Creating and Validating a Questionnaire on Students' Willingness to Communicate, Speaking Efficacy, and Speaking Anxiety

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ABSTRACT

There have been action research projects that targeted to increase students' *willingness to communicate (WTC)* in previous editions of the EDC journal (Chin, 2015; Holtzkener, 2015). There have been classroom observation projects that adopted the construct of WTC to identify issues in the classroom as well (Barker, 2014; Holtzkener, 2014; Opitz, 2014). However, there have not been any projects that focused on identifying the relationship of students' WTC with other motivational factors such as *speaking efficacy* and *anxiety*. A 30-item 6-point Likert scale questionnaire targeting these three factors was created and used to identify what students are feeling confident or anxious about in relation to WTC when speaking in English. A Rasch Model analysis was conducted to confirm if the questionnaire items were behaving as expected to clarify if they could be used in the future by other instructors to identify what factors may enhance or hinder their students' WTC.

INTRODUCTION

As part of professional development, first year instructors at EDC keep teacher journals based on classroom observations to identify unique phenomenon in their classrooms and in the second year develop classroom activities targeted to improve student learning experience. Some instructors have used the construct of WTC to identify and enhance student performance in the classroom. In his teacher journal, Barker (2014) observed two students having issues with equal participation in group discussions and believed it was due to anxiety and confidence. From the observations he speculates this was due to their lack of interest to communicate with their peers, but as he admits this cannot be known for sure. Holtzkener (2014) looks at how negotiating meaning through paraphrasing can increase students' WTC. Opitz (2014) used the heuristic framework for reflecting WTC variables proposed by MacIntyre et al (1998) to identify the aspects of WTC that are lacking from his students in order to effectively intervene pedagogically to increase student WTC. Chin (2015) conducted classroom research, modifying textbook activities to decrease silent moments when initiating discussion preparation activities, based on the teaching principle of WTC. She states that by providing prompts of how to start the activity or how to adopt the newly learned language to the activity at hand can make the activities a reasonable challenge for those that might have seen it as too difficult.

Apart from these studies conducted by instructors, a study was conducted to measure student levels of WTC and communicative confidence at EDC by a program manager (Doe, 2014). The study was longitudinal, looking at the change in WTC and communicative confidence at four points of time during the spring semester of 2012. He found that both WTC and communicative confidence increased significantly over the semester regardless of the college students were enrolled in. The items on the questionnaire asked about communicative opportunities students have within the EDC classroom. This made the items easy for the students to answer, but at the same time limited the scope of the questionnaire to communicative opportunities that are directly associated to the language taught at EDC.

This study aims to create a Likert scale questionnaire that identify factors of WTC and

speaking efficacy that looks at a wider range of aspects of language communication. Since anxiety is known to affect WTC and self-confidence negatively (Spielberger, 1983), Likert scale questionnaire items to identify speaker anxiety were created as well.

Research Questions

1. To what extent will the question items differentiate the participants?
2. To what degree will the Likert scale in each construct behave well?
3. Could this questionnaire be used by other teachers and be expected to produce similar results?

Participants

There were 61 students, 21 male and 40 female, who were placed in level 2 and level 3 that participated in this study. Students in level 1 and 4 were not considered since I was not teaching these levels at the time of data collection.

Instrument

A 6-point Likert scale questionnaire including 11 efficacy items, 11 anxiety items, and eight WTC items was created for this project (Appendix A). Questionnaire items from past studies were referenced (Kimura, 2011; Onoda, 2012) and modified to fit the purpose of this project. In Onoda's study there were nine items looking at efficacy. Four items that were looking at listening efficacy were dropped and one item that was triple barreled, "Considering the difficulty of this class, the teacher and my English ability, I think I will do well in this course." was divided into two questions, "Considering the difficulty of this class, I think I will do well in this course." and "Considering my speaking proficiency, I think I will do well in this course. Kimura's study was a study on listening anxiety so the items needed to be modified for speaking purposes. Items such as, "It is difficult to differentiate individual English words." (p.254) that were listening specific and could not be converted to be used for speaking anxiety purposes by flipping the receptive nature language used for the items to productive nature language for speaking were dropped. Items relating to vocabulary and pronunciation were intuitively added from noticing EDC students commenting on these points during class as things they are concerned about during their discussions in class. The items were written in Japanese and the wording for each construct was kept in single direction for unidimensionality (Nemoto & Beglar, 2014).

The items were alpha-tested by three Japanese EDC instructors. I explained the task to these instructors and they were required to complete the questionnaire. The duration of this process was measured to confirm that it could be completed within 10-minutes. The same instructors were also asked to proofread the questionnaire items for clarity, as well as suggestions for alternative items to improve the questionnaire. A few items were changed then tested again with three different Japanese EDC instructors following the same procedure. A beta-test was not conducted with university students due to time constraints.

Procedure

During Lesson 12 of the first semester of the 2015 academic year, the purpose of the project was explained to the students and consent forms were signed by those willing to participate in this project. The questionnaire was administered in Lesson 13 within the last 10-minutes after the discussion test was completed. Data collected from the questionnaires were compiled and analyzed using WINSTEPS 3.75.0 (Linacre, 2012) and calibrated with the Rasch analysis rating scale.

RESULTS AND DISCUSSION

In this section of the paper the structure, representativeness, and reliability of each construct of the questionnaire will be examined using the results from the Rasch analysis that was conducted.

Speaking Efficacy

The test items seem to be behaving well for the construct of speaking efficacy (Table 1). Items 1 and 2 were collapsed due to the low number of responses in the *strongly disagree* category and is represented in Table 1 as "1 Disagree". The Andrich Thresholds are increasing in a unidimensional manner and category measure is also increasing constantly with an interval larger than .59. The reasonable mean-square fit value fit within the acceptable range of 0.6 and 1.4 for all items.

Table 1. Summary of Speaking Efficacy Category Structure

	Count (%)	*Infit MNSQ*	*Outfit MNSQ*	*Andrich Thresholds*	*Category Measure*
1 Disagree	57 (9)	1.12	1.16	None	(-5.15)
3 Slightly Disagree	131 (20)	1.06	1.10	-3.96	-2.92
4 Slightly Agree	284 (43)	0.90	0.89	-1.86	-0.15
5 Agree	154 (23)	0.82	0.83	1.55	2.92
6 Strongly Agree	41 (6)	1.20	1.16	4.27	(5.42)

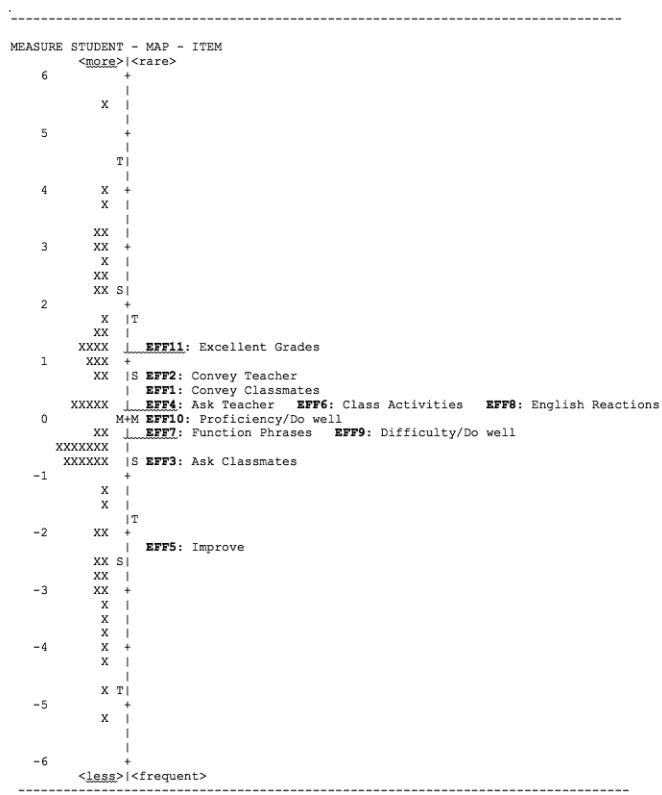

Figure 1. Wright Map of Person Measure and Item Calibration for Speaking Efficacy

Figure 1 displays the representativeness of the items and people for the construct of speaking efficacy. There is a fairly wide distribution of people spread similarly both positively and negatively in a bell shape curve, but the item distribution is clustered near the middle of the Wright Map which indicates that the items are not able to differentiate people that have stronger opinions, both positively and negatively, towards the statements being used. The items and people were behaving in a trustworthy manner, person reliability was .93 and item reliability .92.

When taking a closer look at the items, the infit mean square for questionnaire item EFF5 "I believe that I will improve my English speaking skills if I work hard in this course" (Appendix B) is 2.13, meaning that it under-fits the model significantly. Considering that the questionnaire was distributed in Lesson 13, this might be indicating that the students are not noticing their weekly improvements with their English discussion ability. Looking at the other items, the students seem to be more confident talking with the teacher than with one classmate. This was a surprise since it was estimated that students would be less confident to talk to the teacher since the teacher is the evaluator in the classroom. Students seem to feel more confident giving English reactions compared to using function phrases, which was another surprise do to the low production of English reactions that can be observed in class (Ohashi, 2014). Students are more confident in conveying ideas compared to asking questions, which can be confirmed in classroom observations so this is not a surprising point.

Speaking Anxiety

The test items seem to be behaving fairly well for the construct of speaking anxiety (Table 2). The Andrich Thresholds are increasing in a unidimensional manner and category measure is also increasing constantly with an interval larger than .59 for all items other than between items "5 Agree" and "6 Strongly Agree" being .4. This might be indicating that more items that students will more likely choose *strongly disagree,* as their answer is needed.

Table 2. Summary of Speaking Anxiety Category Structure

	Count (%)	*Infit MNSQ*	*Outfit MNSQ*	*Andrich Thresholds*	*Category Measure*
1 Strongly Disagree	26 (4)	1.40	1.34	NONE	(-2.84)
2 Disagree	60 (9)	0.99	1.03	-1.43	-1.39
3 Slightly Disagree	129 (19)	0.78	0.75	-0.91	-0.41
4 Slightly Agree	167 (25)	0.94	0.93	0.06	0.44
5 Agree	145 (22)	1.01	1.04	0.94	1.38
6 Strongly Agree	143 (21)	0.99	0.98	1.34	(2.78)

Figure 2 displays the representativeness of the items and people for the construct of speaking anxiety. The items and people were behaving in a relatively trustworthy manner. For the construct of speaking anxiety person reliability was .76 and item reliability .95. The distribution of people is slightly positively skewed and a large portion of the participants is clustered near the middle. This could be suggesting that students are not feeling very anxious in class or there were not enough items in the questionnaire that represented what makes students anxious when speaking in English. The item distribution was spread out fairly evenly, but since they do not cover the total range of the people distribution, there are not enough items to differentiate the participants that show on the high end of the Wright Map.

It was interesting to confirm that the students feel less anxiety talking with the teacher compared to one other individual or speaking in groups. The questionnaire items ANX8 and ANX9 were intended to refer to "classmates" but since this was not specified in the item wording this individual or group could have been understood as not only peers but native English speakers outside the classroom setting, as well. If this were the case the ranking of the items makes sense. The location of items ANX4 (accent and intonation), ANX1 (correct vocabulary), and ANX2 (correct grammar) being low on the distribution scales was a surprise since students often mention in class that not being able to remember vocabulary and lack of confidence in their grammar is frustrating for them. Remembering function phrases seem to be what the participants are least anxious about which was surprising since I intuitively thought that this is what the participants struggle with most during each lesson. Considering that the function phrase item in Figure 1 scored below zero, it would make more sense if the item was ranked higher on Figure 2.

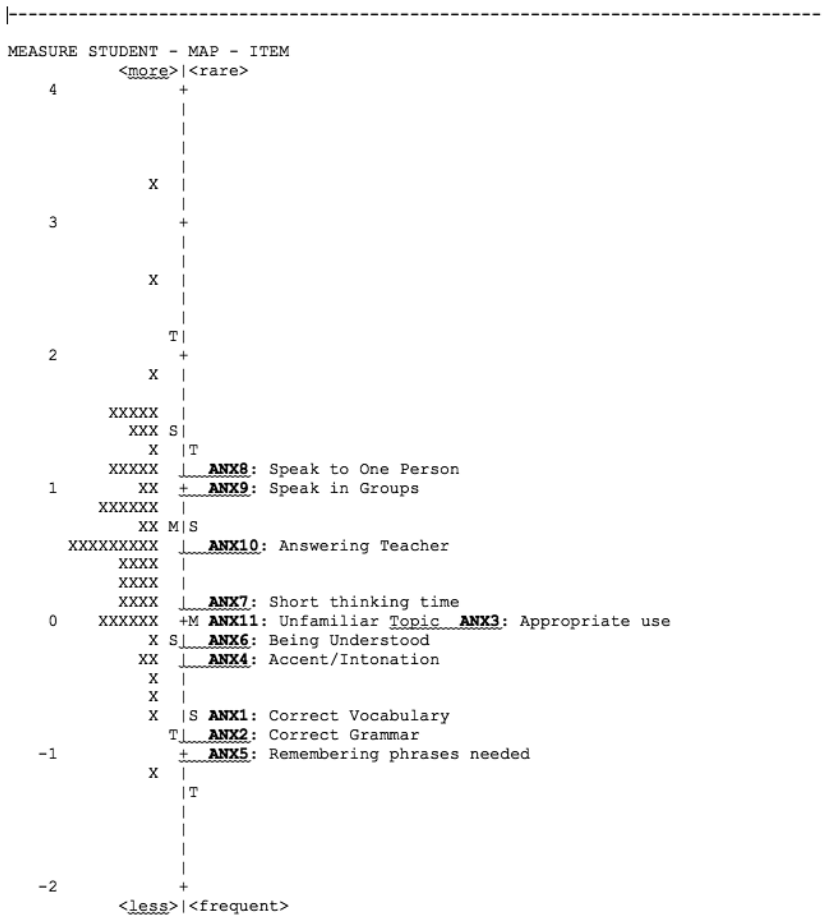

Figure 2. Wright Map of Person Measure and Item Calibration for Speaking Anxiety

Willingness to Communicate

The test items seem to be behaving fairly well for the construct of willingness to communicate (Table 3). The Andrich Thresholds are increasing in a unidimensional manner and category

measure is also increasing constantly with an interval larger than .59 for all items other than between items "5 Agree" and "6 Strongly Agree" being .57. This might be indicating that more items that students will more likely choose *strongly disagree,* as their answer is needed. The reasonable mean-square fit value fit within the acceptable range of 0.6 and 1.4 for all items except "1 Strongly Disagree" and "6 Strongly Agree". This could be indicating that some items are either overestimating or underestimating the results. This might be indicating that some of the items that appear on the high end and low end of the Write Map for the construct of WTC need to be revised or the questionnaire needs to be tried on a larger number of participants to confirm if the items are behaving properly for sure.

Table 3. Summary of WTC Category Structure

	Count (%)	*Ifit MNSQ*	*Outfit MNSQ*	*Andrich Thresholds*	*Category Measure*
1 Strongly Disagree	26 (5)	-2.61	1.07	NONE	(-4.55)
2 Disagree	60 (22)	-1.27	0.96	-3.37	-2.34
3 Slightly Disagree	129 (31)	-0.36	0.95	-1.16	-0.53
4 Slightly Agree	167 (28)	0.49	0.92	0.17	0.96
5 Agree	145 (10)	1.33	1.05	1.90	2.29
6 Strongly Agree	143 (5)	2.23	1.11	2.47	(3.86)

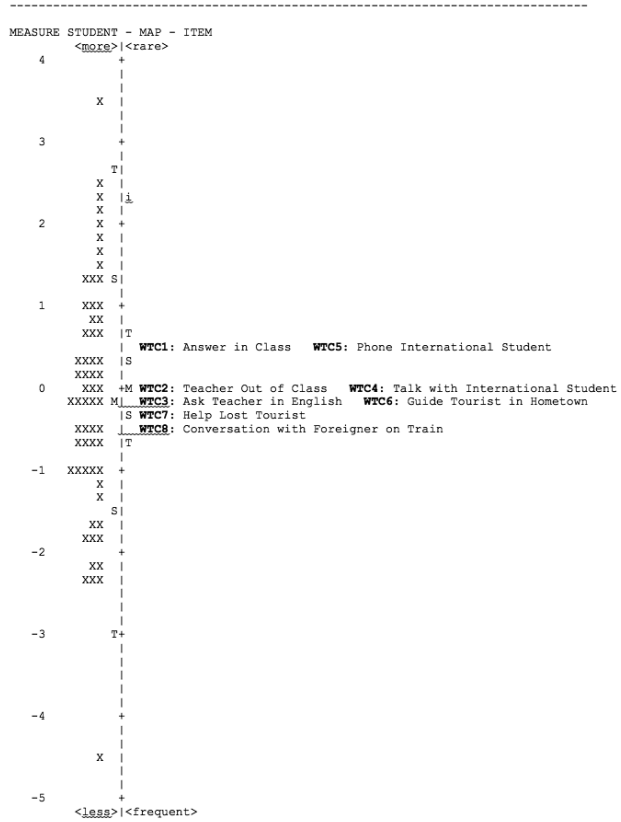

Figure 3. Wright Map of Person Measure and Item Calibration for WTC

Figure 3 displays the representativeness of the items and people for the construct of WTC. There is a fairly wide distribution of people spread in a wide bell curve nature, but the items distribution is clustered near the middle of the Wright Map which indicates that the items are not able to differentiate people that have stronger opinions towards the statements being used. For the construct of WTC student reliability was .86 and item reliability .75.

It was estimated that the classroom would be where the participants would be most willing to communicate due to familiarity to the environment, followed by somewhere in their hometown, random street, in the train, then on the phone, but this was not the case. It was surprising that answering questions in class and talking on the phone with a foreigner were things the participants were willing to do. It was also estimated that students would be most willing to talk to foreigners, followed by teachers and peers. The results confirmed this point. Unfortunately, the items are clustered near the center of the people distribution so it does not differentiate the people that well.

CONCLUSION

As we have seen in the previous section, the questionnaire items for each construct separate people fairly well. On the other hand, many items have overlapping difficulty levels as can be confirmed by the Write Map distributions. From the speaking efficacy questionnaire section, two items from EFF4, EFF6, and EFF7 can be considered for replacement since they show the same difficulty level. On the same note, either EFF7 or EFF9 can be supplemented as well. On the speaking anxiety questionnaire section either ANX3 or ANX11 can be considered for replacement to include an item that separates people with higher anxiety. The item hierarchy for WTC did not make much sense. For this reason, different questionnaire items need to be considered for this construct. Items from Doe (2014) might be a good option. The questionnaire items were modified from previous studies intuitively. In order to improve the questionnaire, items should be modified with a stronger theoretical grounding.

REFERENCES

Baker, B, (2014). Unequal participation and willingness to communicate. *New Directions in Teaching and Learning English Discussion 2*, 70-76.

Chin, A. (2015). Start!: increasing willingness to communicate in discussion preparation activities. *New Directions in Teaching and Learning English Discussion 3*, 39-45.

Doe, T. (2014). Willingness to communicate and confidence in English discussion classes. *New Directions in Teaching and Learning English Discussion 2*, 3-.10

Holtzkener, J. (2014). Collaborative paraphrasing and willingness to communicate in English discussion. *New Directions in Teaching and Learning English Discussion 2*, 76-82.

Holtzkener, J. (2015). An activity to increase willingness to communicate through the collaborative negotiation of meaning. *New Directions in Teaching and Learning English Discussion 3*, 86-94.

Kimura, H., (2011). *A self-presentational perspective on foreign language listening anxiety* (Doctoral Dissertation). Retrieved from Temple University Japan library database.

Linacre J. M. (2012). A user's guide to WINSTEPS MINISTEP Rasch-Model computer programs. Chicago: winsteps.com

MacIntyre, P. D., Clément, R., Dörnyei, Z., & Noels, K. A. (1998). Conceptualizing willingness to communicate in a L2: A situational model of L2 confidence and affiliation. *Modern Language Journal, 82*, 369-388.

Nemoto, T., & Beglar, D. (2014). Developing Likert-scale questionnaires. In N. Sonda & Krause (Eds.), *JALT 2013 Conference Proceedings*. Tokyo: JALT.

Onoda, S. (2012). Self-regulation and its relation to motivation and proficiency. (Doctoral Dissertation). Retrieved from Temple University Japan library database.
Ohashi, K. (2014). Introducing reaction phrases to be an active listener. *New Directions in Teaching and Learning English Discussion 2*, 213-220.
Opitz, T. (2014). Reflections on willingness to communicate in an EDC classroom. *New Directions in Teaching and Learning English Discussion 2*, 135-141.
Spielberger, C. D. (1983). Manual for the State-Trait Anxiety Inventory (Form Y). Palo Alto, CA: Consulting Psychologists Press

APPENDIX A - Questionnaire

アンケート

あなたのことを少し教えてください。

学部：　　年齢：　　性別：男性・女性

あなたは英語ディスカッションクラス内外で英語で話をすることについてどう思いますか。それぞれの項目において１～6 で当てはまるものをお選びください。

1=まったく当てはまらない	2=ほとんど当てはまらない	3=あまり当てはまらない
4＝ 少し当てはまる	5＝ ほぼ当てはまる	6　＝ よく当てはまる

1.	この授業でクラスメイトに言いたいことを英語で伝えられる自信がある。	1—2—3—4—5—6
2.	この授業で先生に言いたいことを英語で伝えられる自信がある。	1—2—3—4—5—6
3.	この授業でクラスメイトに英語で質問できる自信がある。	1—2—3—4—5—6
4.	この授業で先生に英語で質問できる自信がある。	1—2—3—4—5—6
5.	この授業で一生懸命勉強すればスピーキングの力を向上できる自信がある。	1—2—3—4—5—6
6.	この授業で使われる活動(グループ・ディスカッション、3-2-1 等)をうまく行う自信がある。	1—2—3—4—5—6
7.	この授業で練習するファンクション・フレーズ(In my opinion…や Does anyone have any questions? 等）を正しく使えている自信がある。	1—2—3—4—5—6
8.	英語で話をする時、適切な英語リアクションを正しく使えている自信がある。	1—2—3—4—5—6
9.	授業の難易度を考えると、この授業でうまくやっていく自信がある。	1—2—3—4—5—6
10.	自分の英語スピーキング力を考えると、この授業でうまくやっていく自信がある。	1—2—3—4—5—6
11.	この授業でよい成績を収めることができる自信がある。	1—2—3—4—5—6
12.	英語で話をしている時、自分の使っている単語や表現が正しいか不安だ。	1—2—3—4—5—6
13.	英語で話をしている時、自分の使っている文法が正しいか不安だ。	1—2—3—4—5—6
14.	英語で話をしている時、ファンクション・フレーズ（In my opinion…や Does anyone have any questions? 等）を正しく使えているか不安だ。	1—2—3—4—5—6
15.	英語で話をしている時、自分のアクセントやイントネーションが正しいか不安だ。	1—2—3—4—5—6
16.	英語で話をしている時、伝えたいことを表現するのに必要な単語を思い出せないと不安だ。	1—2—3—4—5—6

17.	英語で話をしている時、クラスメイトが自分の言ったことを理解できないのではないかと不安だ。	1—2—3—4—5—6
18.	英語で話す内容についてゆっくり考える時間がないと不安だ。	1—2—3—4—5—6
19.	英語で話をしている時、一人を相手に話をするのは緊張する。	1—2—3—4—5—6
20.	英語で話をしている時、グループを相手に話をするのは緊張する。	1—2—3—4—5—6
21.	先生からの質問に英語で答えるのは緊張する。	1—2—3—4—5—6
22.	自分がよく知らない話題について英語で話をするのは緊張する。	1—2—3—4—5—6
23.	英語の授業中、当てられなくても自発的に英語で先生の質問に答えようとする。	1—2—3—4—5—6
24.	授業外で、英語の先生に自分から英語で話しかけることになったら、ためらわずにやる。	1—2—3—4—5—6
25.	外国人英語講師に母国について尋ねることになったら、進んでやる。	1—2—3—4—5—6
26.	留学生に、自分から英語で話しかけることになったら、ためらいなくできる。	1—2—3—4—5—6
27.	英語で留学生に電話をかけ、自分の所属するサークルに招待することになったら、進んでやる。	1—2—3—4—5—6
28.	英語を話す旅行者に自分の地元を案内することになったら、ためらわずにやる。	1—2—3—4—5—6
29.	街中で道に迷っている外国人を見かけたらためらいなく助ける。	1—2—3—4—5—6
30.	電車の中で外国人と英語で会話することになったら、ためらいなく話す。	1—2—3—4—5—6

APPENDIX B – Translation of questionnaire items with construct labels

Group	Questionnaire number and item
EFF1	1. I believe I can convey my message in English to my classmates.
EFF2	2. I believe I can convey my message in English to my teacher.
EFF3	3. I believe I can ask my classmates questions in English effectively.
EFF4	4. I believe I can ask my teacher questions in English effectively.
EFF5	5. I believe that I will improve my English speaking skills if I work hard in this course.
EFF6	6. I believe that I will do well on activities (group discussions, 3-2-1, etc.) used in this class.
EFF7	7. I believe I can use the function phrases that we practice in this class appropriately.
EFF8	8. I believe I can provide English reactions appropriately when speaking in English.
EFF9	9. Considering the difficulty of this class, I think I will do well in this course.
EFF10	10. Considering my speaking proficiency, I think I will do well in this course.
EFF11	11. I believe that I will receive an excellent grade in this class.

ANX1	12. When speaking in English, I'm worried if the vocabulary and expressions that I use are correct or not.
ANX2	13. When speaking in English, I'm worried if my grammar is correct or not.
ANX3	14. When speaking in English, I'm worried if I am using the function phrases appropriately.
ANX4	15. When speaking in English, I'm worried if my English accent and intonations are correct or not.
ANX5	16. When speaking in English, I feel worried when I can't remember one or two English words or phrases I want to use.
ANX6	17. I worry that my classmates might not be able to understand me when I say my idea.
ANX7	18. I get worried when I have a little time to think about what I want to say in English.
ANX8	19. I feel nervous when speaking to one person in English.
ANX9	20. I feel nervous when speaking to a group in English.
ANX10	21. I feel nervous when answering questions from the teacher in English.
ANX11	22. When speaking in English, I am nervous when I'm not familiar with the topic.
WTC1	23. I would be willing to volunteer answering questions in English during English class.
WTC2	24. I would be willing to start a conversation with my teachers outside of class
WTC3	25. I would be willing to ask my teacher in English about his or her country.
WTC4	26. I would be willing to start a conversation in English with an international student.
WTC5	27. I would be willing to use my English to phone an international student to invite him/her to a club activity.
WTC6	28. I would be willing to guide an English-speaking visitor around my hometown.
WTC7	29. I would be willing to help a foreigner that looks lost on the street.
WTC8	30. I would be willing to participate in an English conversation with a foreigner on a train.

Note: EFF = Efficacy, ANX = Anxiety, WTC = Willingness to communicate