiwan collectivism, embeddedness, and individualism culture scores compared to the U.S.

Prior research has shown that transformational leadership can be effective across cultures. Walaumbwa and Lawler (2003) studied employees in China, Kenya, and India. They found a positive relationship between employee perceptions of their leaders' transformational leadership behavior and collectivism values. In addition, they found that the relationship between

transformational leadership and other outcomes was positively enhanced by higher levels of collectivism.

However, research in China has shown that a subordinate's citizenship behaviors and propensity to take charge, were not increased by transformational leadership behaviors but were increased when the leader was seen as prototypical of a team member and the team members more highly identified with their team (Li, Ciaburu, Kirkman, & Xie, 2013). This suggests a different approach to leadership that may be more effective in Taiwan. Under this approach, the leader is not seen as transforming the team, but is seen as a member of the team.

Moreover, Confucian values include a recognition of the importance of personalism and particularism (McDonald, 2012; Seah, Hsieh, & Wang, 2010). Successful leaders in China have been reported to give this kind of individualized support and consideration to followers (Bai, Li, & Xi, 2012; Huang & Snell, 2003). This emphasis is inimical to asking everyone the same questions because doing so would tend to ignore how each individual should be given individual consideration that could contribute to the harmony of the whole group. Therefore, even though asking all applicants the same questions has been found to improve interview validity in Western studies, it will be less likely to be used in China.

H7: In the U.S., question consistency will be positively related to transformational interview questions, but this will not occur in Taiwan.

2. Methods

We chose to study transformational leadership in Taiwan because prior research has shown that transformational leadership may be more common in Taiwan than in China and also Taiwanese employees may be more satisfied with their leaders' style (Hsu & Chen, 2011). Data were collected from persons who conduct actual job interviews in Taiwan ($N = 83$) and the U.S. ($N = 95$).

Despite calls for alternative methods for measuring transformational leadership (Bass, 1999), and despite the that fact that selection interviews are one of the most commonly used employee selection procedures, there is very little research that examines the measurement of transformational leadership in employment interviews. Virtually no cross-cultural research has been conducted thus far. Therefore, we chose to measure transformational leadership in pre-hire employment interviews in two countries: Taiwan and the U.S. Each question that interviewers asked that pertained to transformational leadership was coded as 1. The questions that were coded as transformational included those that asked about idealized influence, inspirational motivation, intellectual stimulation, and individual consideration such as values, interpersonal, growth, etc. (Bass & Avolio, 1995; Liu & DeFrank, 2013). The transformational leadership scale was the sum total of these questions, ranging from a low of 0 to a high of 16, with 16 being the maximum number of transformational leadership questions that were asked.

Dummy-coded variables were created to indicate the presence of a factor (1 = present, 0 = otherwise) for the following variables: Taiwan, service sector, retail sector, manufacturing sector, female interviewer, and questions about experience and education. In addition, dummy-coded variables recorded the presence of elements of interview structure evaluation standardization, question sophistication, and questioning consistency (1 = present, 0 = otherwise). Selection ratio was calculated by dividing the number of persons the interviewer said were interviewed by the number hired.

3. Results

Table 2 (See Appendix B) reports descriptive statistics and Pearson bivariate correlations between the study variables. The mean size of employers was measured by the number of persons employed (M = 459, SD = 969). The mean selection ratio (M = .26, SD = .19), indicating that, on average, employers were hiring approximately 1 out of every 4 people that were interviewed.

Tests of hypotheses were conducted using hierarchical linear regression. The results of this analysis are reported in Table 3 (See Appendix C). The dependent variable was the number of transformational interview questions that were being asked in interviews. Hypotheses 1 was supported. There was a significant and negative relationship between interviews being conducted in Taiwan (Model 4: b = -.86, p < .01). Thus, transformational leadership questions were asked less often in Taiwan than in the U.S. Hypothesis 2 was supported. Transformational leadership questions were asked more often when the interviewer was female versus male (Model 4: b = .24, p < 01). Hypothesis 3 was supported. As the selection ratio decreased, more transformational leadership questions were asked (Model 4: b = -.34, p < .01). Two of the three hypotheses about interview structure were supported. Hypothesis 4a was not supported. Hypothesis 4b was supported because there was a significant and negative relationship between question sophistication and transformational leadership questions (Model 4: b = - .41, p < .01). Hypothesis 4c was supported because there was a significant and negative relationship between questioning consistency (i.e., asking all applicants the same questions) and transformational leadership questions (Model 4: b = -.34, p < .01). Hypothesis 5 was supported. As the selection ratio decreased, more transformational questions were asked in the U.S., but not in Taiwan (Model 4: b = .26, p < .01). This relationship is illustrated in Figure 4.

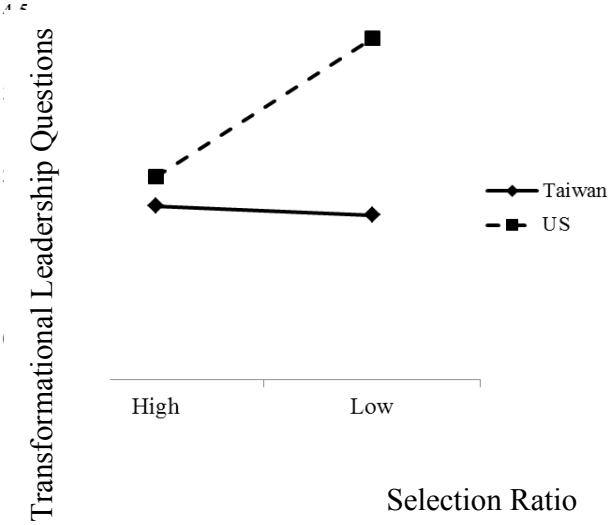

Figure 4. Transformational leadership questions asked by high or low selection ratio and country

Tests for hypotheses 6a, 6b, and 7 tend to support the Confucian values approach more than the Western meta-cultural approach. Hypothesis 6a was not supported, but hypothesis 6b was. The relationship between the interaction term of questions being asked in Taiwan and question sophistication was positive and significant (Model 4: b = .38, p < .01). The nature of this interaction effect is illustrated in Figure 5.

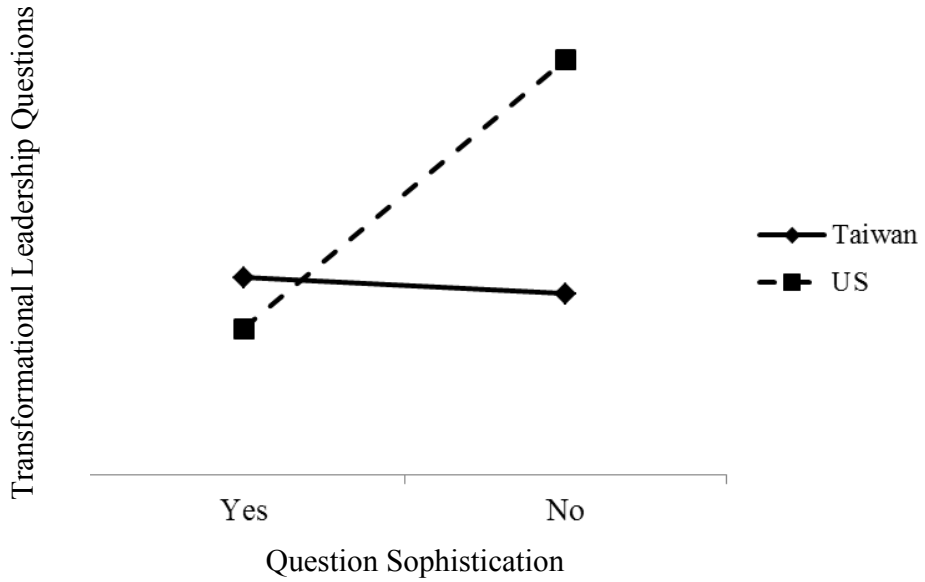

Figure 5. Transformational leadership questions asked by question sophistication and country

While in the U.S., there was a relationship between question sophistication and transformational leadership questions, this relationship did not hold true in Taiwan. Similarly, there was a positive and significant relationship between the interaction of questions being asked in Taiwan and questioning consistency (Model 4: b = .35, p < .01). The nature of this relationship is illustrated in Figure 6. Questioning consistency decreased for transformational questions asked in the U.S., but not in Taiwan.

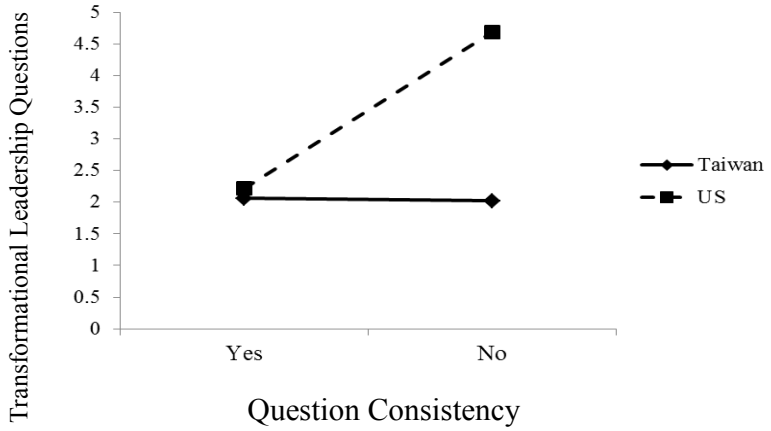

Figure 6. Transformational leadership questions asked by question consistency and country

4. Summary and Discussion

The study was focused on interviews, and more specifically, that of structured employment interviews in both Taiwan and the United States. The summary and discussion section is written through an education lens, as to how the results, and namely, transformational leadership, applies to the educational setting. Nonetheless, transformational leaders are sought across several different workplace settings, within any organization, across the globe. Thus, a generalized approach to the summary and discussion will also highlight how this study applies to all organizations, within any workplace setting, from a global perspective.

4.1 Education Setting

The extant literature continues to support the need for transformational leaders in the education setting (Burgess, 2002; Fullan & Kirtman, 2016; Rooke & Torbert, 2011). This focus on hiring transformational leaders in the education is shared globally, as well as in both Western and Eastern settings. As previously reported, employment interviews have been shown to be one of the most effective methods for screening job applicants in Western cultures (Huffcutt & Arthur, 1994; Huffcutt & Woehr, 1999). Thus, it may be argued that the interview process is the most effective way to screen and hire transformational leaders in schools. However, when a consistent interview protocol does not exist, as well as strategies to hire such individuals, it can be a difficult task. If transformational leadership is truly the heart of effective school leadership, then we must work to design effective methods and protocols for hiring such individuals.

4.2 Globally

Rooke and Torbert (2011) argue that "every company needs transformational leaders" (p. 139). However, most of the literature on transformational leadership has been predominately published in Western settings. Nevertheless, there is an emerging literature showing that transformational leadership can be effective in Eastern settings as well. To this end, much of the extant transformational leadership literature tends to focus the positive effects of transformational leadership. Furthermore, this literature both supports and encourages organizations to develop transformational leadership skills within their current workforce. Again, this can be a difficult task when there is not a consistent interview protocol and/or strategies to ensure the hiring of current or future transformational leaders. Despite the prevalence of employment interviews as the most common method for hiring employees, there is virtually no research that describes how organizations can consistently hire and attract people with, or the potential for, transformational leadership skills.

5. Conclusions and Recommendations for Future Research

In this study, we examined the differences in interviews assessing transformational leadership skills in both Taiwan and in the United States. The results suggest that questions about transformational leadership are asked less often in Taiwan. Furthermore, we determined that as the selection ratio decreases, question sophistication and question consistency increases more often. While also determining that selection ratio, question sophistication, and question consistency influenced the frequency of transformational leadership questions in the United States, whereas they did not in Taiwan.

The results of this study suggest that organizations can and do ask questions about transformational leadership of job applicants. Nevertheless, methods other than the interview

structure may be required to increase the frequency of assessment for potential or current transformational leadership skills in the Eastern settings and other related cultures.

Within the educational setting, as well as other organizational settings around the globe, including the business sector, transformational leaders are desirable (Rooke & Torbert, 2011). To this end, hiring transformational leaders can be an extremely difficult task. As previously reported, this can be especially problematic when no interview protocol exists to ensure the hiring of both current and future transformational leaders, despite employment interviews serving as the most common practice for hiring employees. Collectively, we continue to support the need to hire transformational leaders in all organizations within all workplace settings around the globe, conversely, there is little or no research on how organizations can effectively ensure they are hiring transformational leaders. To this end, we recommend future research be focused on the development (and validation) of interview protocols to determine if applicants are, or have the potential for, transformational leadership.

Finally, in this study we examined the differences between Taiwan and the United States from two perspectives. The first perspective adopted a multicultural framework based on an innovative method of overlapping cultural constructs. The second method follows a Chinese theory of management and examines the observed relationships from a Chinese theory of management perspective. The results of this study support the Chinese theory of management perspective. Therefore, we suggest that future studies should continue to pursue research on employment interviews and transformational leadership from the perspective of a Chinese theory of management. In addition, we contend that future research should include organizational and country comparisons from around the globe.

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Appendix A: Table 1

Table 1. Percentage of successful hires by selection procedure validity and selection ratio

		Selection Ratio								
Procedure	*Validity*	*.10*	*.20*	*.30*	*.40*	*.50*	*.60*	*.70*	*.80*	*.90*
Random Selection	.00	50%	50%	50%	50%	50%	50%	50%	50%	50%
Unstructured Interviews	.10	54%	53%	52%	52%	51%	51%	51%	51%	50%
Reference Checks	.20	64%	61%	59%	58%	56%	55%	53%	53%	52%
Ability Tests	.30	71%	67%	64%	62%	60%	58%	56%	54%	52%
Integrity Tests	.40	78%	73%	69%	66%	63%	61%	58%	56%	53%
Structured Interviews	.50	84%	78%	74%	70%	67%	63%	60%	57%	54%

Adapted from: Schmidt & Hunter (1998); Taylor & Russell (1939).

Appendix B: Table 2

Table 2. Descriptive statistics and bivariate correlations between variables.

	Variables	*M*	*SD*	*1.*	*2.*	*3.*	*4.*	*5.*	*6.*	*7.*	*8.*	*9.*	*10.*	*11.*
1.	Transformational Leadership	2.73	3.14	.72										
2.	Taiwan (Taiwan = 1, U.S. = 0)	.47	.50	-.23	-									
3.	Service Sector	.34	.47	.05	.01	-								
4.	Retail Sector	.35	.48	.11	-.23	-.52	-							
5.	Manufacturing Sector	.28	.45	-.19	.28	-.44	-.45	-						
6.	Government Sector	.03	.18	.07	-.11	-.13	-.14	-.12	-					
7.	Female Interviewer (1 = F, 0 = M)	.40	.49	.22	-.29	-.01	.12	-.12	-.03	-				
8.	Employer Size (Employees)	459	969	.03	.02	-.04	-.20	.23	.10	-.20	-			
9.	Selection Ratio (Hired/Interviewed)	.26	.19	-.17	-.27	.11	-.08	-.03	-.03	-.01	.01	-		
10.	Evaluation Standardization	.34	.48	.13	-.18	-.06	.02	.06	-.01	.06	.07	-.01	-	
11.	Question Sophistication	.48	.50	-.27	.08	.03	-.04	.04	-.12	.01	.04	-.02	-.26	-
12.	Questioning Consistency	.58	.49	-.21	.06	-.07	-.05	.06	.16	-.05	.04	-.02	.11	.05

N = 178 using listwise deletion, r's > .15 significant at $p < .05$ and r's > 18 significant at $p < .01$, Cronbach's α reliability for Leadership Scale = .72.

Appendix C: Table 3

Table 3. Hierarchical linear regression predicting frequency of questions about transformational leadership.

		Model 1		*Model 2*		*Model 3*		*Model 4*	
		B		*B*		*B*		*B*	
Taiwan (Taiwan = 1, US = 0)		-.18	*	-.20	*	-.20	**	-.86	**
Service Sector		.36		.40		.18		.45	
Retail Sector		.37		.38		.15		.41	
Manufacturing Sector		.21		.23		.04		.32	
Government Sector		.17		.17		.09		.17	
Female Interviewer		-		.18	*	.16	*	.24	**
Employer Size (Employees)		-		.09		.08		.07	
Selection Ratio (Hired/Interviewed)		-		-.23	**	-.24	**	-.34	**
Evaluation Standardization		-		-		.05		-.06	
Question Sophistication		-		-		-.23	**	-.41	**
Questioning Consistency		-		-		-.21	**	-.34	**
Taiwan X Female Interviewer		-		-		-		-.08	
Taiwan X Selection Ratio		-		-		-		.26	*
Taiwan X Evaluation Standardization		-		-		-		.09	
Taiwan X Question Sophistication		-		-		-		.38	**
Taiwan X Question Consistency		-		-		-		.35	**
Model	Adjusted R^2	.05		.12		.21		.30	
	F	2.66	**	3.91	**	5.29	**	5.82	**
	ΔR^2	-		.09		.10		.11	
	ΔF	-		5.64	**	7.74	**	5.41	*

N = 204. *p < .05, **p < .01. *B* = Standardized Beta Coefficients.

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IMPROVING THE STUDENT'S OPINION ABOUT THE NATURE OF SCIENCE WITH THE PROCESS-BASED ACTIVITIES BY THE TEACHERS WHO GET DISTANCE EDUCATION ABOUT THE NATURE OF SCIENCE

Fatih Serdar Yıldırım
Ministry of National Education, Turkey
fatihserdaryildirim@gmail.com

Semra Mirici
Gazi University
semramirici@gmail.com

Dr. Fatih Serdar Yıldırım graduated from Selçuk University Faculty of Education Biology Teaching Departmant in 1999; got master degree at the same University in 2011; completed (PHD) doctorate education at Gazi University Enstitute of Educational Sciences biology teaching Department in 2016; and still working as a science teacher in Ministry of National Education.

Prof. Dr. Semra MİRİCİ is a full time professor at Gazi University Gazi Faculty of Education, in Ankara, Turkey. She is also the board member of the World Council for Curriculum and Instruction (WCCI) Turkish Chapter. She has been lecturing at Turkish universities for more than 25 years. She worked at Kirikkale University, Akdeniz University and Gazi University as the Coordinator of Teacher Training Programs, the Chair of Science Teacher Education Department and the Vice Dean of the Education Faculty in Antalya. She has several articles published in national and international academic journals. She has coordinated or participated in the steering committees of several national and international science projects. Her main fields of studies are Biology Education, Plant Biotechnology, and STEM.

IMPROVING THE STUDENT'S OPINION ABOUT THE NATURE OF SCIENCE WITH THE PROCESS-BASED ACTIVITIES BY THE TEACHERS WHO GET DISTANCE EDUCATION ABOUT THE NATURE OF SCIENCE

Fatih Serdar Yıldırım
fatihserdaryildirim@gmail.com

Semra Mirici
semramirici@gmail.com

Abstract

The purpose of this research is to identify the effect of the activities on student's opinion about the science nature which is prepared with the explicit reflective teaching approach and integrated with 9th grade biology lesson syllabus by the teachers who gets distance education about teaching the nature of science. For that purpose, in this research, quasi experimental design with pretest and posttest control group has been used. For that purpose, in this research, quasi experimental design with pretest and posttest control group has been used. 2 teachers and 114 students in an Anatolian High School in Meram/Konya have participated in this research in the whole 2014-2015 academic year. In this project, BDHGA Form C (a survey on the ideas about nature of the science), and YYG (semi-structured interview) and Rubic are used as data collecting tools. The qualitative data of the research has been analyzed with content analysis, descriptive analysis and document review. The quantitative data has been analyzed with the SPSS 17 software using ANOVA and T-test for related samples. According to the both quantitative and qualitative data obtained from the research, the experiment class, in which the teacher educated in distant about nature of science and has taught the topic in process based way to the students, is observed to be more developed in this topic than the other class. Also it is seen that only being educated about science nature of the teachers is not adequate. However, the usage of the explicit reflective activities integrated into syllabus has contributed to the perception of the students about the nature of science topic.

Keywords: Nature of the science, biology education, explicit reflective approach, distant training

1. Introduction

Today, the development level of the societies is directly related with the science and owning the knowledge. Because of that the usage of the scientific methods and approaches with scientific data by societies in their daily life is impacting their place and respectability among the other countries directly. That is why, the democratic societies of our day needs scientific literacy individuals who appreciates the science and contribution of the science to the society, has enough knowledge about the basics of the science and the way how science works and most importantly they need the individuals who can approach critically to the discussions and facts that science brought. Performing of scientific literacy is depends on the

development of the individuals' mentality on the way that they can make conscious decisions and, participate to the discussions about science and technology (OBDOP 2013).

The consideration of the science literacy with its sub-dimensions is important for presenting the causes of serving it as an aim for everybody. With this understanding, the science literacy has taken into the consideration with three sub-dimensions:

1) Nature of Science

2) Relationship between Science-Technology-Society

3) Scientific Content Knowledge (Turgut, 2007).

1.1. Nature of Science

The efforts to understanding the nature of science can be based upon the beginning of the 1900s (Lederman, 1992). But there is no common definition about the nature of science by the scientists until now. McComas and others (1998) gave the definition by saying "The nature of science is a mix of the specifics of various social sciences including science sociology, science history and science philosophy with phycology and explaining the questions such as what is science and how it works, how scientists are working as a social group and, how society lead and reacts to the scientific efforts". We can define the relationship of these disciplines with this way. Philosophy examines what science is and how it works; sociology examines whom are the scientists and how they work; Phycology examines the characters of the scientists (Can, 2005).

While there is an agreement with great scale about which approaches can be used on teaching the nature of science to the student and teachers and which approaches can be more effective, there is some different opinions about classifying them (Abd-El-Khalick and Lederman, 2000(a); Khishfe and Abd-El-Khalick 2002; Koseoglu, Tumay and Ustun, 2008). The approaches used on teaching the nature of science is divided into a two group as implicit and explicit-reflective by some researchers (Abd-El-Khalick and Lederman, 2000(b); Akindehin 1988; Bybee, 2001; Erick, 2000; Schwartz, Lederman and Crawford, 2004; Solomon and others, 1992). There are also some researchers who are adding historical approach to these two approaches and dividing the approaches used on teaching nature of science into three groups (Khishfe and Abd-El-Khalick, 2002).

One of the most important preconditions of the scientific literacy is understanding the nature of science (McComas, Clough and Almazroa, 2000). That is why "understanding the nature of science" is one of the most important aims of the science curriculums (The Ministry of Education [MEB], 2005; National Research Council [NRC], 1996; American Association for the Advancement of Science [AAAS], 1990, 1993; Collette and Chiappetta,1987; National Science Teacher Association (NSTA), 1982). Students should be able to explain the nature of science viably with today's understanding at the end of their science education.

In this regard, studies are made for students and teachers to have a viably scientific understanding from the preschool till the end of the secondary education at the beginning of 1960s (Lederman, Abd-El-Khalick, Bell and Schwartz, 2002). It was determined on many research that teachers' beliefs and types of understanding the nature of science is effecting their teaching experiences (Lederman, 1992; Lederman, 1999; Murcia and Schibeci, 1999; Tairab, 2001; Lin and Chen, 2002; Dass, 2005; Akcay, 2006; Oztuna Kaplan, 2006; Waters-Adams, 2006). This result shows that teachers should have the earnings at a reasonable level

regarding the existing knowledge. Existing literature shows us that teachers' opinion related to the nature of science is not enough (Macaroglu, Tasar and Cataloglu, 1998; Dickinson, Abd-El Khalick and Lederman, 2000; Abd-El Khalick, 2002; Thye and Kwen, 2003; Dogan Bora, 2005; Turgut, 2005, Wahbeh, 2009; Arı, 2010).

Many scientists reported that teachers should get in-service training to overcome the deficiencies (Dogan, 2005; Can, 2008; Muslu, 2008; Onen, 2011; Koyuncu, 2011; Savas, 2011; Ozcan, 2011; Sarac, 2012). When in-service training courses organized well and needed importance given to the teaching programs of the institutions that training teachers, scientific concepts of the students will improve (Lederman and Zeidler, 1987). That is why, firstly it should be focused on the education of teachers and candidate teachers to improve the student's concept about the nature of science.

With this regard, one willing biology teacher joined to the post graduate class which is called "Nature of Science and its Teaching" handled by one universities' Post Graduate program on Science Teaching at the Education Science Institute with distance education within the scope of in-service training at the 2013-2014 academic year Spring Term.

1.2. Aim of the Research

The aim of this research is investigating the effects of the teacher who got distance education about teaching the nature of science and the events based on long-planned for improving the student's opinion about the nature of science.

1.3. Problem Sentence

On this research, this question is asked; Is there any effect of the events that based on long-planned and teacher who got distance education about teaching the nature of science to improve the student's opinion about the nature of science?

The problem sentences of the research;

1) What is the effect of the events that based on long-planned and biology teacher to improve the 9th grade student's opinion about the nature of science?

2) What is the effect of the teachers who got distance education about teaching the nature of science to improve the 9th grade student's opinion about the nature of science?

2. METHOD

2.1 Research Model

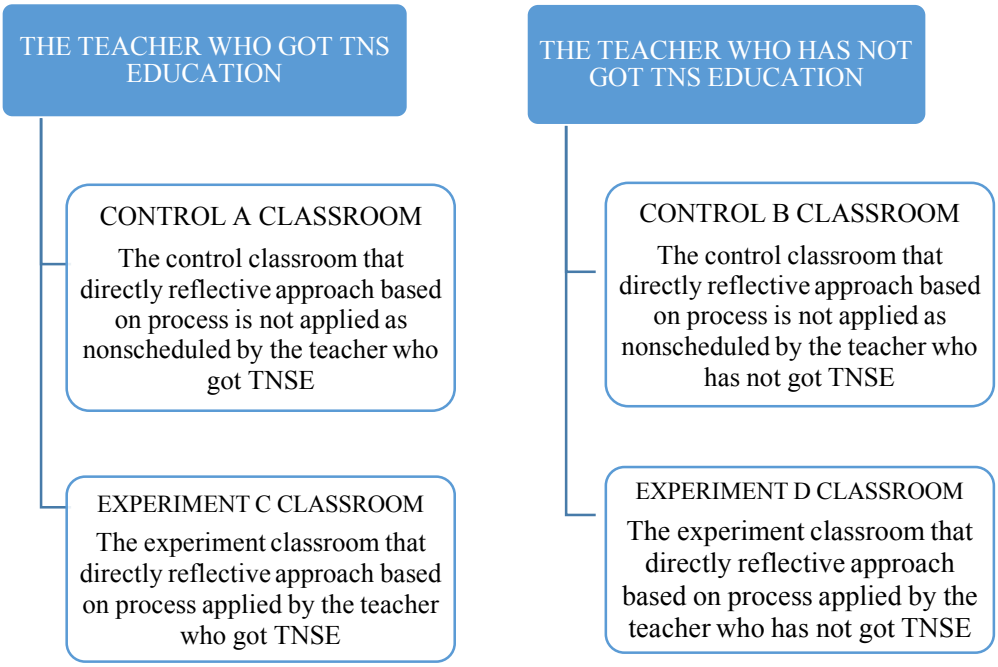
Mixed method researches define as the qualitative and quantitative method, approach and concept that are from one study or following studies mixed by researcher (Creswell, 2003; Tashakkori and Teddlie, 1998; Johnson and Onwuegbuzie, 2004). In this study, mixed method research that enables the qualitative and quantitative method work together and "pre-test and post-test quasi-experimental design with control group" used.

2.2. Study Group

The study group of this research forms with the 9th grade students from 4 different classrooms in an Anatolian High School at the Center county of Konya (Meram) (n=114). Availability sampling method is used for picking the study group. In this method researcher

study with a group that easy to reach and close (Yildirim and Simsek 2011). Two volunteer biology teacher has chosen that teaches these classrooms. One of the teachers had distance education about Teaching the Nature of Science (TNS) and the other one is not. On teaching the nature of science to the classrooms on the study group, the activities from the MEB's textbook for 9th grade students have applied to one group and the planned activities that prepared with directly reflective approach based on process has applied to the other group.

Table 1. *The study groups in the research*



2.3. Data Collection Tools

The data collection tools applied to the teachers and students who are in the study groups on this research is forms with the Views of Nature of Science Questionnaire (VNOS-C) improved by the Lederman (2002), semi-structured interviews (SSI) and Staggered Scoring Key (Ozcan, 2013).

The Staggered Scoring Key (SSK) developed by Ozcan (2013) has used on the research to watch and evaluate the changes and improvements on the teachers and students' opinion about the nature of science. While the intraclass correlation coefficient values of the VNOS-C and SSK was between 0.72 and 0.88, the Cronbach's Alpha Reliability Coefficient is between 0.92 and 0.97.

2.4. Data Analysis and Interpretation

As this research has mixed research method that the qualitative and quantitative methods used together, the data analysis is characterized by this situation (Buyukozturk, 2007). The qualitative and quantitative data analyze process gathered from research are shown at the Table 2.

Table 2. *Data analyze process*

Data Analyze Tools	Type	Data Analyze Methods
VNOS-C Pre-test and Post-test (Student)	Qualitative	Content Analyze
SSK(Student Surveys)	Quantitative	T test for Related Samples and
SSI	Qualitative	Content Analyze

As "Views of Nature of Science Questionnaire – Form C" that used for identify the students' opinion about the nature of science in this research generally using for qualitative researches, the data gathered from this scale has been resolved with content analyze and quantitative analyze methods (T test, ANOVA, Tukey). For analysis SPSS 17 package program has been used.

3. RESULTS

3.1. The Results Gathered from the Comparison of the Pre-Tests of the Research Groups

The VNOS-C survey has applied to the groups before the research. The scores that groups are gain about the nature of science from the answers has been compared with the Anova Test on the Table 3.

Table 3. *The Pre-test results of the groups related to the Nature of Science Element*

ANOVA						
		Sum of Squares	df	Mean Square	F	p
Changeability (pre-test)	Between Groups	12,699	3	4,233	,995	,398
	Within Groups	467,871	110	4,253		
	Total	480,570	113			
Experimentalism (pre-test)	Between Groups	3,994	3	1,331	,328	,805
	Within Groups	445,971	110	4,054		
	Total	449,965	113			
Observation and Inference (pre-test)	Between Groups	6,660	3	2,220	,813	,489
	Within Groups	300,497	110	2,732		
	Total	307,158	113			
Theory and Law (pre-test)	Between Groups	,282	3	,094	1,915	,131
	Within Groups	5,402	110	,049		
	Total	5,684	113			
Theory Loaded (pre-test)	Between Groups	5,258	3	1,753	,860	,464
	Within Groups	224,269	110	2,039		
	Total	229,526	113			
Imagination and Creativity (pre-test)	Between Groups	91,204	3	30,401	3,656	,105
	Within Groups	914,655	110	8,315		
	Total	1005,860	113			
Social and Cultural Effect (pre-test)	Between Groups	13,953	3	4,651	2,010	,117
	Within Groups	254,564	110	2,314		
	Total	268,518	113			

As it is seen on Table 3, there is no meaningful difference between the scores that group are gained from the VNOS-C survey about the elements of the nature of science ($p>0.05$). As a result of this, the level of the opinion about the nature of science of groups are same before the research.

3.2. The Results Gathered from the Comparison of the Post-Tests of the Research Groups

On this part, the comparison of the VNOS-C survey post-test scores that used after the application and elements of the nature of science as on the following.

3.2.1. '*Scientific Knowledge is open to change (Changeability)*' the statically comparison of the post-test of the groups about the elements of the nature of science

To understand if there is meaningful difference between the groups, the Anova test has applied (Table 4).

Table 4. *The Anova test results of the study groups for scientific knowledge is open to change dimension*

	Sum of Squares	df	Mean Square	F	p
Between Groups	608,640	3	202,880	9,587	000*
Within Groups	2327,774	110	21,162		
Total	2936,414	113			

*p<.05, is meaningful statistically ** is not meaningful statistically.

As it is seen on the Table 4, there is meaningful difference at least between the two of the groups. Which groups has that difference between them is identified with the Tukey Test (Table 5).

Table 5. *The Turkey test results of the study groups for scientific knowledge is open to change dimension*

(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	p
Control A	Control B	1,23030	1,29123	,776**
	Experiment C	-4,57386(*)	1,27404	,003*
	Experiment D	-,01970	1,29123	1,000**
Control B	Control A	-1,23030	1,29123	,776**
	Experiment C	-5,80417(*)	1,16905	,000*
	Experiment D	-1,25000	1,18776	,719**
Experiment C	Control A	4,57386(*)	1,27404	,003*
	Control B	5,80417(*)	1,16905	,000*
	Experiment D	4,55417(*)	1,16905	,001*
Experiment D	Control A	,01970	1,29123	1,000**
	Control B	1,25000	1,18776	,719**
	Experiment C	-4,55417(*)	1,16905	,001*

*p< .05, is meaningful statistically ** is not meaningful statistically.

As it is seen on the Table 5, there is a meaningful difference between the Experiment C classroom and the others. This difference is in favor to the Experiment C classroom (the classroom that process based activities applied by the teacher who got TNS education) ($p<0.05$).

3.2.2. '*Scientific Knowledge has an Experimental Nature (Experimentalism)*' the statically comparison of the post-test of the groups about the elements of the nature of science

To understand if there is meaningful difference between the scores that groups are gained, the Anova test has applied (Table 6).

Table 6. *The Anova test results of the study groups for the experimentalism dimension of the nature of science*

	Sum of Squares	df	Mean Square	F	p
Between Groups	1601,273	3	533,758	23,094	,000*
Within Groups	2542,385	110	23,113		
Total	4143,658	113			

*p< .05, is meaningful statistically ** is not meaningful statistically.

As it is seen on the Table 6, there is a meaningful difference at least between the two of the groups. Which groups has that difference between them is identified with the Tukey Test (Table 7).

Table 7. *The Turkey test results of the study groups for the experimentalism dimension of the nature of science*

(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	p
Control A	Control B	1,44394	1,34944	,708**
	Experiment C	-8,06960(*)	1,33148	,000*
	Experiment D	-3,02273	1,34944	,119**
Control B	Control A	-1,44394	1,34944	,708**
	Experiment C	-9,51354(*)	1,22176	,000*
	Experiment D	-4,46667(*)	1,24131	,003*
Experiment C	Control A	8,06960(*)	1,33148	,000*
	Control B	9,51354(*)	1,22176	,000*
	Experiment D	5,04688(*)	1,22176	,000*
Experiment D	Control A	3,02273	1,34944	,119**
	Control B	4,46667(*)	1,24131	,003*
	Experiment C	-5,04688(*)	1,22176	,000*

*p< .05, is meaningful statistically ** is not meaningful statistically.

As it is seen on the Table 7, there is a meaningful difference between the Experimental C classroom and the others. This difference is in favor to the Experiment C classroom (the classroom that process based activities applied by the teacher who got TNS education) ($p<0.05$). On the other hand, there is a meaningful difference between the Experimental D classroom (the classroom that process based activities applied by the teacher who has not got TNS education) and Control B classroom (the classroom that process based activities did not apply by the teacher who has not got TNS education) ($p<0,05$). This difference is in favor to the Experiment D classroom (the classroom that process based activities applied by the teacher who has not got TNS education).

3.2.3. 'Scientific Knowledge is depending on not only the observation but also the inference (Observation and Inference)' the statically comparison of the post-test of the groups about the elements of the nature of science.

To understand if there is meaningful difference between the scores that groups are gained, the Anova test has given on Table 8.

Table 8. *The Anova test results of the study groups for the observation and inference relations dimension of the nature of science*

	Sum of Squares	df	Mean Square	F	p
Between Groups	294,832	3	98,277	9,659	,000*
Within Groups	1119,238	110	10,175		
Total	1414,070	113			

*p< .05, is meaningful statistically ** is not meaningful statistically.

As it is seen on the Table 8, there is a meaningful difference at least between the two of the groups. Which groups has that difference between them is identified with the Tukey Test and it has given on Table 9.

Table 9. *The Turkey test results of the study groups for the observation and inference relations dimension of the nature of science*

(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	p
Control A	Control B	,69545	,89535	,865**
	Experiment C	-3,18892(*)	,88344	,003*
	Experiment D	,26212	,89535	,991**
Control B	Control A	-,69545	,89535	,865**
	Experiment C	-3,88438(*)	,81063	,000*
	Experiment D	-,43333	,82361	,953**
Experiment C	Control A	3,18892(*)	,88344	,003*
	Control B	3,88438(*)	,81063	,000*
	Experiment D	3,45104(*)	,81063	,000*
Experiment D	Control A	-,26212	,89535	,991**
	Control B	,43333	,82361	,953**
	Experiment C	-3,45104(*)	,81063	,000*

*p< .05, is meaningful statistically ** is not meaningful statistically.

As it is seen on the Table 9, there is a meaningful difference between the Experimental C classroom and the others. This difference is in favor to the Experiment C classroom (the classroom that process based activities applied by the teacher who got TNS education) ($p<0.05$).

3.2.4. 'Scientific Theories and Scientific Laws Are Different Types of Information (Theory and Law Relation)' the statically comparison of the post-test of the groups about the elements of the nature of science.

To understand if there is meaningful difference between the scores that groups are gained, the Anova test has given on Table 10.

Table 10. *The Anova test results of the study groups for the theory and law relations dimension of the nature of science*

	Sum of Squares	df	Mean Square	F	p
Between Groups	63,093	3	21,031	16,419	,000*
Within Groups	140,898	110	1,281		
Total	203,991	113			

*p< .05, is meaningful statistically ** is not meaningful statistically.

As it is seen on the Table 10, there is a meaningful difference at least between the two of the groups. Which groups has that difference between them is identified with the Tukey Test and it has given on Table 11.

Table 11. *The Turkey test results of the study groups for the theory and law relations dimension of the nature of science*

(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	p
Control A	Control B	,06515	,31768	,997**
	Experiment C	-1,67756(*)	,31345	,000*
	Experiment D	-,15152	,31768	,964**
Control B	Control A	-,06515	,31768	,997**
	Experiment C	-1,74271(*)	,28762	,000*
	Experiment D	-,21667	,29222	,880**
Experiment C	Control A	1,67756(*)	,31345	,000*
	Control B	1,74271(*)	,28762	,000*
	Experiment D	1,52604(*)	,28762	,000*
Experiment D	Control A	,15152	,31768	,964**
	Control B	,21667	,29222	,880**
	Experiment C	-1,52604(*)	,28762	,000*

*p< .05, is meaningful statistically ** is not meaningful statistically.

As it is seen on the Table 11, there is a meaningful difference between the Experimental C classroom and the others. This difference is in favor to the Experiment C classroom (the classroom that process based activities applied by the teacher who got TNS education) ($p<0.05$).

3.2.5. 'Scientific Knowledge is loaded with Theory (Theory Loaded)' the statically comparison of the post-test of the groups about the elements of the nature of science.

To understand if there is meaningful difference between the scores that groups are gained, the Anova test has given on Table 12.

Table 12. *The Anova test results of the study groups for the theory loaded dimension of the nature of science*

	Sum of Squares	df	Mean Square	F	p
Between Groups	121,656	3	40,552	7,390	,000*
Within Groups	603,625	110	5,487		
Total	725,281	113			

*p< .05, is meaningful statistically ** is not meaningful statistically.

As it is seen on the Table 12, there is a meaningful difference at least between the two of the groups. Which groups has that difference between them is identified with the Turkey Test and it has given on Table 13.

Table 13. *The Tukey test results of the study groups for the theory loaded dimension of the nature of science*

(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	p
Control A	Control B	,31364	,65753	,964**
	Experiment C	-2,15199(*)	,64878	,007*
	Experiment D	,04697	,65753	1,000**
Control B	Control A	-,31364	,65753	,964**
	Experiment C	-2,46563(*)	,59532	,000*
	Experiment D	-,26667	,60484	,971**
Experiment C	Control A	2,15199(*)	,64878	,007*
	Control B	2,46563(*)	,59532	,000*
	Experiment D	2,19896(*)	,59532	,002*
Experiment D	Control A	-,04697	,65753	1,000**
	Control B	,26667	,60484	,971**
	Experiment C	-2,19896(*)	,59532	,002*

*p< .05, is meaningful statistically ** is not meaningful statistically.

As it is seen on the Table 13, there is a meaningful difference between the Experimental C classroom and the others. This difference is in favor to the Experiment C classroom (the classroom that process based activities applied by the teacher who got TNS education) (p<0.05).

3.2.6. 'Scientific Knowledge Contains Imagination and Creativity (Imagination and Creativity)' the statically comparison of the post-test of the groups about the elements of the nature of science.

To understand if there is meaningful difference between the scores that groups are gained, the Anova test has given on Table 14.

Table 14. *The Anova test results of the study groups for the imagination and creativity dimension of the nature of science*

	Sum of Squares	df	Mean Square	F	p
Between Groups	1095,406	3	365,135	14,465	,000*
Within Groups	2776,716	110	25,243		
Total	3872,123	113			

*p< .05, is meaningful statistically ** is not meaningful statistically.

As it is seen on the Table 14, there is a meaningful difference at least between the two of the groups. Which groups has that difference between them is identified with the Tukey Test and it has given on Table 15.

Table 15. *The Tukey test results of the study groups for the imagination and creativity dimension of the nature of science*

(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	p
Control A	Control B	1,30303	1,41026	,792**
	Experiment C	-6,50426(*)	1,39149	,000*
	Experiment D	-,83030	1,41026	,935**
Control B	Control A	-1,30303	1,41026	,792**
	Experiment C	-7,80729(*)	1,27682	,000*
	Experiment D	-2,13333	1,29725	,358**
Experiment C	Control A	6,50426(*)	1,39149	,000*
	Control B	7,80729(*)	1,27682	,000*
	Experiment D	5,67396(*)	1,27682	,000*
Experiment D	Control A	,83030	1,41026	,935**
	Control B	2,13333	1,29725	,358**
	Experiment C	-5,67396(*)	1,27682	,000*

*p< .05, is meaningful statistically ** is not meaningful statistically.

As it is seen on the Table 15, there is a meaningful difference between the Experimental C classroom and the others. This difference is in favor to the Experiment C classroom (the classroom that process based activities applied by the teacher who got TNS education) ($p<0.05$).

3.2.7. 'Scientific Knowledge gets Effected by Social and Cultural Values (Social and Cultural Effect)' the statically comparison of the post-test of the groups about the elements of the nature of science.

To understand if there is meaningful difference between the scores that groups are gained, the Anova test has given on Table 16.

Table 16. *The Anova test results of the study groups for the social and cultural effect dimension of the nature of science*

	Sum of Squares	df	Mean Square	F	p
Between Groups	149,182	3	49,727	5,112	,002*
Within Groups	1069,960	110	9,727		
Total	1219,143	113			

*p< .05, is meaningful statistically ** is not meaningful statistically.

As it is seen on the Table 16, there is a meaningful difference at least between the two of the groups. Which groups has that difference between them is identified with the Tukey Test and it has given on Table 17.

Table 17. *The Tukey test results of the study groups for the social and cultural effect dimension of the nature of science*

(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	p
Control A	Control B	,91667	,87542	,722**
	Experiment C	-2,09375	,86377	,078**
	Experiment D	-,15000	,87542	,998**
Control B	Control A	-,91667	,87542	,722**
	Experiment C	-3,01042(*)	,79259	,001*
	Experiment D	-1,06667	,80527	,549**
Experiment C	Control A	2,09375	,86377	,078**
	Control B	3,01042(*)	,79259	,001*
	Experiment D	1,94375	,79259	,073**
Experiment D	Control A	,15000	,87542	,998**
	Control B	1,06667	,80527	,549**
	Experiment C	-1,94375	,79259	,073**

*p< .05, is meaningful statistically ** is not meaningful statistically.

As it is seen on the Table 7, within the *'scientific knowledge gets effected by social and cultural values'* element there is a meaningful difference between the Experimental C classroom (the classroom that process based activities applied by the teacher who got TNS education) and Control B Classroom (the classroom that process based activities did not apply by the teacher who has not got TNS education). This difference is in favor to the Experiment C classroom (the classroom that process based activities applied by the teacher who got TNS education) ($p<0.05$). On the other hand, there is not any meaningful difference between the Experimental D classroom (the classroom that process based activities applied by the teacher who has not got TNS education) and Experimental C Classroom and Control A classroom (the classroom that process based activities did not apply by the teacher who has got TNS education) ($p<0,05$).

4. Discussion and Results

When the literature has examined about our countries' researches, it is seen that they are studies performed on a unit of the curriculum which are about the activities prepared with the different approaches of the nature of science or the due diligence of the teachers and students' opinion about the nature of science (Sarkar, 2010; Damlı-Pervan, 2011; Baraz, 2012; Eroglu, 2012; Onen, 2013; Aglarcı, 2014). In this study the activities applied to make teaching the nature of science happen in all the units belonging to the curriculum to reach understanding of the nature of scientific knowledge that targeted as a basic skill on the biology curriculum which released at 2013. On the other hand, it is mentioned in many studies that the necessity of teachers should get the nature of science education to improve students' opinion about the nature of science (Dogan, 2005; Can, 2008; Muslu, 2008; Onen, 2011; Koyuncu, 2011). It is understood from this studies' outcome that getting education about the nature of science is not enough for the teachers only by itself. But when the teacher who gets the education about this matter applies the directly reflected activities that prepared process based to teach the nature of science, it makes great contribution to improving the students' understanding the nature of science on all the examined dimensions of the nature of science.

According to results of the research, it is seen that the students who applied directly reflected activities that prepared process based has better level of improvement than the students who gets the nature of science education only from the activities on the MEB's 9th

course book by the teacher who did not get the TNS education on the *experimental nature of scientific knowledge* dimension (Table 7). So this results shows us that the activities and experiments on the MEB's 9th grade course book should be enriching with the directly reflected activities that prepared process based. After this general results of the research, the results for dimensions of the nature of science has explained as on the following.

To understand the results of the research the codes of the classrooms on the study group has given at this section again.

Control A Classroom: The classroom that process based activities has not applied by the teacher who has got TNS education.

Control B Classroom: The classroom that process based activities has not applied by the teacher who has not got TNS education.

Experiment C Classroom: The classroom that process based activities has applied by the teacher who has got TNS education.

Experiment D Classroom: The classroom that process based activities has applied by the teacher who has not got TNS education.

4.1. The Results Related to the Scientific Knowledge is Open to Change (Changeability) Nature of Science Element

There is no meaningful difference between the students who are from the control and experiment classrooms that constituent the sample before the research (Table 3, $p>,05$). After the application it is identified that there is a meaningful difference between the Experiment C Classroom's students' scores which teaching the nature of science applied by depending on directly reflective process based activities by the teacher who has got TNS education and the scores of the other groups' students (Table 5, $p<.05$). But when we search the reason of this improvement of the students about this dimension, it is significant that there is no meaningful difference between the post-tests of the Control A and Control B classrooms which are meant to be to show the effect of the nature of science education gets by the teacher via distance education. Also the same way, it is significant that there is no difference statistically between the Control A classroom that activities has not applied by the teacher who got TNS education and Experiment D classroom that activities applied by the teacher who has not got the education which shows the effect of the activities that depends on process. After these results, it can be said that only getting the education by the teachers via distance education or only giving the nature of science education to the students via the activities that are depending on the process is not causing any difference to the students about this dimension. This result is matching up with the study of Schwartz and Lederman (2002) which is a study about comparing the teaching the nature of science to the students after a program about the nature of science (MAT) participated by the two biology teachers who has different NOS knowledge, scientific history and experience. This study tells that the nature of science is not teaching well enough and teachers' beliefs, pedagogical content knowledge, intention and classroom activities has an important role for teaching the nature of science to the students. This improvement is complying with the results of the study of Akerson and Volrich (2006), the improvement that is resulting from running together the teaching of the nature of science depending on the activities prepared with the directly reflected opinion and getting the TNS education by the teacher. On their study Akerson and Volrich (2006) gave an education to a candidate teacher and after this education it is seen that the candidate teacher is planning the

open-challenging approach well on teaching the nature of science and the teacher is teaching the nature of science in accordance with the advised reforms and resulting of these it is understood that the 1st grade students can understand the nature of science. This study shows resemblance with the results of the other studies done by Lederman and O'Maley (1990), Lederman and Abd-El-Khalick, (1998), Akerson, Abd-El-Khalick and Lederman (2000), Küçük (2006) Lederman and Lederman (2004) which are the result of the education that done in accordance with the nature of science element '*Scientific Knowledge is open to change'*.

4.2. The Results Related to the Scientific Knowledge has an Experimental Nature (Experimentalism) Nature of Science Element

It is seen that there is a meaningful difference after the application between the Experiment C classroom that the nature of science education applied which is depending on the activities prepared with the directly reflective opinion by the teacher who got TNS education and the other classrooms (Table 7, $p<.05$) while there is no difference between the opinions of the control and experiment classrooms' students about this dimension before the research (Table 3, $p>.05$). It is obvious that this difference resulting from applying the directly reflective activities that are depending on the process more than the teacher's got TNS education. It is seen from the results of the research that applying of the process based activities in the classroom is more effective than the in-service training by the distance education alone by itself on this dimension of teaching the nature of science. Because it is seen that there is a statically meaningful difference in favor of the students who are from the Experiment classroom that activities are applied between the control and experiment classroom's students of the teacher who did not get TNS education. It is seen that the improvement on the nature of science dimension that *'Scientific knowledge has an experimental nature'* is resulting because of the applied activities on the classroom that process based activities applied. These results are matching with the Kucuk's study (2008) which is aiming to improve the opinion of the 20 candidate teachers about the nature of science by using the directly reflected activities and after the application the improvement has seen on their opinion about *'experimentalism of the scientific knowledge'*. It is also showing some similar results with the studies of Koksal (2010) and Onen (2011) which are about *'experimentalism of the scientific knowledge'*.

4.3. The Results Related to the Scientific Knowledge is Depending on Inference Besides the Observation (Observation and Inference Relation) Nature of Science Element

There is no difference between the opinions of the control and experiment classrooms' students about this dimension before the research (Table 3, $p>.05$). It is identified that there is a meaningful difference between the other classrooms of the sample and Experiment C classroom that the nature of science education applied which is depending on the activities prepared with the directly reflective opinion by the teacher who got TNS education (Table 9, $p<.05$).

It is understood that getting the nature of science education via distance education by teacher is not enough by alone on this dimension of the nature of science and this is showed us with the post-tests' results of the Control A and Control B classrooms (Table 9, $p>.05$). On the other hand, we understood that process based activities are not enough by alone on the improvement of the students' opinion about this dimension of the nature of science and this is

understood by seeing that there is no statically meaningful difference between the post-tests of the Control A classroom that process based activities has not applied by the teacher who got TNS education and Experiment D classroom that process based activities has applied by the teacher who has not got the education (Table 9, p>.05). These results are showing us that getting the education via distance education by the teacher is alone by itself or giving the nature of science education to the students with the process based activities is alone by itself is not making any progress to the students on this dimension. We are seeing the similar situation on the students as this one on the studies of Onen (2011) and Koksal (2010) and these studies' results are showing us that there is no single method on science and the students has wrong ideas about the observation-inference relation. It is also showing some similar results with the study of Liu and Lederman (2002) which they did via open-challenging teaching and they could not find any significant difference related to this dimension of the nature of science.

4.4. The Results Related to the Scientific Theories and Scientific Laws Are Different Types of Information (Theory and Law Relation) Nature of Science Element

There is no difference between the opinions of the control and experiment classrooms' students about this dimension before the research (Table 3, p>.05). It is identified that there is a meaningful difference between the other classrooms of the sample and Experiment C classroom that the nature of science education applied which is depending on the activities prepared with the directly reflective opinion by the teacher who got TNS education (Table 11, p<.05).

It is a significant result that there is no difference between the post-tests' results of the Control A and Control B classrooms which are making possible to examine the effect of getting the nature of science education by the teacher via distance education on this dimension (Table 11, p>.05) and also it is significant that there is no statically meaningful difference between the post-tests of the Control A classroom that process based activities has not applied by the teacher who got TNS education and Experiment D classroom that process based activities has applied by the teacher who has not got the education (Table 11, p>.05). These results are showing us that getting the education via distance education by the teacher is alone by itself or giving the nature of science education to the students with the process based activities is alone by itself is not making any progress to the students on this dimension. This result is matching with the studies of Kucuk (2006), Dogan and his friends (2011) which are showing there is not enough progress on the students' opinion about the dimension of 'scientific theories and scientific laws are different types of information'. It is also harmonizing with the results of the researches of Metz (2002) and Gul (2014) which are shows after the application, it is identified that the existing misunderstanding of the students related to the theory and laws are quelled.

4.5. The Results Related to the Scientific Knowledge Loaded with the Theory (Theory Loaded) Nature of Science Element

There is no difference between the opinions of the control and experiment classrooms' students about this dimension before the research (Table 3, p>.05). It is identified that there is a meaningful difference between the other classrooms of the sample and Experiment C classroom that the nature of science education applied which is depending on the activities prepared with the directly reflective opinion by the teacher who got TNS education (Table

13, p<.05). Same as the other dimensions of the nature of science that examined in this study, here in this dimension we come across that there is no difference between the post-tests' results of the Control A and Control B classrooms which are making possible to examine the effect of getting the nature of science education by the teacher via distance education on this dimension (Table 13, p>.05) and also that there is no statically meaningful difference between the post-tests of the Control A classroom that process based activities has not applied by the teacher who got TNS education and Experiment D classroom that process based activities has applied by the teacher who has not got the education (Table 13, p>.05). This situation is showing us that getting the education via distance education by the teacher is alone by itself or giving the education to the students with the process based activities is alone by itself is not making any progress to the students on this dimension. This result is resembling with the study of Cil (2010) which is done to search the nature of science with the directly reflected approach and conceptual change pedagogy and resulted with enough level of improvement at the end.

This research has similarities with the studies of Akerson, Abd-El-Khalick and Lederman (2000), Lederman and Lederman (2004), Kucuk (2006) and Ozcan (2013) but it is different from the studies of Lederman and Abd-El-Khalick (1998), Liu and Lederman (2002) which are showing less improvement on the content knowledge after the application.

4.6. The Results Related to the Scientific Knowledge Contains Imagination and Creativity (Imagination and Creativity) Nature of Science Element

There is no difference between the opinions of the control and experiment classrooms' students about this dimension before the research (Table 3, p>.05). It is identified that there is a meaningful difference between the other classrooms of the sample and Experiment C classroom that the nature of science education applied which is depending on the activities prepared with the directly reflective opinion by the teacher who got TNS education (Table 15, p<.05).

These results are matching up with the results of the researches such as (Akerson and others, 2006; Kucuk 2006; ayvacı 2007; Metin 2009) which are identified effective for teaching the 'imagination and creativity' element of the directly reflected approach activities in the literature. Similar as these results, on a study done by Koksal (2010) it is identified that the opinion of the students related to the imagination and creativity on science was enough before the application and it even become more enough after the application. Besides there is matching results with this study on the studies of Cavus (2010), Onen (2011) and Ozcan (2013). On the other hand, this research has similarities with the studies of Abd-El- Khalick 1998; Akerson, Abd-El-Khalick and Lederman (2000), Akerson and Abd-El-Khalick (2003), Lederman and Lederman (2004) and Kucuk (2006) which are showing less improvement on the content knowledge after the application but it is different from the study of Khishfe and Abd-El- Khalick (2002) in the literature.

4.7. The Results Related to the Scientific Knowledge Gets Effected by the Social and Cultural Values (Social and Cultural Effect) Nature of Science Element

There is no difference between the opinions of the control and experiment classrooms' students about this dimension before the research (Table 3, p>.05). After the application it is identified that there is meaningful difference between Experiment C classroom that the nature of science education applied which is depending on the activities prepared with the directly

reflective opinion by the teacher who got TNS education and Control B classroom that the study group that the process based activities has not applied by the teacher who has not got the TNS education (Table 17, $p<.05$). Also it is identified that there is no meaningful difference between the post-tests of the Experiment C classroom and Control A classroom that teacher has got the TNS education and Experiment D classroom that process based activities applied by the teacher who has not got the TNS education (Table 17, $p>.05$). And these results are showing us that getting TNS education by the teacher and applying the directly reflected activities in the classroom has positive effect on the improvement of the students' opinion about the nature of science on this dimension.

With the results of this study high level improvements are gained on students and teachers' opinion about this dimension of the nature of science on the contrary to the studies of Abd-El-Khalick and Lederman (2000) that done together. Similarly, Matkins and Bellin (2007) identified on their study that the opinion of candidate teachers related socio-cultural nature of scientific knowledge is not enough. On the study of Vanderlinden (2007) after the application it is identified that students have more effective understanding on some dimensions of the nature of science such as the process diversity of structuring the science, social and cultural effect on the process of structuring the science. These results are supporting the results of this dimension of the research. At the result of this study it is seen that the need of in-service training for the teachers about the nature of science suggested by many researchers in the literature is not enough by itself on improving the opinion about the nature of science. When the teacher's in-service training is supported by the activities which are integrated to the curriculum, the improvement of the students' opinion about the nature of science will be high level.

The suggestions after the examination of the results from the research is as on the following;

1. It is obvious that the TNS education via distance education is convenience in terms of place, time and economically. In this study it is understood that this kind of education is effective about the TNS. If the models of TNS education via distance education is develope and generalize, more students can be improved about the TNS.

2. According to the results of the research, the nature of science activities on the MEB's 9^{th} grade biology course book has not enough contribution to the improvement of the students' opinion about the nature of science. Supporting the activities on the course book with the process based directly reflected activities will be helpful on the improvement of the student's opinion about the nature of science.

The Researchers Note: This study is produced from the doctorate thesis of Fatih Serdar YILDIRIM which is supervised by Prof. Dr. Semra MIRICI from Gazi University Education Science Institute headed as "Improvement of the Students and Teachers' Opinion About the Nature of Science with the Activities and Distance Education: Biology Class Sample".

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LEARNER VARIABLES AND LANGUAGE ANXIETY IN ORAL COMMUNICATION: THE CASE OF UNIVERSITY STUDENTS IN THE PHILIPPINES

Ana Katrina T. Marcial

University of the Philippines - Open University

anakatrina.marcial@upou.edu.ph

The author studied BA Communication Arts at the University of the Philippines Los Baños (UPLB) in 2005. She held a Public Relations job for a year before working at UPLB as an instructor in English and Communication. She got her MA degree in Language and Literacy Education from the University of the Philippines - Open University in 2012 and has been teaching there since 2013.

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Ana Katrina T. Marcial

anakatrina.marcial@upou.edu.ph

Abstract

The study attempted to look into the relationship of language anxiety and specific learner characteristics of university students enrolled in an oral communication course at a university in the Philippines. Chi square test results showed that the level of anxiety of the learners had no significant relationship with gender but had significant relationships with their (a) self-perceived competence in using English, both for general aspects and for oral communication; (b) instances of English use outside the classroom, and (c) use of English at home. The study ends with the pedagogical implications and recommendations for teachers and learners in reducing or managing anxiety in the language classroom.

Keywords: affect in language learning, language anxiety, learner factors in higher education

1. Introduction

1.1. Background

Affect in language learning has been one of the most relevant aspects explored by both teachers and researchers of language education. Specifically, the issue of language anxiety in the classrooms has received increasing attention (De Costa, 2015).

Yim (2014) had already acknowledged the tendency for learners to experience anxiety in learning English, so her study focused on finding out the best model in explaining a possible relationship between level of anxiety and the learners' background variables. Based on the study, the learners' perceived level of proficiency in English serves as the best predictor of anxiety. Other variables such as experience in studying abroad, hours of studying English, and gender may also influence the learners' level of anxiety significantly. Similarly, Matsuda and Gobel (2004) highlighted possible relationships between language anxiety and learner variables and found that learners with overseas experience and with higher confidence in using English tend to have lower levels of anxiety; thus demonstrating better classroom performance. Trang, Moni, and Baldauf (2012) also emphasized the negative influence that anxiety may have in the learners' cognitive processing, and in the study of Park and French (2013), anxiety was regarded as a serious barrier for learners. These studies on language anxiety seem to adhere to the idea that it has a debilitating effect on the students' learning. Krashen's Affective Filter hypothesis (as cited in Herrera & Murry, 2005) are also in line with what these notable studies have presented and established. Based on both the hypothesis and the related studies, learners of a second language whose anxiety levels are low, who are highly motivated, and who have strong self-confidence and a good self-image are better prepared for second language learning and may excel in their class performance. In addition, some affective variables such as motivation, self-esteem, and anxiety level may affect how the learners fully utilize the messages that they receive as they acquire a language (Orillos, 1997). When the learners' affective filter is raised, they will have difficulty learning a language successfully and their performance in the classroom will be compromised, no

matter how good their language teacher is. With regard to the issue of language anxiety, Young (1991) found out in her study that learners tend to demonstrate negative behaviours such as participating less in conversations, speaking quickly in front of an audience, or in worse case scenarios, "freezing up" and experiencing mental block.

In this regard, it becomes significant to explore the issue of anxiety as experienced by learners in the language classroom (De Costa, 2015), and in this particular study, in the context of the Philippine classroom. Most studies on Affect in the EFL and ESL contexts feature learners from across the globe such as Malaysian, Taiwanese, Turkish, Japanese, Spanish, Iranian, Greek, Hungarian, Korean students learning English (Aziz & Hazhima, 2007; Chang & Chen, 2009; Er, 2015; Goshi, 2005; Pappamihiel, 2002; Park & French, 2013; Rezazadeh & Tavakoli, 2009; Tóth, 2007; Tsiplakides & Keramida, 2009; Wilson, 2006; Yim, 2014), and it may also be relevant to explore the case of Filipino learners as the findings may add to the literature on the diverse characteristics of learners and how these may relate to addressing the challenge of language anxiety in the classrooms. Because learners are so diverse, it is important to note how some of their characteristics and background are associated with the level of their anxiety. Finding out and analysing these associations not only reveal the kind of learners who will most likely get anxious in foreign or second language learning situations, but also deepen the understanding of the crucial factors affecting foreign or second language anxiety as a whole, resulting in a better support for the language teachers as they help their students deal with their language learning difficulties.

1.2. Scope

This research was conducted as part of a larger study exploring university students' experiences with language anxiety. In the case of this particular research, the focus is on selected learner characteristics which may have significant relationships with the language anxiety that university students experience.

2. Review of Related Literature

2.1 Anxiety in language learning

Perhaps no other theory has discussed the uniqueness of the kind of anxiety aroused by the whole language learning experience as directly as the theory of Foreign Language Anxiety (FLA), developed by Horwitz, Horwitz, and Cope (1986). It involves "self-perceptions, beliefs, feelings, and behaviours related to classroom language learning arising from the uniqueness of the language learning process." In their study, Horwitz and her associates (1986) recognized the possibility that learners may experience anxiety at a specific moment in response to a particular situation, and they also supported the concept of a distinct type of anxiety which may only be brought about by the experience of learning and using a foreign or second language, to which the individual is not fully proficient (Aydin, 2008). Learners who may experience FLA may look at learning a foreign or second language as an uncomfortable experience, may be overly conscious or scared of making mistakes, and may be apprehensive towards communicating with other people using the language (Aziz & Hashima, 2007).

Foreign Language Anxiety is composed of communication apprehension (CA), test anxiety, and fear of negative evaluation. CA refers to a person's anxiety in connection to an actual or anticipated communication with another person or group (Richmond & McCroskey, 1998). Learners may be uncomfortable and nervous when communicating with other people because they feel their communication skills are not good enough to express their thoughts, no matter how mature these thoughts are (Aydin, 2008). Test anxiety reflects the learners' worry about failing to perform well, especially in situations where they feel their skills are being evaluated (Aida, 1994). Fear of negative evaluation is observed when the learners view

errors as threat to their image and as source for negative evaluations from the teacher or from peers. In learning or using a foreign or second language, the learners may have a passive attitude in the classroom and may want to participate minimally. In worse case scenarios, the learners may think of missing the classes, causing them to be left far behind (Aida, 1994; Horwitz et al., 1986).

To address the need to define and measure FLA adequately, Horwitz and her associates (1986) developed the Foreign Language Classroom Anxiety Scale (FLCAS), which is reflective of the three components of FLA (Tsiplakides & Keramida, 2009; Wilson, 2006). In the results of their study, the scale has been shown to have an internal reliability of .93 and test-retest reliability over eight weeks of $r = .83$, $p < .001$. Since then, this instrument has become the widely-used means to evaluate language anxiety (De Costa, 2015; Wilson, 2006).

2.2. Learner variables and anxiety

Aside from measuring the level of anxiety using the FLCAS and its effect on language achievement or the learner's performance, other researchers opted to explore another angle by looking into the learners' characteristics and how these may predict or relate to language anxiety.

2.2.1. Gender in language learning

Conflicting results can be observed in most studies which examined how gender relates to language anxiety. In the case of Iranian students learning English as foreign language, it was noted that female students tend to have a higher level of language anxiety (Rezazadeh & Tavakoli, 2009). In the study conducted by Faber (2012), female participants reported a higher amount of worry in terms of oral narrative competencies, which may be a crucial factor affecting their performance outcomes. Park and French (2013) focused on Korean students and found that females tend to have higher levels of anxiety. Similarly, in a study of Malaysian students conducted by Mohammad and Wahid (2008), the overall findings implied that female learners tend to be more anxious, specifically in some aspects of using English—they tend to tremble more when they have to speak in English; they are less likely to volunteer to speak in class; and they tend to get more anxious about others' perceptions about them when they use English. However, the males felt panic more when they have to speak in English without preparation and they felt like a different person when speaking in English. In another study using Japanese students, Aida (1994) stated that there was no statistically significant difference in the language anxiety of the learners when analyzed in terms of gender. Some of the previous studies exploring the relationship of demographic characteristics and language anxiety seemed to support this result and recommended that further studies be made (Kao & Craigie, 2010; Onwuegbuzie, Bailey, & Daley, 2000).

Although no previous studies, specifically concerned with the topic of language anxiety and gender in the Philippine classroom, have been analysed in relation to this study yet, the culture of the Philippines in terms of gender roles, expectations, and characteristics may be crucial reference for the current study. Beyond stereotypical characterizations and literary narratives, no empirical data have been encountered to prove that gender differences among Filipino learners may exist in terms of language learning or even in social interactions because possible differences are based on varied historical, regional, class, and social activity influences (Torres, 1990). However, there are pieces of information which touch some aspects of possible gender differences and similarities. According to Torres' (1990) review on the existing literature on sex and gender differences found in Philippine publications since the 1970s, empirical data about gender differences are not described by actual studies, but the concept of masculinity and femininity obtained from interviews are often explored, which

still highlight the orientation that women are domesticated and the description of their personalities connotes "softness" such as being shy, calm, sweet, and putting great importance in behavior patterns like modesty, respect for elders and their advice, and concern with criticism and sensitivity to the opinions of others, and "strength" for males such as being tough, aggressive, determined. The findings are merely typical associations, impressions, and may only reflect the stereotypes that the participants had at that time. In a study on Personality Traits across cultures using Philippine examples, Church and Katigbak (2002) stated that the gender differences were considered small and not enough to conclude that there is indeed a significant difference in the personality types of males and females. In the article written by Dionisio in 1994 (as cited in Eviota, 1994), one statement seemed to adhere to the idea that there are varied aspects at play when the issue of gender difference is tackled in the context of the Philippine society: "In reality, none of the arguments for an essential difference in men's and women's psyches has been proven beyond doubt because gender is a cultural construction and ours is a diverse one." Still, it is both interesting and useful to find out whether gender is a significant factor in the language anxiety experienced by some learners in the classroom.

2.3.2. Self-perceived competence

In an earlier study on college students conducted by McCroskey which focused on the CA component of language anxiety, it was noted that the higher the apprehension the learners have, the lower their self-perceived competence seem to be (Richmond & McCroskey, 1998). In the study conducted by Onwuegbuzie et al. (2000) analyzing some cognitive, affective, and demographic factors related to language anxiety of students learning either Spanish, German, Japanese, or French as a foreign language, the result shows that students who strongly perceive themselves as highly competent in language learning and as having above average intellectual ability in general were less anxious. Moreover, MacIntyre, Noels, and Clément (1997) stressed that the level of apprehension may intensify when students communicate using the second language (L2), especially if these students believe that the level of their L2 competence is low. On the other hand, levels of anxiety tend to decline when the students do not feel incompetent; thus, they would not expect failure and they tend to participate and use the second language more openly, which may result in the increase of the student's actual competence. This result supports other previous research showing a close link between self-perceptions of competency in a foreign or second language and language anxiety (Dewaele, 2002; Matsuda & Gobel, 2004; Tóth, 2010).

2.3.3. Exposure and use of English outside the classroom

The last learner characteristic to examine in relation to language anxiety may yield interesting results about the Filipino learners because the target language, English, is not totally unfamiliar, regardless of whether formal training or lessons in using the language begins at an early age or not. The determining and differentiating sub-factor will be whether the students have adequate and positive past experiences and practice in using the language.

Even though the official language of the country is Filipino, which is mostly based in Tagalog, there are other major languages used outside the academic institutions such as Cebuano, Ilocano, Ilonggo, etc. With the different policies used in the Philippines' educational system—from the 1987 Bilingual Policy in Education, the use of the lingua franca, and recently to the establishment of Mother Tongue-Based Multilingual Education (MTB-MLE)—most learners will have had formal training in English by the time they are in the second half of their grade school years (Burton, 2013). Whether this formal training reaches its full extent to help the students successfully learn and use English or not is another major issue, but the fact remains that English is a language that Filipinos have long been

exposed to. Also, Filipino learners are somewhat familiar with the English language because of their exposure to the language not only through the family and friends surrounding them who may use English but also through mass media. In this sense, they already have background knowledge on the language before and during their formal training in the English language classroom (Gonzales, 2011).

The learners in this current study are enrolled in a course which requires them to use English as they participate in pair work, group discussions, and as they write and deliver speeches to the group. This being the case, another variable that may make some of the students feel anxious in the classroom is their past experiences in using the language, especially if most of these are negative ones, and their use of English outside the classroom—in a more social environment and at home. One of the findings of the study conducted by Matsuda and Gobel (2004) was that the learners' overseas experience in the past contributed to the level of anxiety they may feel in the classroom. Their participants who have had previous experiences in using English overseas reported a lower level of anxiety, which has led to a higher self-confidence and a better performance in class. This is consistent with the results of the study conducted by Yim (2014). In a study conducted by Del Villar (2010) on what the speech communication students think the attributions of communication anxiety are, the factors revealed are 1) the students' verbal fluency, 2) their training in and exposure to the English language, and 3) their previous negative experiences when English was used both in conversations outside class and varied activities that require communication inside the class. Although Del Villar (2010) focused more on getting the learners' perspective regarding the possible causes of anxiety and not on the relationship between anxiety and the learners' use of English, the attributions revealed are promising enough to explore further. In the study, some students noted that some may feel anxious when asked to do so in the class if they have limited speaking and conversation experience, not just with one person but also in front of a group or an audience. Others, on the other hand, tend to get anxious because of previous negative experiences such as being laughed at by others, getting harsh comments from the teachers in the presence of classmates, being the object of jokes, and other similar experiences. To confirm and further strengthen these findings, a direct attempt to examine the relationship between the learners' use of English, specifically in different instances outside the classroom and or use of the language at home or in other contexts may be of great significance for possible future research.

2.4 Conceptual framework

This study is guided by the framework presented in Figure 1. The extent of language anxiety experienced by the learners, as measured by the anxiety scale, serves as the dependent variable, which may be influenced by four learner factors: the learners' (a) gender, (b) self-reported competence, (c) use of English outside class and (b) frequency of using English at home. An analysis of the language anxiety and its relationship with the learner factors may yield positive or negative correlations as signified by the broken lines. The FLCAS reflects manifestations of the learners' communication apprehension, fear of negative evaluation, and test anxiety in the language classroom, which makes up the concept of language anxiety.

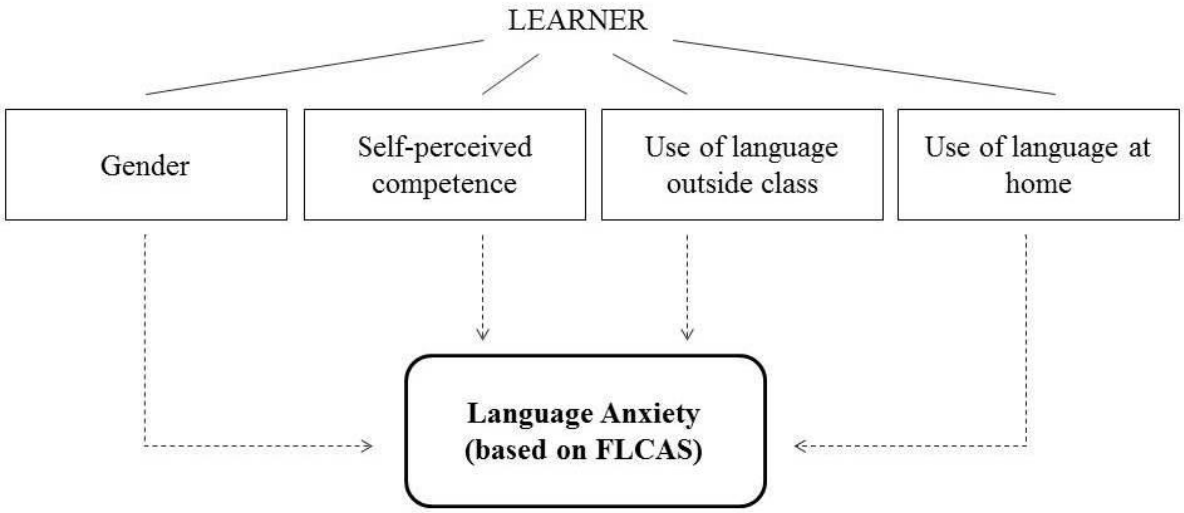

Figure 1. Framework illustrating a possible anxiety and learner factor relationship

2.5 Definition of terms

In the context of the discussions in this study, the term "language anxiety" is used to refer to the set of beliefs, feelings, and behaviours which reflect tension and apprehension associated with the learners' experience in using English as a second language (ESL). Particularly, it is a situation-specific anxiety which the ESL learners may experience when studying and using English in the classroom.

Self-perceived competence refers to the learner variable which reflects what the learners believe and report as their level of competence in terms of using English. It is measured based on the learners' view of their skills as above average, average, in need of practice, and not good at all.

The use of English outside the classroom is the learners' statement of the instances and situations where they use English as a medium of communication when conversing with another person or in a group outside the formal classroom setting. The instances may be all the time or rarely, and the situations may be only when the other person uses English, when with friends, or when with a foreign national.

The use of English at home refers to the frequency of English language use in the comfort of one's home—whether the learners converse in English all the time, very often, rarely, or never every time they are at home.

3. Research Questions

This study looked into the experiences of university students with language anxiety and specific learner variables which may have an effect on the level of anxiety they experience in the classroom. Specifically, the study attempted to answer the following research questions:

1. What is the extent of language anxiety experienced by university learners in an oral communication course?
2. Is there a relationship between the level of language anxiety and the following factors?
    a. gender?
    b. learner's self-perceived language competence?
    c. learner's use of English?

4. Materials and Methods

4.1 Participants

The participants of the study are university students from eleven out of the twenty- five sections of an oral communication course in one semester. Opportunity sampling was followed in choosing the participants, and the consent of the teachers was sought. The instruments were given only to those who were willing to answer. Out of the approximately 600 students enrolled in the oral communication course at the time, 112 female (68.29%) and 52 male (31.70%) participated in the study. Most of the participants are in their first year or second year in college because the course is usually taken during the first half of a learner's stay in the university. The areas of concentration of more than half of the participants are under the fields of Arts (Theatre and Literature), Communication, and Engineering.

More than half of the participants use Filipino, specifically Tagalog, when they communicate while 28% of the participants are used to codeswitching: using a mix of Filipino and English statements when they communicate outside the classroom. When they communicate at home with their families, majority of the participants use Filipino, specifically Tagalog, and 12% of the participants primarily use other Filipino languages such as Cebuano, Ilokano, and Hiligaynon.

4.2 Research Locale

The study was conducted at a national university situated in an area where English is the main medium of communication in classrooms, but Filipino is mostly used in informal communication.

Speech communication, coded as SPCM 1, is an introductory course on oral communication in English. At that time of the study, enrolled learners have to attend a lecture class once a week for the discussions of the principles in effective communication and attend a recitation class for another day of the week for the application of these principles through activities such as group discussions, public speeches, and interviews, using English as the medium of communication.

4.3 Instruments

To address the research questions, a language anxiety scale and a background questionnaire were used to gather data from the participants.

4.3.1. Foreign Language Classroom Anxiety Scale (FLCAS)

Horwitz, et. al's (1986) FLCAS was used to measure the learners' level of anxiety. The scale has been shown to have an internal reliability of .93 and test-retest reliability over eight weeks of $r = .83$, $p < .001$ (Wilson, 2006).

In asking the participants to answer the FLCAS, the heading was changed into a descriptive phrase in the actual checklist fielded so that the students would not feel uncomfortable, defensive, or threatened in completing the checklist. Also, the term "foreign language class" in the scale was changed into "SPCM 1 class," so the participants would only focus on their expectations and experiences in using English in that specific context.

4.3.2. Background Questionnaire

The second instrument is the background questionnaire which was pilot tested in the semester prior to this study. Revisions were made based on the comments and suggestions of three language experts after pilot testing. Items asking for irrelevant learner information were omitted. The questions and instructions were also simplified and terms made clear, so the

participants would not be tempted to skip some items or to simply give what they think are expected of them, without thinking of their own experiences and expectations, for the sake of finishing the survey. The third version served as the final questionnaire administered. Specifically, the first part of the final version was used to get the data for this particular study.

4.3.3. Class observations

Class observations were conducted and perceptions of the teachers were sought to support the data that the background questionnaire would yield. Guidelines for the observations were based on the physical manifestations of anxiety implied in the FLCAS such as, when the participants would utter expressions implying slight panic (e.g. "Oh no!," "OMG" or "Oh my God!"), appear to have difficulty breathing, or ask for a "time out" or a break mid-sentence, every time a speaking activity is to be done. The participants' teachers were also asked if they have observed habits or behaviours which may imply worry, anxiety, or discomfort during any of the speaking activities in class whether in front, with a conversation partner or in group communication.

4.4. Data collection procedures

A less intrusive schedule was set to have the participants answer the FLCAS checklist and the background questionnaire. Arrangements with the teachers were made and most of them administered the FLCAS checklist and questionnaire in class while others gave the scale and background questionnaire to the participants as a take-home task. A total of 190 participants from the eleven classes received and accepted the survey forms but only 164 completed forms were returned.

The class observations were conducted prior to administering the FLCAS checklist and background questionnaire. The time allotted for the observations was given by the teachers based on the most convenient time for them and the students to have someone sitting in on the class sessions. The teacher interviews about their observations were conducted in an average of fifteen minutes within two months. Informal follow-up interviews were conducted when the FLCAS results were forwarded to the teachers for their reference and perusal as they assist the students in doing the major speaking activities. These observations were conducted only to support the data that the FLCAS checklist and background questionnaire may yield, but they were not meant to address the research questions directly.

4.5. Data analysis procedures

To get the FLCAS result, mean scores were computed first. The response "Strongly agree" got a value of 5 and the response "Strongly disagree," got a value of 1, and the values were reversed in the case of the nine specific items that were negatively stated. Discussions from related literature were adopted to produce a set of anxiety groups to categorize the participants' anxiety level (Aida, 1994; Paranuwat, 2011; Wilson, 2006).

After the participants were grouped, Chi square test was used to analyze possible relationships between anxiety and each learner variable. All computations were done through the SPSS (Statistical Package for the Social Sciences), the most common computer program used for statistical analysis.

Overall, the procedures used for data analysis were checked and all interpretations were made following statistical theories and principles, in constant consultation with a professional statistician.

5. Results and Discussions

5.1 Anxiety groups

As seen in Table 1, almost one-third of the participants have high anxiety levels, which means that language anxiety is still a valid issue to explore because there are learners who tend to feel more anxious than the others, which may affect their learning and performance negatively.

Table 1. *Anxiety levels of the Participants based on the FLCAS*

Anxiety level/ group/ scores	*Participants (f)*	%
Level 1 - Very Low Anxiety (FLCAS score 33 – 59)	0	---
Level 2 - Low Anxiety (FLCAS score 60 – 86)	21	12.80
Level 3 – Moderate or Normal Anxiety (FLCAS score 87 – 113)	96	58.54
Level 4 - High Anxiety (FLCAS score 114 – 140)	47	28.66
Level 5 - Very High Anxiety (FLCAS score 141 – 165)	0	---
	N = 164	100.00

In the class observations, there were a few participants who did not finish the speaking task. One participant looked teary-eyed while talking and asked if she could just sit down. A few seemed shy and would only speak in phrases. They appeared hesitant to elaborate, unless the teacher or a classmate would ask a follow-up question as a reaction to what was said.

5.2 Gender and language anxiety

A shown in Table 2, chi square test reveals that majority of both the female and male participants belong to level 3 - moderate anxiety group. A Chi square value of 4.311 ($p>0.05$, $df = 2$) revealed that the level of anxiety of the learners has no significant relationship with gender.

Table 2. *Relationship between Language Anxiety and Gender*

	Gender distribution			
Anxiety level	Female (*f*)	%	Male (*f*)	%
Level 2 – Low	11	9.82	10	19.23
Level 3 - Moderate/Normal	71	63.39	25	48.08
Level 4 – High	30	26.79	17	32.69
	n = 112	100	*n* = 52	100

Chi Square Value = 4.311 df = 2 *p-value = 0.116

The data implies that both male and female learners may experience the same level of anxiety in a language class. They may both have high levels of anxiety or they may both feel less anxious at some point. Similarly, there was no noticeable difference between male and female participants and their manifestations of anxiety in the classrooms based on the observations of the researcher and their teachers although it is worth noting a relevant difference in how the male and female learners handle their nervousness. According to one teacher, among the female and male learners who seem nervous whenever they have to speak in English, the male students would often resort to delivering jokes and making fun of themselves more often than the female students would. The result is also consistent with related literature supporting the idea that there are other learner factors which are significantly related with language anxiety other than the person's gender (Aida, 1994; Kao & Craigie, 2010; Onwuegbuzie, et al., 2000). However, the result may be in conflict with

other studies which presented the tendency of female participants to have higher levels of anxiety (Faber, 2012; Mohammad & Wahid, 2008; Park & French, 2013) although Park and French (2013) aptly attributed the inconsistency to socio-cultural views on anxiety, with participants coming from and experiencing different socio-cultural contexts.

5.3 Self-perceived competence and language anxiety

To address the issue of self-perceived competence, participants were asked to report how competent they think they are in using English for oral communication. Because the learners who chose the option *has above average skills* had less than five frequency counts for each anxiety group, the data were combined with the next option *has average skills*, making three levels of competency: Level 1 (needs extensive practice) being the lowest possible perception of competency, Level 2 (good enough but needs specific improvements) being in the middle of the scale, and Level 3 (from average to above average) being the highest possible perception of competency.

As shown in Table 3, the Chi square value of 52.853 ($p<0.05$, df = 4) revealed that the level of anxiety of the students has a positive and significant relationship with self-reported competence in English for oral communication.

The result shows that participants with level 2 – low anxiety tend to have higher level of self-confidence and think that their competency in speaking in English gears towards the upper half of the competency scale: from average to above average skills. Majority of those under the level 4 – high anxiety group, on the other hand, do not believe their competency reach at least the acceptable, average range yet because they think they may still need improvement in certain aspects such vocabulary use, spoken grammar, pronunciation, etc.

Table 3
Relationship between Language Anxiety and Self-reported Competence in using English for Oral Communication

	Participants' Reported Competence		
Anxiety level/ group	Level 3 – Has average to above average skills	Level 2 – Is good enough but needs to improve in some aspects	Level 1 - Needs extensive practice
Level 2 – Low	15	6	0
Level 3 - Moderate/Normal	44	50	2
Level 4 – High	3	29	15
	$n = 62$	$n = 85$	$n = 17$

Chi square value = 52.853 df = 4 *p-value = 0.000

An analysis of the result shows that when the participants' self-reported competence in speaking English is high, the level of anxiety is low. This means that for students who do not have enough confidence in his or her English speaking skills or who do not believe that they are competent speakers, the tendency is to feel more anxious during class. The result is consistent with the findings from previous related studies showing that the level of apprehension may intensify when students believe that the level of their L2 competence is low (Dewaele, 2002; MacIntyre, et al., 1997; Matsuda & Gobel, 2004; Onwuegbuzie et al., 2000; Richmond & McCroskey, 1998; Tóth, 2010; Yim, 2014).

5.4 Use of English outside class and language anxiety

5.4.1 Use of English outside the formal classroom

In addressing the third part of the second research question, data results presented in Table 4 show that only three out of the seven options presented in the survey had a sufficient number of cases for the statistical test to get the necessary results.

Table 4. *Cross tabulation of the Participants' Use of English outside class*

	Regularity and Instances of using English outside the classroom						
Anxiety level/ group	Option 1 [a]	Option 2 [b]	Option 3 [c]	Option 4 [d]	Option 5 [e]	Option 6 [f]	Option 7 [g]
Level 2 – Low	0	7	9	1	1	2	1
Level 3 - Moderate/ Normal	0	34	40	2	11	5	4
Level 4 – High	1	7	24	3	10	1	1
Total for each instance	1	48	73	6	22	8	6

Note: [a] always uses English; [b] use English only with friends; [c] use English only when the other person speaks in English; [d] use English only with a foreigner; [e] rarely use English; [f]use English in other situations not mentioned in the options; [g] use English in combinations of the instances mentioned

The second (using English only when the participants are with their friends), third (using English only when the other person is using English regardless of who that person is), and fifth options (using English only when it is necessary but generally, they rarely do) are the most common instances or situations where the participants chose to use English. The result suggests that the participants' use of English seems to be somewhat exclusive and limited—they use it only with the people they are comfortable with or in a scenario in which they feel they have to use the language. The class observation validates this notion. In seven of the classes observed, the students in each recitation class would only speak English when they were discussing something with their seat mate, whom they usually know already, or when they felt like there was no other choice but to do so because the teacher and other students were using the language.

However, despite these seemingly limited opportunities in which the participants use the language, a Chi square test was used in analyzing the relationship of anxiety and the options which yield a significant number of frequencies. Given a Chi square value of 59.040 ($p<0.05$, $df = 4$) in table 5, the result suggests that the participants' varying opportunities for oral communication outside the classroom and their use of these opportunities are somehow associated with the anxiety they feel inside class. The many situations where they use English outside the classroom may help lower their classroom anxiety. This may be related with the results of the study conducted by Matsuda and Gobel (2004) in which learners with overseas experience tend to have lower levels of anxiety which then lead to higher self-confidence, resulting in a better class performance.

Table 5. *Relationship of Anxiety and the Learner's Use of English outside class*

Anxiety level/ group	only with friends	when the other speaks English	rarely	Total number of participants
Level 2 – Low	7	9	1	17
Level 3 - Moderate/Normal	34	40	11	85
Level 4 – High	7	24	10	41
	$n = 48$	$n = 73$	$n = 22$	143

Chi-square value = 59.0394 df = 4 *p-value = 0.000

The data results in Tables 4 and 5 are also consistent with the study conducted by Del Villar (2010) which indicated that some may feel anxious when asked to do so in the class because they have limited speaking and conversation experience, with one person, in front of a group or an audience. Certainly using English outside class can be classified as a speaking and conversation experience and the more learners make use of these opportunities for conversation, the greater the possibility they have in reducing their anxiety in the classroom. The result may also serve as a support to Yim's study (2014) in which experiences in studying abroad, hours spent in studying English outside the classroom and private tutoring lessons influence the level of anxiety that the learners have.

5.4.2 Use of English at home

Table 6. *Relationship between Language Anxiety and the Learner's Use of English at Home*

Anxiety level/ group	From very often to always	Rarely	Never
Level 2 – Low	10	11	0
Level 3 - Moderate/Normal	44	47	5
Level 4 – High	14	22	11
	$n = 68$	$n = 80$	$n = 16$

Chi-square value = 15.331 df = 4 *p-value = 0.004

Table 6 shows a Chi square value of 15. 331 ($p<0.05$, df = 4) which means that the level of anxiety of the participants has a positive relationship with frequency of using English at home. This result shows that participants who have a high frequency of using English at home tend to have low level of anxiety when inside the classroom. This finding supports the result of the data analysis showing a positive relationship between the participants' anxiety level and their use of English outside the classroom.

This significant relationship between the learners' use of the language at home and anxiety also validates the findings in a previous study conducted by Del Villar (2010) which stressed that one attribution of anxiety is the learners' exposure to and previous experiences with the English language as used in real conversations outside the formal setting of a classroom. It may be acceptable to say that the conversations that happen at home are representations of real conversations because the learners may be comfortable enough to discuss and explore a variety of topics and may be not too conscious with how they talk in English because they do not fear any negative evaluation; thus making them confident enough to use the language.

5.5. Pedagogical implications of the findings

Among the learner variables analysed—gender, self-perceived competence, and the use of English both outside the classroom and at home—three factors appeared to have a significant positive relationship with language anxiety. Given these results, the following conclusions are made in relation to language teaching and learning.

The result that male and female learners do not have a significant difference when it comes to the tendency to be anxious (or not) in a language class shows that male and female learners both face the same problems and suffer the same difficulties rooted in the affect. Both male and female learners may experience high or low anxiety in the language classroom because of variables other than their gender. This finding suggests that language teachers should focus more on looking at other factors such as language proficiency, language background and previous experiences, and learning styles and personalities, which may affect the learners' performance in class. Moreover, instructional designers should take all these other factors into account when preparing instructional and learning materials as part of a language program.

The tendency to have lower levels of anxiety when learners perceive and report that they are competent enough in English implies that self-confidence is a very important factor in the learner's success when facing the challenges of learning a language. In this regard, more opportunities for developing self-efficacy and building self-confidence should be one of the priorities in designing instructional and learning materials in a language classroom.

The finding that the learners' anxiety during class has a connection with the various opportunities to use English outside class or with how they actually use it in different instances outside the classroom suggests that students may also view the situations outside the classroom as an extension of what they may experience and learn inside. One implication of this finding is the need to know how to incorporate authentic activities outside the classroom and have the learners use these as additional opportunities to use the English language without questioning their unique identities as native speakers of other languages (Soruç & Griffiths, 2014).

The fact that the learners' use of English at home and the frequency of using it significantly relate to anxiety experienced inside the classroom shows that informal training in language use at home may boost the learners' morale and lessen the anxiety they may feel when inside the formal classroom setting. With this in mind, exploring strategies in family literacy programs may be a significant addition to designing a language class, so that family members may be tapped to help the learners learn the language in a less threatening environment.

6. Conclusion

Considering the learners' diverse characteristics and background and based on the relationships of these characteristics with language anxiety, further recommendations may be adopted to lessen the learners' anxiety in the classroom.

Because gender does not have a significant relationship with language anxiety, learners should keep in mind that, in a language classroom other factors may be sources for language anxiety, and everybody may suffer the same difficulties, so it is important to identify one's learning style and preferences to be able to use learning strategies that are most suitable and helpful for them.

Because self-reported competence significantly affects the learners' anxiety level, learners should learn to develop a strong sense of self and belief in their skills by engaging in

activities that build their confidence in using English—starting from those that would require them to work with a group of a partner where possible negative evaluation from others may be viewed as less personal and particular like simple group discussions and casual conversation exercises by pair—and then eventually advance to individual exercises.

The situations outside the classroom may be different from the classroom setting, with the presence of language teachers who may readily assist and of the classmates who are facing the same challenges and may be experiencing the same difficulties. However, the varied ways in which English may be used outside the class (e.g. when with friends or with a foreigner, or simply when the other person is also doing so), can still be viewed as an extension of opportunities to practice English in oral communication, which may help lessen the anxiety. In addition, learners should use the comfort and security of their homes to practice using English in their conversations with family members, so they may be comfortable enough to use it when in class, especially since the frequency of using English at home has a positive relationship with language anxiety in class as well.

As support for the students in dealing with their language learning difficulties, teachers may turn their attention to learner factors, other than gender, which may influence the learners' tendency to feel anxious in a language class. However, it is significant to note any differences in the manner in which the male and female learners deal with their anxiety, for these differences may reveal insights on how to assist the learners further. For instance, if there are learners who seemed to manage by using humor, then the teacher may encourage the learners to make light of the speaking situation as a positive experience—to laugh with and not laugh at the others when making mistakes in using English. In addition, take home tasks which would require the students to practice their skills may be provided such as having them record an interview with family members or friends about any topic using English.

All these, however, are just few of possible recommendations and pedagogical implications and further research and exploration in the various aspects of the topic may yield interesting and far more promising results.

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A CONCISE ANALYSIS OF THE FOREIGN LANGUAGE EXAMINATION (YDS) IN TURKEY AND ITS POSSIBLE WASHBACK EFFECTS

Erkan Külekçi

Faculty of Education, Kastamonu University

ekulekci@kastamonu.edu.tr

Erkan Külekçi is an academic member at Kastamonu University. He completed his M.S.Ed in TESOL at the University of Pennsylvania and received his doctoral degree in ELT and Applied Linguistics at the University of Warwick. His main research interests are authenticity and autonomy in English language teaching and teacher development.

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Erkan Külekçi

ekulekci@kastamonu.edu.tr

Abstract

In this paper, some basic information about the Foreign Language Examination (YDS) is presented before the construct of the test is analysed in respect of assessing language proficiency. Then, the issues such as reliability and validity of the test are briefly addressed, and both current and possible outcomes of YDS are discussed. Finally, some suggestions for the future direction are presented as the necessity of using computer/internet assistance and encompassing more areas of language knowledge and language skills are highlighted. While this paper provides a ground for future studies to examine YDS, it is strongly emphasized that further and detailed research with empirical data on the test is necessary in order to reveal a much more accurate examination.

Keywords: YDS, foreign language examination, language proficiency, language assessment

1. Introduction

As English becomes a primary means of international communication in today's world, the concepts and processes of English language instruction and assessment have been receiving great attention of researchers, practitioners and language policy makers. Like language learning and teaching paradigms, trends in language assessment have also 'followed the changing winds and shifting sands of methodology' in language education (Brown, 2007). That is, both the process of language instruction and the tenets of language assessment are consistently influenced by the communicative and integrative approaches and effective teaching and learning strategies in language education. As an important part of language assessment, assessing English language proficiency has also gained in popularity both at national and international levels. At the international level, a number of universities, companies and institutions regard large-scale English language proficiency tests such as the *Test of English as a Foreign Language* (TOEFL), the *International English Language Testing System* (IELTS) and/or *Pearson Test of English Academic* (PTE Academic) as valid and accurate assessment tools that display test takers' English language proficiency level. These tests have a significant role in test takers' lives since they assess test takers' overall language proficiency and the results are often used for 'making critical decisions about test takers' (Uysal, 2009, p.314) such as applying for an academic degree, professional and institutional positions and even for immigration.

At national level, standardized tests for language proficiency are generally developed and administrated by national corporations or government agencies. For example, the *General English Proficiency Test* (GEPT) in Taiwan is designed by the Language Training and Testing Center, a foundation registered with Taiwan's Ministry of Education, to measure test takers' English language abilities and to promote English language learning as a life-long

process[1]. Similarly, in Turkey, the *Foreign Language Examination* (Yabancı Dil Bilgisi Seviye Tespit Sınavı; hereafter YDS) is developed and administrated by a governmental institution called Assessment, Selection and Placement Centre (Ölçme, Seçme ve Yerleştirme Merkezi; hereafter OSYM) in order to assess test takers' foreign language proficiency. The purpose of this paper is to provide a rather descriptive and concise analysis of YDS as the most favoured national high-stakes language examination in Turkey. Here, the construct of the test is analysed in the light of the 'language knowledge' dimension of the language use framework illustrated by Bachman and Palmer (1996).

1.1. The Foreign Language Examination (YDS) in Turkey

OSYM was administrating two different language proficiency tests: the *Foreign Language Examination for Civil Servants* (Kamu Personeli Yabancı Dil Seviye Tespit Sınavı, KPDS) and the *Inter-University Foreign Language Examination* (Üniversitelerarası Kurul Yabancı Dil Sınavı, UDS) until 2013. In January 2013, OSYM issued a press release announcing that it will not continue offering these two proficiency tests (i.e., KPDS and UDS), but administrate only the *Foreign Language Examination* (YDS) to measure test takers' English language proficiency levels[2]. YDS, which is usually taken by civil servants, military officers, academics and graduate students, takes place biannually (as in spring and autumn). While the test in spring is designed in more than twenty languages (e.g., Chinese, English, French, Greek, German, Japanese, Persian and Spanish), the one in autumn includes only Arabic, English, French, German and Russian. In Arabic, Bulgarian, English, French, Greek, German, Italian, Persian, Russian and Spanish, the test is in a multiple-choice format consisting of 80 questions in total about vocabulary knowledge, grammar knowledge, translation and reading comprehension. In other languages, e.g., Armenian, Chinese, Danish, Greek, Japanese and Korean, the test is solely in the form of language translation (i.e., from Turkish to the chosen language and vice versa) and evaluated by an academic jury in OSYM. The reason why the test is administrated in two different formats for different languages might be about technical considerations such as practicality and reliability in the development and application of the test in accordance with the number of test takers. In both formats, test takers are given two and a half hours (150 minutes) to complete the test. As for the evaluation in the multiple-choice test format, each correct answer of the test takers is given 1.25 point. At the end, test-takers' proficiency levels are decided according to their final scores on the scale of zero to one hundred (see Table 1). For this particular paper, the construct of the English version of YDS (hereafter, YDS-English) is chosen to be examined.

Scores	100-90	89-80	79-70	69-60	59-50
Levels	A	B	C	D	E

Table 1: YDS scores and proficiency levels

The equivalence between the English language exam scores obtained from YDS-English and the exam scores obtained from other English language tests (e.g., TOEFL, PTE-Academic) is decided by OSYM[3]. According to OSYM, the equivalence between the internationally recognized English language tests and YDS-English, which does not attempt

[1] http://www.lttc.ntu.edu.tw/E_LTTC/E_GEPT.htm. Retrieved on 23 April 2016.
[2] http://osym.gov.tr/belge/1-14909/basin-duyurusu-2013-yabanci-dil-bilgisi-seviye-belirlem-.html
[3] http://dokuman.osym.gov.tr/pdfdokuman/2016/GENEL/EsdegerlikTablosu29012016.pdf . Retrieved on 23 April 2016

to assess all language skills, is indicated in one way only since the former ones are expected to measure the ability to communicate in English across all four language skills (i.e., listening, writing, speaking and reading). That is, while TOEFL IBT total score 114 is equivalent to 95 (Level A) in YDS-English, the equivalence is not regarded valid and accurate in the other way around. Some examples of the equivalence are shown in Table 2.

TOEFL-IBT	→ YDS ←	PTE-Academic
120	100	90
114	95	87
108	90	84
102	85	81
96	80	78
90	75	75
84	70	71
78	65	67
72	60	55
66	55	50
60	50	45
54	45	38
48	40	30

Table 2: The equivalence between the exam scores from YDS-English and from other proficiency exams[2]

YDS-English measures test takers' proficiency level of English language, and the test is constructed of several sections, each of which attempts to assess various areas of language knowledge. These sections are, namely, fill-in-the-blanks and cloze tests, sentence completion, translation, reading comprehension, dialogue completion, paraphrasing/restatement, paragraph completion and finding the irrelevant sentence. According to the handbook prepared and circulated by OSYM, YDS-English adopts British English in terms of language usage and the questions in the test are prepared from the sources produced in inner-circle countries, where English is used as an official, native language (see Kachru, 1992) such as the USA, the UK and Canada (see OSYM, 2016).

1.2. Previous studies on YDS-English

It is possible to list few studies on YDS-English and/or on the similar language proficiency examinations administrated by OSYM such as KPDS and UDS. Since these tests have similar nature and constructs, previous studies on KPDS and UDS may provide useful implications for YDS-English as well. For instance, in his qualitative study, Özmen (2011) investigated the washback effects of UDS on prospective academics in Turkey and found out that the test had negative washback effects on several micro and macro level variables (e.g., negative effect on L2 competences, cognitive learning and in terms of course and materials expenses). Exploring academics' opinions about foreign language examinations (i.e., KDPS and UDS) and their language proficiency levels, Yavuzer and Göver (2012) conducted a questionnaire with 121 academic members in a state university in Turkey. Their study revealed that the participants perceived these tests as a barrier to further academic promotion and indicated the need to revise such language examinations to include all of the four basic language skills. In terms of language skills, Akpinar and Cakildere (2013) investigated the washback effects of KPDS and UDS via a survey on 103 academics' receptive and

productive language skills. In their study, both descriptive and statistical analyses of the survey revealed that 'the most positively affected skill by these language tests' was reading skill (p.88) and that 'productive skills of speaking and writing and receptive skill of listening [were] totally neglected' by the test takers as 'these skills are not tested' (p.89). In another study, Güleç (2013) investigated how academics studying for YDS conceptualised their success and failure attributions and their overall opinions about YDS. His study showed that academics had 'positive belief towards learning English and taking YDS examination because of the importance of English for their academic career' (p.8). According to the study, along with the 'score', it is possible to list other attributions such as 'effort, ability, task difficulty and teacher influence' for conceptualising success or failure in the language examination. Finally, Akın (2016) examined YDS in terms of some features of adult education and of language for specific purposes. The findings suggest that while originality of the questions and test takers' familiarity with the test format can be listed as advantages of its application, not assessing the four basic language skills can be considered the downside of the test.

In this paper, the term of 'language proficiency' will be defined before the construct of YDS-English is examined within the *language knowledge* component of the framework presented by Bachman and Palmer (1996). Then, technical issues related to the test (e.g., reliability and validity) will be briefly addressed. At the end, the washback effects of the test will be discussed and some suggestions for the future direction will be presented. In this way, the present paper provides a ground for further and more detailed research on YDS-English.

2. Purpose and methodology of this study

As stated above, YDS is a language proficiency test administrated by OSYM in Turkey. Hughes (2003) defines proficiency tests as the tests that evaluate test takers' abilities in a language, 'regardless of any training they may have had in that language' (p.11). In fact, in a broader sense, the term 'proficiency' encompasses concepts like ability, knowledge and competence by which 'a high level of skill, well-developed knowledge or polished performance' is indicated (Hadley, 2001). In a testing context, being proficient means carrying adequate command of the language 'for a particular purpose' or 'for reaching a particular standard' (Hughes, 2003). Highlighting that 'relating a test to a model of language ability' can provide us with a useful framework, Louma (2004) suggests that we need a well-developed reference framework in order to construct and analyse a proficiency test that clearly sets its particular goals and proficiency definition.

In this regard, a well-designed model of language ability should offer a clear and concise description of language competence while simultaneously emphasizing the communicative component. Since communicative language ability has gained a significant role in language learning and use, theories of language performance that explicitly covers communicative competence are regarded current, practical and efficient in language assessment as well. The most popular frameworks that are preferred in second and foreign language education and assessment include Canale and Swain's (1980) theoretical framework for communicative competence and Bachman's (1990) theoretical framework of communicative language ability (as cited in Hadley, 2001). As both Hadley (2001) and Louma (2004) underline, the theoretical model of language ability designed by Bachman and Palmer (1996), which is developed from Bachman's previous framework of communicative language ability (as cited in Louma, 2004), is one of the most frequently utilised models in language testing. This model is basically composed of two main components: (a) language knowledge and (b) strategic knowledge (Bachman & Palmer, 1996, p.67).

Although there are few studies on YDS-English in the literature (see Akın, 2016; Güleç, 2013), to the best of my knowledge so far, the present paper is the first attempt to analyse the construct of YDS-English in terms of the *language knowledge* component of the model of language ability designed by Bachman and Palmer (1996). The 'language knowledge' component of the framework, or 'language competence' in Bachman's original term (1990), is used in this paper as a baseline to develop a concise, yet critical, analysis of the construct of YDS-English. Bachman and Palmer (1996) state that 'language knowledge' is 'a domain of information in memory that is available for use by the metacognitive strategies in creating and interpreting discourse in language use' (p.67) and it covers two categories, each of which involves two other components as well (for the full chart, see Appendix 1.A). Briefly, language knowledge involves organizational knowledge and pragmatic knowledge. *Organizational knowledge* focuses on formal language structures, and addresses both *grammatical knowledge* (i.e., knowledge of vocabulary, of morphology, of syntax and of phonology) and *textual knowledge* (i.e., knowledge of textual cohesion and of rhetorical organization). *Pragmatic knowledge*, as the second major category, is related to the ability to use language appropriately within the communicative goals of language users and the context of language use. Pragmatic knowledge involves *functional knowledge* (i.e., knowledge of functional characteristics of language according to the user's aim) and *sociolinguistic knowledge* (i.e., being able to create an appropriate relationship between language forms and the context in which the language is used) (Bachman & Palmer, 1996, p.67-70). For the purpose of this paper, a test analysis checklist prepared by Bachman and Palmer (1996) was revised and utilised to analyse the construct and sections of YDS-English in terms of *language knowledge* component of the model (for the adapted checklist, see Appendix 1.B). After the analysis, the provisional findings were shared and discussed with the colleagues who were familiar with both YDS-English and the analysis checklist in order to increase the reliability of this study.

It is important to note that since OSYM shares only 10 percent of the tests with public, a limited number of questions could be analysed through the checklist. As the test takers can view the whole test on their online profile for a limited time after they take the test, I took it in Spring 2016 and had the opportunity to access all of the questions in YDS-English Spring 2016.

3. Analysis of YDS-English through a test analysis checklist on language knowledge

YDS-English includes eight sections and these sections can be listed as fill-in-the-blanks and cloze tests, sentence completion, translation, reading comprehension, dialogue completion, paraphrasing/restatement, paragraph completion and finding the irrelevant sentence. The first section of the test is comprised of questions prepared in a fill-in-the-blanks format including two cloze tests. For the first sixteen questions, test takers are asked to fill in the blanks in the stems by choosing the correct answer from the options provided. This part primarily attempts to assess test takers' knowledge of vocabulary and syntax/structure (i.e., grammatical knowledge). In some questions, moreover, textual knowledge is also assessed. For instance, test takers' ability to comprehend the relationship (i.e., cohesion) between two clauses in the stem can be measured in some of the questions. The next part in this section includes two cloze tests, each of which has five questions. Aitken (1977) claims that cloze tests, which can be developed easily, are considered both valid and reliable tools to assess language proficiency. Although this statement was expressed at the time when cloze tests were strongly supported and promoted, it is possible to claim that cloze tests are still preferred by several testing institutions to assess language knowledge. In principle, a number of words are removed from a text at regular intervals, and test takers are asked to replace the correct words for each blank (Aitken, 1977; Hughes, 2003). However, the cloze tests used in

YDS-English are not in a traditional cloze test format in which every n^{th} word is removed from the text. In the test, the removed items are particularly chosen to assess test takers' knowledge of cohesion as well as knowledge of vocabulary and syntax. Bagarić and Djigunović (2007) emphasize that organizational knowledge encompasses the ability to recognize and construct 'grammatically correct sentences' with meaningful and coherent contents (p.98). Thus, this part clearly attempts to measure organizational knowledge (i.e., both grammatical and textual knowledge) of the test takers.

In the second section, there are ten questions and test takers are asked to complete the given sentences by combining correct clauses. Bachman and Palmer (1996) define textual knowledge as the ability to 'produce and comprehend texts, which are units of language that consists of two or more utterances and sentences' (p.68). Therefore, like the previous section, the questions in this section also attempt to assess test takers' organizational knowledge, and the focus is on textual knowledge in particular.

The following section involves six translation questions, including translations both from Turkish to English and from English to Turkish. Mirici (2003) states that the questions in this section are designed to assess test takers' 'transferring skill from and to target language'. Translation can be regarded as a very useful testing technique, since it involves several aspects of language ability and addresses various types of language skills (i.e., reading, writing) (Hughes, 2003). Organizational knowledge (i.e., grammatical and textual knowledge) is the main focus in this section of the test. Furthermore, knowledge of rhetorical organization is directly addressed within the textual knowledge (e.g., organizational development in the sentences).

In the following section, which involves five separate paragraphs and four different questions for each paragraph, reading comprehension of test takers is explicitly assessed. The questions primarily measure test takers' grammatical knowledge and textual knowledge. In most cases, moreover, test takers need to understand the writers' aim and implied messages to answer the questions correctly; therefore, functional knowledge (within pragmatic knowledge) is somewhat covered in this section as well. However, in this case, the test takers might experience some difficulties due to fact that these texts have been adapted from so-called authentic sources (e.g., scientific magazines in English) and this can result in missing overall meaning of the original texts or the main intention of the text authors.

After reading comprehension, test takers are required to complete the given dialogues by choosing the most appropriate response among the options. In this section there are five questions and it is not unfair to claim that sociolinguistic knowledge is addressed here as well as grammatical, textual and functional knowledge. Bachman and Palmer (1996) define sociolinguistic knowledge as the language ability to construct or comprehend language 'that is appropriate to a particular language use setting' (p.70). Here, test takers are expected to demonstrate their 'knowledge of conversation' by taking natural or idiomatic expressions, cultural references and figures of speech into consideration. Although it is in a written format rather than speaking, this demand can be observed clearly in the questions in this section.

The next section involves four paraphrasing/restatement questions. Here, test takers are asked to choose the option that has the closest meaning of the given sentence in the stem. Mirici (2003) states that this section aims to measure test takers' transferring ability within the target language. The questions address both grammatical and textual knowledge of test takers. Moreover, since test takers need to understand overall purpose and meaning of the given sentences, functional knowledge in a very broad sense is also assessed in this section.

After paraphrasing questions, test takers are asked to complete the given paragraphs by choosing the most appropriate sentences. There are four questions for paragraph completion, each of which is usually made up of five or six sentences. The main focus in this section is on creating coherent and meaningful paragraphs; therefore, this section explicitly attempts to measure knowledge of cohesion and rhetoric (i.e., textual knowledge) along with grammatical knowledge of test takers.

Finally, in the last section, which involves five questions, test takers are expected to find the irrelevant sentence in the given paragraphs. The paragraphs consist of five sentences and in each paragraph one of the sentences is irrelevant, which negatively affects coherence and cohesion of the texts. This section directly attempts to assess test takers' textual knowledge. It is also possible to claim that grammatical knowledge and functional knowledge are addressed through the questions in this section.

In principle, varied areas of language knowledge are covered throughout the test such as grammatical knowledge (e.g., knowledge of vocabulary and syntax), textual knowledge (e.g., knowledge of cohesion and rhetorical organization), functional knowledge and sociolinguistic knowledge. However, since YDS-English is designed and administrated in a multiple-choice test format, these areas are not measured completely. For example, being able to choose the most appropriate and grammatically correct options does not always mean that test takers apply this ability in language use in real life (e.g., through actual speaking and writing performances). Although YDS-English is a proficiency test, it primarily assesses 'recognition knowledge' as it depends on the multiple-choice technique. Hughes (2003) stresses that test takers' performance on a multiple choice test 'may give an inaccurate picture of their language ability', thus it does not bridge the gap between language knowledge and language use (p.76). However, this does not mean that the test completely fails in assessing test takers' language knowledge. Bachman and Palmer (1996) do not limit the areas of knowledge with the productive abilities only, they include recognition knowledge as well. For example, the authors carefully describe each types of knowledge as 'to produce or comprehend…' particular aspects of language.

Although Bachman and Palmer (1996) do not regard reading, writing, listening and speaking as separate 'language skills' but 'language use activities' in their framework (as cited in Louma, 2004), in this paper each of these activities are considered as a distinctive language skill. In practice, YDS-English directly assesses test takers' reading skills and grammar and vocabulary subskills while writing and speaking skills are addressed very indirectly through the multiple choice questions. For example, it can be claimed that translation, sentence completion and paragraph completion cover writing skills, and dialogue completion indirectly and inadequately addresses speaking skills (particularly in terms of 'pragmatic knowledge'). However, the test pays no attention to test takers' listening or pronunciation skills. In effect, not covering productive skills explicitly as a proficiency test results in undesirable effects such as reducing validity and efficiency of the test.

4. Validity and reliability issues

For the purpose of this paper, face validity, content validity and criterion-related validity of YDS-English are briefly addressed. Hughes (2003) states that a test has face validity if 'it looks as if it measures what it is supposed to measure' (p.33). In the test handbook prepared by OSYM (2016), it is stated that the test aims to assess language proficiency of test takers via questions on 'vocabulary, grammar, reading comprehension and translation' (p.9). Since the test does not claim that it attempts to assess test takers' speaking or listening skills, it has indeed face validity. In addition to face validity, it can be claimed that YDS-English has content validity, although not directly addressing productive skills as a language proficiency

test clearly reduces this type of validity. A language test is regarded as having content validity if its content presents well-chosen samples of target language that the test attempts to assess (Brown, 1996; Brown, 2007; Hughes, 2003). In this sense, a representative group of samples from various areas of language (e.g., vocabulary, reading comprehension) is provided throughout the test. Furthermore, most of the samples are claimed to be taken from 'authentic' resources such as science magazines and news articles in English. As for criterion-related validity, however, the test is not highly valid since the results may not have a correlation with language use in target contexts and with other independent and highly reliable assessment tools. Although this kind of claims needs concrete evidence, not only my own observations and experiences in English language assessment but also my personal communication with assessment authorities in Turkey indicate that the test is not very useful to predict test takers' future language performance in real life communication. In fact, further studies and analyses are needed in order to make more well-grounded judgements about criterion-related validity of the test. Finally, it is worth noting that publishing a handbook with useful information about the test, using direct testing to assess vocabulary, grammar and reading comprehension, and scoring the test objectively might increase the overall validity of the test.

Hughes (2003) highlights that 'if a test is not reliable it cannot be valid' (p.34). Reliability is defined as the consistency of the assessment (i.e., similar test scores by same test-takers at different time) (Brown, 2007; Hughes, 2003; O'Malley & Pierce, 1996). This definition encompasses two major components of the concept of reliability: test takers' performance and scoring procedures (Hughes, 2003). In order to increase reliability of a test by addressing these two components, Hughes (2003) offers several suggestions (p.44-50). In the light of these points that Hughes highlights, YDS-English can be considered relatively reliable since (a) it provides enough samples for the areas it attempts to measure, (b) it requires test takers to find a correct answer among limited but enough number of options, (c) the instructions are clearly provided in Turkish for each section of the test and further information is given in the handbook, (d) the items are typed and placed clearly, (e) the test takers are relatively familiar with the test technique since the formal testing system in Turkey mostly relies on multiple-choice technique and (f) the scoring is objective and clear for each test taker.

Neglecting speaking, listening and writing skills directly in the test has both advantageous and disadvantageous outcomes in the contexts of validity and reliability. Not addressing these skills makes YDS-English less effective and efficient in assessing language proficiency. However, this situation definitely increases the practicality of the test (e.g., time and human resources during both testing and scoring processes) and removes some possible reliability issues such as subjective scoring and lack of samples of target performance, particularly because it is often very difficult to provide enough and well-chosen representatives of speaking and writing items.

5. Discussion and possible washback effects of YDS-English

Every year thousands of candidates take YDS-English to measure their language proficiency or to get academic promotion in Turkey. Therefore, this high-stakes test has some inevitable influence on language education in Turkey. The effect that tests have on learning and teaching processes is called washback (Alderson & Wall, 1993; Cheng & Curtis, 2004; Hughes, 2003), and Hughes (2003) underlines that today washback (or backwash) is regarded as a crucial part of the impact that a test has on individuals (i.e., teachers, learners, policy makers), on educational system and policies and on society in a broader sense as well.

There are a few studies in the literature on the washback effects of similar tests (e.g., KPDS and UDS) previously conducted by OSYM (see Akpinar & Cakildere, 2013; Özmen,

2011) and it is possible to claim that the results and implications of these studies might be applicable to YDS-English as well. As one of the backwash effects, one can claim that preparation for the test encourages test takers to study English because they may be promoted or given financial support depending on their levels of language proficiency. However, it should be pointed out that test takers usually tend to focus merely on testing strategies instead of on improving their overall language abilities. Moreover, when test takers study English to prepare for the test, they usually pay great attention to grammar, vocabulary and reading skills and overlook other aspects of language use such as speaking, pronunciation and listening because of the current design of the test (see Akpinar & Cakildere, 2013). Another impact of the test is that test takers spend a lot of time on mock exams to improve their recognition knowledge and their familiarity with the multiple-choice technique. This creates a new branch in the language learning marketing in Turkey: preparation books and private courses for YDS-English. Although some of them can be considered very valuable resources in the market, quality of these publications or efficiency of such courses are highly questionable. The present paper can provide a springboard to consider such issues in a more holistic way and to include main language skills in the process of preparation for YDS-English. For example, addressing test takers' speaking and writing skills in a more explicit and communicative way might contribute to their success in the sections related to dialogue completion, paraphrasing and paragraph completion as well as to their English language proficiency in general. Indeed, this will be in line with current trends and approaches in language teaching and assessment as well.

It is possible to claim that potential backwash effects of the test reveal useful implications for the future of YDS-English as well. For example, now both test developers (i.e., OSYM) and test takers are aware of the fact that the test does not meet all the needs to assess language proficiency effectively (see Yavuzer & Göver, 2012). Although it is considered as practical and reliable, the test design should be changed according to the needs of test takers and current demands of language instruction and assessment (e.g., computer/internet assistance, communicative purposes and means etc.). Thus, it may efficiently address pragmatic areas of language knowledge and productive language skills as well. In fact, since September 2014, OSYM has been administrating a computer-based version of YDS-English (Elektronik YDS, *e*-YDS) every month (i.e., 12 times a year). However, *e*-YDS is simply an electronic version of the current YDS-English and it does not aim to assess any productive language skills. Since changes in language assessment and language instruction influence each other, such revisions in YDS-English (e.g., utilising online resources, including all language skills and language knowledge areas and so on) will consequently affect language teaching and learning processes in Turkey. Finally, the results of the test can be analysed systematically and an extensive research project supported by OSYM and other stakeholders can be conducted in order to improve the test to meet the current needs and to improve language education policies and process in Turkey.

6. Conclusion

As conclusion, the construct analysis of YDS-English reveals that the test mainly focuses on grammatical and textual knowledge more than pragmatic knowledge, and by its nature it neglects communicative and productive language abilities of test takers. While Rimmer (2006) states that grammatical knowledge highly 'correlates with overall proficiency' (p.497), Kitao and Kitao (1996) underline that today well-designed proficiency tests should directly address communicative competence. Moreover, proficiency tests should involve both receptive and productive skills, and reflect language use in real life, thus turning into an authentic assessment tool for language proficiency. In the light of these points, YDS-English can be (re)constructed more effectively by addressing all areas of language knowledge and

encompassing communicative and strategic aspects of language use. Moreover, although YDS-English is very popular as a language proficiency assessment tool in Turkey, there are a limited number of in-depth studies on the test in the literature. Therefore, there is still a need for studies providing empirical data and detailed analyses on the test, ideally supported by OSYM as it is the official body of administration and development of YDS in Turkey, in order to provide well-grounded claims and directions for the possible improvements.

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Appendix 1.A:

Areas of language knowledge (Bachman & Palmer, 1996, p.68)

Language Knowledge			
Organizational knowledge		**Pragmatic knowledge**	
Grammatical knowledge:	**Textual knowledge:**	**Functional knowledge:**	**Sociolinguistic knowledge:**
- knowledge of vocabulary - knowledge of syntax - knowledge of phonology/graphology	- knowledge of cohesion - knowledge of rhetorical or conversational organization	- knowledge of ideational functions - knowledge of manipulative functions - knowledge of heuristic functions - knowledge of imaginative functions	- knowledge of dialects/varieties - knowledge of registers - knowledge of natural or idiomatic expressions - knowledge of cultural references and figures of speech

Appendix 1.B:

Adapted from Components of language ability: A test analysis checklist (Bachman & Palmer, 1996, p.77)

Sections	**Component of language ability**		**Samples / Questions**	**Comments**
	Organisational knowledge	GRAM: Vocabulary		
		GRAM: Syntax		
		GRAM: Phonological/Graphological		
		TEXT: Cohesion		
		TEXT: Rhetorical organization		
	Pragmatic knowledge	FUNCT: Ideational		
		FUNCT: Manipulative		
		FUNCT: Heuristic		
		FUNCT: Imaginative		
		SOCIO: Dialect		
		SOCIO: Register		
		SOCIO: Naturalness		
		SOCIO: Cultural references and figurative language		
		META?		

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SKILLS-BASED ECLECTIC TECHNIQUES MATRIX FOR ELT MICROTEACHINGS

İskender Hakkı Sarıgöz
Gazi University
iskender@gazi.edu.tr

İskender Hakkı Sarıgöz is an associate professor in Gazi University ELT Department. He holds MA and Ph. D degrees from Gazi University. His professional interests are teacher training, methodology, interdisciplinary dimensions of ELT, and translation. He has lectured in Gazi University ELT Department for 33 years. He has also lectured in some universities in Turkey and Europe (Erasmus) including Anadolu University DELTTP.

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İskender Hakkı Sarıgöz

iskender@gazi.edu.tr

Abstract

Foreign language teaching undergoes constant changes due to the methodological improvement. This progress may be examined in two parts. They are the methods era and the post-methods era. It is not pragmatic today to propose a particular language teaching method and its techniques for all purposes. The holistic inflexibility of mid-century methods has long gone. In the present day, constructivist foreign language teaching trends attempt to see the learner as a whole person and an individual who may be different from the other students in many respects. At the same time, the individual differences should not keep the learners away from group harmony. For this reason, current teacher training programs require eclectic teaching matrixes for unit design considering the mixed ability student groups. These matrixes can be prepared in a multidimensional fashion because there are many functional techniques in different methods and other new techniques to be created by instructors freely in accordance with the teaching aims. The hypothesis in this argument is that the collection of foreign language teaching techniques compiled in ELT microteachings for a particular group of learners has to be arranged eclectically in order to update the teaching process. Nevertheless, designing a teaching format of this sort is a demanding and highly criticized task. This study briefly argues eclecticism in language-skills based methodological struggle from the perspective of ELT teacher education.

Keywords: FLT, ELT, teacher training, ELT microteachings, eclectic matrix

1. Introduction

ELT methodology and learners meet in techniques (Sarıgöz 2012). The learners in a foreign language classroom do not have much methodological knowledge about FLT methodology. They are only exposed to the techniques applied during the lessons. The learners do not need to understand the instructional technology accumulated in the field of ELT. Techniques constitute the only meeting zone with all the teaching tools employed by the instructor and ELT methodology. In this vein, unit planning and the quality of the collection of techniques in a unit is extremely critical in teacher training. A unit is the smallest macro ELT realm or the most complete smallest structure technically affected by approaches and methods. Whether eclecticism is popular and practiced widely in microteachings is out of the scope of this discussion.

2. Problem

Detailed and systematic microteaching applications are standard in some ELT departments. Many teacher trainees who attend ELT methodology courses prepare microteaching outlines prior to the presentations. The symbiotic relationship between mid-century methods and their techniques plays an important role in microteaching design as well as the newly emerged techniques which belong to no popular method. In this study the author who has been in teacher training field for thirty-three years points out that experiencing chaos in microteaching design and presentation is possible. There are many factors causing

problems which affect skills-based presentations. This argument looks into this matter from the standpoint of structure of eclectic planning.

3. Integrated Instruction, Eclecticism, and Microteachings

Richards and Rodgers (1986) argue that an approach can lead to a method if an instructional system is designed. The essential factors for such a design include objectives, the syllabus, learning tasks and activities, and the roles of learners, teachers, and teaching materials. Brown (2001) argues the priority of integration of four main skills to the teaching through a single skill. Integrated instruction lets learners diversify their efforts into more meaningful tasks. Brown points at the intermingling of the terms "technique, task, procedure, activity, and exercise" which are frequently used in free variation. He defines the term "technique" as any of the practices above used in instruction for realizing the objectives of a lesson. Wallace (1991) defines microteachings as the sessions which involve delivering brief lessons exemplifying certain skills. Trainees receive criticism from peers or supervisors. On the other hand, microteachings provide collective and secure experimentation in the gradual progress of professional expertise. Richards and Rodgers (2001) indicate that teacher trainees should practice approaches and methods flexibly and innovatively based on personal judgment and experience. They should exercise how to transform and adapt the methods they employ to make their own. As the teacher gains experience, individual approach or method of teaching reflecting personal experiences will be set up. This can be utilized by adapting and modifying the approaches and methods considering the realities of the target student group. According to Cook's (2003) review, post modern applied linguistics reverses the process and it no longer flows from the academic linguistics through applied linguistics to teachers, but the opposite way. Ghanaguru, Nair, and Yong (2013) discuss that teacher trainees focus on good lesson planning and its implementation. However, It is necessary to generate consciousness of which features of theories and approaches are employed throughout microteaching. He and Yan (2011) argue that artificiality is an important flaw when microteaching experiences are concerned. They suggest that they should be supported with various alternative forms of school experiences and practices. Sarıgöz (2015) argues the need for eclectic microteaching design for teaching skills-based units which are generally the final trainee practices in methodology courses after single-skill microteachings.

4. Methods Era

In the linear thinking fashion of the modernist era "blind adherence to one method" was mostly considered as the only way of systematic teaching. The symbiotic relationship of approaches and methods produced collections of teaching techniques based on a specific perception and submission of foreign language instruction. Some of the methods were designer methods compiled by one theorist. Freeman and Anderson (2013) argue that the teachers should not only be aware of contemporary practices in language teaching but also of the history of the discipline.

In the single method genre, the techniques were designed in a working order that complied with the method and there was no or not much ground for "mixed" or independent and "out of the method" techniques. Theoretically, their unit frames were not much open to adaptations. Still there are schools which employ a single foreign language teaching method. Single method adherence may be criticized due to the possible dogmatic limitedness of a single style. On the other hand, undervaluation of existing methods is another point of discussion. Many of the techniques appeared in these collections are eclectically unavoidable teaching tools today.

5. Post-methods Era

Due to the restrictions caused by the natural and limited boundaries of the FLT trends in the methods era, new explorations for innovative methodological combinations have emerged. Today, in many teaching settings the freedom to customize the teaching methodology is inevitably experienced. Naturally, creating a tailored approach to TEFL must be an informed task upon a detailed preparation and needs analysis. Designing eclectic teaching combinations for each unique teaching environment require more resources and energy than using traditional programs and standard teaching packs. Bell (2007) argues that methods are still alive and it seems that instructors are aware of both the value of methods and the need to go ahead of them.

Eclectic approach, which is a post methods era trend, is also a highly criticized teaching technology as well as the single method since clear guidelines for the best methodological combination do not exist. Furthermore, its training does not exist as an independent course in methodology programs of teacher education colleges. In this vein, the informed eclecticism is a complicated matter in terms of its training, rehearsals, and evaluation. In short, how this phenomenon is reflected in methodology courses of teacher training programs and how it is reproduced in actual teaching are points that should attract technical attention. For these reasons, teaching the eclectic unit design which is formulated as "integrated-skills based eclectic unit matrix for microteaching applications" in this argument should be experimented as one of the basic training domains. It should not be a rarely discussed or a no-time-left topic in the methodology courses of ELT departments.

6. Method

The single skill based and the integrated-skills based matrixes are constructed for microteachings by the teacher trainees in methodology courses. The former may symbolize a lesson and the latter a unit when the factors such as aims, contents and the duration are considered. These zipped lesson or unit plans are prepared by the trainees by producing all the teaching materials personally. Today, it is not logical to design them within the limits of a single ELT method when the wide range of techniques offered eclectically and created freely are taken into account. Single skill eclectic microteaching practice must be exercised before the "integrated skills" one in methodology courses. The latter is the final one that represents a unit and contains many parts the former contains. That is, trainees should start teaching main language skills and sub-skills singly first. Depending on the class time available, a single skill microteaching such as "reading" may take twenty minutes whereas a skills based microteaching may take forty-five minutes. A skills-based eclectic microteaching may include all language skills and sub-skills depending on the time available. As argued elsewhere, it is the smallest macro teaching design affected by the ELT acculturation.

As the basic method for the discussed application, the parts below argue and illustrate a model template that may represent the components of an integrated, eclectic, and skills-based ELT microteaching. The suggested style of construction can be used for simulating how to compile and teach a general English teaching unit that may appear in a school syllabus for TEFL. The matrix in Table-1 below has five interchangeable domains that can be flexibly programmed according to the learner needs and the resources available.

6.1. Discussion: Matrix for The Eclectic Foreign Language Teaching Unit: A Skills-Based Perspective

Due to the instructional flexibility that exists in eclectic approach, learner needs and expectations and the resources must definitely be considered in unit design. Eclectic approach

rationally fosters the innovative domain in unit design and its teaching considering the target teaching environment. Trainees should start with analyzing:

who the learners are.

what the teaching approach is.

the limits of interlanguage.

the course materials and the technical resources it offers.

Designing an eclectic unit matrix or modifying the given unit in this fashion is a truly constructivist process. There is some improvisation but there is definitely research and planning. To consider the philosophy behind each method is a prerequisite before the compilation of the collection of techniques from each method. Techniques liberate the energy for the implementation of the task. An eclectic microteaching configuration is a collection of well working techniques from the popular methods and "freelance" techniques. The author defines the freelance techniques as the self employed ones, not utilized by a particular method.

6.2. The Mixing Process

Designing a skills-based eclectic matrix is a professional assembly and ordering process which reflects the higher order methodological concerns accumulated in FLT. The set up in Table-1 is a skills-based eclectic techniques-matrix constructed by the author for teaching a unit. The mixing of the contents should be arranged according to the variables of the teaching arrangement which basically cover the learners, the instructor, the teaching materials, the methodology employed, and the teaching goals. The techniques in the matrix that come from a method are listed in the methods reviewed by Freeman (1986).

Table 1 .*The skills-based eclectic matrix*

	Activity	Technique	Method	Aim	Time
1	Positive classroom environment	Classroom set-up	Suggestopedia/ Brain Based Learning	Removing barriers to learning	
2	A well mediated opening	The warm-up	Freelance	Smooth start	
3	A short class dialogue on the subject	Positive Suggestion	Suggestopedia	Narrowing down Brainstorming	
4	Focusing on the pictures on the class wall and guessing	Peripheral teaching	Suggestopedia	Contextualization	
5	Using real-life language materials	Authentic Materials	Communicative Language Teaching	Making communication real-like	
6	Read the text and answer the Comprehension Questions	Information, inference, own experience questions	The Grammar Translation Method	Reading, thinking, writing, and speaking	

7	Match the words and pictures	Vocabulary comprehension check	Freelance	Understanding lexicon	
8	Ask and answer questions - Teacher ask questions, there is a particular grammar, and students answer, later they ask to each other	Inference - Conversation Practice	The Direct Method	Grammar in context Pair work or group work	
9	Listen to the details, solve the puzzle and rewrite the short play accordingly	Listening skills	Freelance	Listening practice	
10	Presenting the grammar with examples, upon comprehension students apply it to other examples	Deductive Application	The Grammar Translation Method	Grammar practice	
11	Write in the blanks the missing vocabulary or grammar items	Fill-in-the-blanks-exercise	The Grammar Translation Method	Vocabulary check	
12	Find out if your answer or the supplied alternative answer is correct	Getting students to self correct	The Direct Method	Self correction and learning	
13	Play the grammar game - There is a limited context	Grammar game	The Audio Lingual Method	Grammar practice through game	
14	Teacher provides help and becomes silent	Teacher's Silence	The silent way	Learner centered instruction	
15	Exchange information and complete the given task	Opinion-gap Task	Task Based Language Teaching	Guessing and speaking	
16	Pretend and act	Role play	Suggestopedia, Communicative Language Teaching	Social event	
17	Sing a theme song	Creative adaptation	Suggestopedia	Practice with rhythm and music	

18	Write a composition	Composition/ Paragraph Writing	Grammar Translation Method / The Direct Method)	Practice through writing	
19	Drama	Real-like Social Event	Freelance	Social event	

The matrix template argued in this study and illustrated in Table-1 has been designed by the author as a base for the ELT microteachings carried out by teacher trainees. The author lets teacher trainees use a broader range of columns (see Table-2) in both the single skill based and the integrated-skills based matrixes. These zipped lesson or unit plans are prepared by the trainees by producing all the content materials and teaching aids by themselves and they are presented by each teacher trainee in the given time period. The number of the techniques listed in the matrix may be determined by the presentation time available. The trainees are free to develop and use new techniques. They are not obliged to use popular techniques.

Table-2 P*ossible domains for the single skill-based and skills-based eclectic matrix for microteachings*

Skill	Activity	Technique	Method	Aim	Instructions	Student Response Type	Communication	Materials	Time

In addition to the main components of the eclectic matrix such as activity, technique, method, and aim, the trainees can specify briefly the instructions and materials besides the type of communication and learner response (Table-2). The model eclectic matrix suggested in Table-1 organizes 19 activities into a microteaching unit. The techniques listed from popular ELT methods and freelance techniques can be brought together depending on the target interlanguage, age level, learners' needs, unit goals and other critical variables. The timing column in Table-1 has no time distribution. Time zones can be assigned depending on the timetable of the microteaching application. The author lets trainees use various combinations such as the one in Table-1 for different types of microteachings and student age groups including young learners.

6.3. Problem Foreseeing

Designing an eclectic integrated- skills-based unit plan in training is the first step for trainees in macro teaching design. After the single-skill microteachings they are ready to see the bigger picture; "the unit" which is a miniature of the syllabus. The simple pre-while-post route used for single-skill microteachings cannot be used anymore. The trainees have to technically simplify all the components that should be integrated in a unit which is normally taught in one week in real schooling. Trainees should attempt to create the most dynamics of teaching such as an effective warm up and contextualization, procedural ordering of techniques, seamless transitions, and classroom management. The placement of grammar component is vital and many of the problems may occur in case of disordering. Timing of the skills during presentation is another concern. Rehearsals before the microteaching may

solve problems of this sort since this is a multi-skills simulation. Zones for speaking skill should be granted by including pair-work and group work. Responses only in chorus or weak individual answers should not be considered as speaking. Weak spots in microteachings are normal since these are the first serious teaching sessions. Teacher trainees mostly present very well prepared microteachings and benefit from feedback.

7. Conclusion

Microteaching planning by ELT teacher trainees before the presentation stage may be a chaotic process. It is absolutely a multidimensional procedure. The trainee prepares a collection of teaching techniques which serve the teaching of a language point within a context. Some techniques may come from the ELT methods and some from the post methods zone. The trainee can eclectically combine them and test it in front of the trainee group. The collection of domains in Table-1 and Table-2 attempts to suggest possible templates which will regulate the inclusion of the ultimate dimensions that may be utilized by eclectic microteaching design. The matrixes of this sort are early experiences of eclectic foreign language teaching design. As pointed out above, the domains utilized in the matrix may help trainees intensify on each and every detail virtually. Microteachings with such complicated matrixes are essential practices since eclecticism, despite the skepticism, is now an inevitable perspective in FLT particularly when approached from the teacher training perspective.

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