

Mediating Interactional and Social-evaluative Anxiety in the English Language Classroom

by

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Abstract

Interaction in a foreign language classroom, where learners face socially ambiguous situations and often work with unfamiliar classmates, can be an anxiety-provoking experience for many learners. The primary focus of research on anxiety in the EFL context to date has been on the impact of foreign language anxiety. However, as interaction-centered approaches gain greater prominence, attention should be given to the role that social anxiety plays in student attitudes towards language learning. This study examines the experiences of self-reported socially anxious learners in an interaction-focused, oral communication curriculum. Analysis of qualitative data indicated a number of factors that helped mediate feelings of anxiousness, including affordances provided by the curriculum, improved interpersonal relationships, and transformations in the learners themselves. These results suggest that repeated interaction between learners which is focused on meaningful language use and low-risk self-disclosure can help to build social bonds that ease learners' feelings of social anxiety.

Key Words : social anxiety, English education, interaction, communication, STEM

1. Introduction

Group-based learning approaches (GBLAs) form an essential part of both Communicative Language Teaching and Task-Based Language Teaching, two of the more widely-used communicative methodologies (Leeming, 2011). GBLAs have the potential to bring great benefits to learners; however, these approaches also place cognitive, affective and social demands on learners that are quite different from those encountered in a traditional teacher-centered learning environment (Cantwell & Andrews, 2002). In particular, the social dynamics that come with using GBLAs in the language classroom—the contingent nature of the interactions, the novelty and uncertainty, working with unfamiliar partners, the need to express themselves in a foreign language—can engender feelings of unease or anxiety in learners. Ostman & Xethakis (2021) found that repeated interaction between learners can help reduce the impact of these dynamics and lessen learners' feelings of anxiety. This paper expands on those findings and explores the experiences of a subset of self-reported socially anxious learners from the larger study by examining the factors those learners perceived as helping to ease their feelings of unease.

2. Literature Review

Group work can be considered a contingent social encounter,

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where learners are often placed into novel and ambiguous situations with unfamiliar classmates who may evaluate their performance negatively. Each of these elements—contingency, novelty, ambiguity, unfamiliarity, and evaluation—can contribute to feelings of social anxiety, that is, feelings of unease engendered by the possibility or occurrence of interpersonal evaluation in social contexts (Leary & Kowalski, 1995).

Interaction between learners in a foreign language classroom is often a highly contingent social situation—that is, a situation where an individual's responses may depend to large extent on the actions of others (e.g., in a conversation, on a date, etc.). Communication in such situations can present significant challenges, and the uncertainty can be difficult for learners to deal with, provoking feelings of anxiety (Zhou, 2016). The fact that learners in a second language (L2) environment must try to express themselves in a language over which they have a lesser degree of control (Kęłowska, 2012) would only seem to exacerbate the anxiety-provoking potential of these situations.

Feelings of anxiousness also arise in novel or ambiguous situations where individuals cannot rely on their own experience to guide their actions (Leary & Kowalski, 1995). Working in groups may be a novel situation for many Japanese English learners (Dykes, 2017), and unless the activities are well-structured, or students are provided with instruction in interactional skills, these situations can create a high degree of ambiguity concerning the appropriate way for learners to act.

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In Japan, the language classroom is a particularly public arena, and thus, group work can be seen as a social performance situation where learners are concerned with making a positive impression on other group members (King & Smith, 2017). While the majority of learners may not exhibit a lack of self-confidence and self-esteem in most group-work situations, such feelings may emerge in a language learning context. These situations could be perceived as the most threatening of all the situations learners might encounter in an educational context. In such a situation, learners who see themselves as having a lesser degree of language ability are the most likely to experience anxiety (Young, 1991). Working in a group in the language learning classroom can thus quite easily become an anxiety-provoking situation, even for those learners who do not normally experience feelings of social anxiety, or concerns over others' evaluations of their actions.

Both King and Smith (2017) and Zhou (2016) have noted a lack of research into the impact of social anxiety on language learning. This study represents an attempt to fill this gap by examining the impact of an interaction-focused, oral communication curriculum on perceptions of social anxiety among Japanese university-level EFL learners. It expands on the findings of Ostman & Xethakis (2021) by addressing the following questions:

- 1) Did learners feel a reduction in feelings of interactional anxiety over the term of the course?
- 2) What aspects of their experience did learners identify as meditating, or helping to ease, their feelings of unease?

3. Methodology

3.1 Participants

The total number of respondents was 810, with 547 males, 215 females and 48 who did not indicate a gender. From this sample, a subset of 385 learners (based on their scores on the two survey instruments, see below) were included in this study (266 males, 105 females and 14 who did not indicate a gender). The participants were all non-English majors enrolled in a year-long compulsory first-year English communication course at a private university in Western Japan, and thus comprised a convenience sample. The course is intensively focused on learner interaction and oral production, with students required to regularly engage in 3- to 5-minute conversations with other learners on a variety of topics throughout the term, in addition to other pair- and group-based speaking activities carried out in each class (See Ostman & Xethakis, 2021, for details).

3.2 Data Collection Procedures

This study adopted an explanatory sequential design (Creswell & Plano-Clark, 2017), where an initial phase of quantitative data collection was followed by the collection of qualitative data for the purpose of providing explanation and depth. The initial phase employed a pretest/posttest design, gathering scores from two social anxiety measures at the beginning and end of the first term of the course (approximately classes 3 and 29), in order to answer the first research question. The Google Forms online platform was employed to collect this data. The first section of the survey form included a description of the purpose of the research and the procedures for obtaining the informed consent of participants, which clearly stated in Japanese that participation in the survey was completely voluntary and those not wishing to participate could simply not complete or submit the form. The second section of the survey asked participants to provide their gender, student number and department. The third and fourth sections consisted of the two measures of social anxiety. The first of these was a shortened-form of the Fear of Negative Evaluation scale (FNE; Watson & Friend, 1969), a widely-used measure of respondents' degree of social evaluative anxiety. The Japanese version used in this study is based on the work of Nihei, et al. (2018) and comprised eight items. The second instrument was the seven-item, Japanese version of the Interaction Anxiety Scale (IAS; Leary, 1983) developed by Okabayashi and Seiwa (1991), which examines feelings of unease in social encounters. Both instruments were scored using a 5-point Likert scale (1 = *not at all characteristic of me*; and 5 = *extremely characteristic of me*). Evidence for the validity for both instruments was reported by Xethakis (2020). In this study, the reliability of both scales, as measured by Cronbach's alpha, was high and comparable for both administrations of the survey: FNE, .894 (pre) and .924 (post); IAS, .883 (pre) and .898 (post).

Following the collection of quantitative data, qualitative data was gathered using the Survey Monkey platform, and collected at the mid-point of the second term of the course (approximately class 46). The first section of this form included an explanation of the research, a consent form, and demographic questions (student number, department, and gender). The second section of this follow-up survey comprised one close-ended question (presented in Japanese), *I feel less anxious talking and interacting with my classmates now than I did at the beginning of the year*, responded to on a six-point Likert-scale (1 = *strongly disagree*; 6 = *strongly agree*). This

was followed with an open-ended question asking students to provide a short reason for their answer. Students were able to respond in Japanese or English.

4. Results

4.1 Quantitative Analysis

In order to more clearly examine the experience of learners with a degree of social anxiety, a median split was performed to divide respondents into two groups, a high- and low-anxiety group. Respondents with a score greater than the median on the pre-test administration of the FNE ($Md = 24$) or the IAS ($Md = 18$) were included in the high-anxiety group ($N = 385$), and the analyses described below are based on this data.

One-sample Kolmogorov-Smirnov tests revealed non-normal distribution in pre-test scores on the FNE ($Z = 1.911$, $p < .05$) and IAS ($Z = 2.585$, $p < .05$). Tests on the post-test scores indicated that distribution was normal on the FNE ($Z = 1.066$, $p = .21$), but non-normal on the IAS ($Z = 1.516$, $p < .05$). As a result, a degree of caution was exercised in the analysis of the scores, and both parametric and non-parametric tests were conducted. As t-tests are relatively tolerant of moderate violations of the assumption of normality (Rosenkrantz, 2008), as is the case here where the Z-values were low (Dewaele & MacIntyre, 2014), and there was no difference in the pattern of results between the two sets of analyses, the parametric results are presented below. The results from the non-parametric analyses are available from the authors.

To answer the first research question concerning the changes in learners' feelings of social anxiety, paired-sample t-tests were conducted on the scores from both instruments. The results from these tests are presented in Table 1. There was a statistically significant decrease in scores on the FNE from the pre-test ($M = 29.42$, $SD = 3.63$) to the post-test ($M = 28.17$, $SD = 5.86$), $t(207) = 3.39$, $p < .001$ (two-tailed). For this measure, the eta-squared statistic ($\eta^2 = .052$) indicated an effect size very close to medium (.06). A slightly larger decrease was found in scores on the IAS from pre-test ($M = 23.85$, $SD = 4.14$) to post-test ($M = 22.25$, $SD = 6.17$), $t(223) = 4.34$, $p < .001$ (two-tailed), which indicated a somewhat larger than medium effect size ($\eta^2 = .078$). These results would seem to provide a degree of evidence for the view that learners' feelings of social anxiety decreased over the term of the course.

The pattern of responses to the close-ended question on the follow-up survey, *I feel less anxious talking and interacting with my classmates now than I did at the beginning of the year*,

would also seem to support this supposition. Responses to this item were analyzed using descriptive statistics. The mean for this question was 4.60 ($SD = 1.21$) on a six-point Likert scale. Moreover, 188 of 309 respondents (60.8%) chose either *agree* (5) or *strongly agree* (6), while only 17 (5.5%) chose *strongly disagree* (1) or *disagree* (2), which would seem to further indicate that a significant majority of learners felt that their feelings of anxiety lessened during the course.

Table 1: Scores on the FNE and IAS: Results from Paired-sample t-tests, with Confidence Intervals and Effect Sizes

	Scale	FNE	IAS
<i>n</i>		208	224
Means	M_1	29.42	23.85
	(SD_1)	(3.63)	(4.14)
	M_2	28.17	22.25
	(SD_2)	(5.86)	(6.17)
Difference	$M_1 - M_2$	1.25	1.60
between	[95% CI]	[0.526, 1.984]	[0.872, 2.324]
Means	<i>t</i>	3.39	4.34
	<i>p</i>	< .001	< .001
Effect size	η^2	0.052	0.078

Note: CI = Confidence interval

4.1 Qualitative Analysis

The qualitative data was coded taking a data-driven coding approach (Gibbs, 2007). The data was coded independently by both authors, with a focus on aspects of the learners' experience that they perceived as helping to lessen their feelings of anxiety. To maximize intra-coder reliability, multiple rounds of coding were undertaken (Revesz, 2012).

Table 2: Primary Categories and Instances of Sub-categories from Learner Responses

Category	Sub-category (number of instances)	Total (322)
Getting used to it	Got used to it – non-specific (40); got used to people (12); got used to class (5); got used to school life (5); time passed (6); unable to acclimatize (2)	70
Becoming able	Becoming able to speak (28); communicating with others (17); unable to speak English (5)	50
Interpersonal relationships	Becoming friends (38); getting to know others (17); talking with many people (7); other (9); unable to speak with others (3)	74

Classroom affordances	Opportunities to speak (47); aspects of the curriculum (31); activities (17); repetition/practice (12); teacher (9); topics (6); other (6)	128
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A range of factors emerged from participants' responses (see Table 2), with some participants mentioning specific aspects of the curriculum, others mentioning the importance of relationships with classmates or the opportunity to communicate with them, and still others indicating that they just got used to it. Many of the responses touched on two or more categories and thus there was some overlap in the coding of the data. The responses cited below were chosen to illustrate one or more of these categories, and while this cannot be an exhaustive description of the responses due to space restrictions, it provides some insight into the factors underlying the decrease in learners' feelings of anxiety reported above.

4.2 Learner-internal Changes

Learner-internal factors, specifically, those changes learners perceived in themselves over the term of the course, were a prevalent factor emerging from the analysis. These transformations took two primary forms. The first of these was termed getting used to it, and, as the name implies, as learners became accustomed to the course, the people around them, and even university life, this helped lessened their feelings of unease. While many of the respondents were non-specific, saying only, *Because I got used to it* (Respondent #655), others were more explicit, with one describing the enjoyment found in getting used to speaking with classmates, *Because I got used to communicating with my classmates, it became fun* (#481). One learner explicitly tied this feeling of acclimatization with the opportunities to speak with others that the curriculum provided, *I naturally got used to it, because it was a class where I had many opportunities to talk with people* (#411). The chance to speak with others was an important factor in learners becoming used to their situation and will be discussed further below in relation to the affordances provided by the curriculum, but getting used to talking with others was not always enough to alleviate anxiety, *I'm getting used to it little by little as I'm having a conversation, but I'm still a little nervous* (#82). The importance of developing relationships with classmates and getting to know them (two factors discussed further below) as an important part of this acclimatization process was highlighted by this learner, *Probably it is because I've gotten used to class. At the beginning, there were many people who I*

didn't know, but by knowing others the sense of distance between us was lost (#528). As this comment makes clear, the lessening of learners' feelings of anxiety is not necessarily a simple matter, but involves a number of related factors.

A further internal transformation perceived by some learners was that they were becoming able. In some cases, learners saw themselves becoming able to speak in English: *Because I didn't used to be able to speak English very much, but I've become able to speak a little while taking English class* (R29). One reason for this shift in belief may be the emphasis that the curriculum placed on interaction and communication, which in turn influenced students' attempts to speak, as noted by the following respondent: *I began to feel that it was relatively easy to make words into sentences and converse* (R400). Becoming able to talk with one's classmates was also a common observation, as shown in this response: *I gained a lot of experience speaking, so I didn't feel as burdened to talk with others as I did before* (R115). The following response would seem to sum up these internal changes nicely: *Because I became less nervous when I talk to people in English* (R166). Conversely, the lack of a transformation was prominent in those learners who did not feel that their anxiety lessened. For example, the following respondent expressed the belief that he had not improved speaking proficiency: *Because I haven't been able to master English well* (R92). This sentiment was echoed by another respondent who in reporting a minimal lessening of anxiety explained: *Because I can't speak English like everyone else* (R33).

4.3 Interpersonal Relationships

A second aspect of learner experience which seemed to contribute to perceptions of lessened anxiety was external to learners themselves and concerned changes in interpersonal relationships with classmates. One shape that these changes took on was getting to know one's classmates, as seen in the following response: *We were able to get to know each other well by having a conversation in English* (R377). One learner noted that using English helped in this process: *I was able to learn about people I don't usually talk to by speaking in English instead of in Japanese and talking about various topics* (R485). In one case this led to a learner opening up about herself with her classmates: *Through our class, I've begun to understand my classmates' personalities, and talk about my private life* (R606).

In concert with getting to know others, a sense of becoming friends with one's classmates was also a prominent theme, as

put by the following respondent: *When I started school, they were all strangers, so I was anxious, but now I get along well with my classmates* (R473). Another respondent made a clear connection between the amount of interaction, making friends and feelings of lessened anxiety: *By having a lot of conversations with my classmates, I was able to make friends with them* (R261). Finally, one student summed up this aspect succinctly: *Time has deepened our relationships* (R610). However, as with the internal changes mentioned above, those learners who did not feel that they could improve their relationships with their classmates still felt a sense of unease, demonstrated by the following learner: *I'm not good at getting involved with people* (R53).

4.4 Affordances

The third experiential aspect that learners perceived as a factor in helping to reduce their feelings of unease were affordances provided by the curriculum. Some of these were features of the curriculum, such as the pair and group activities—*Because we often talk in group work and pairs* (R408)—or the repeated interaction and conversation that came from changing partners, as indicated in the following response: *Since there are activities to talk in English with other people in every class, even if it is not natural to speak in English, there is no anxiety at all* (R458). More often, however, respondents cited the speaking opportunities and chances to communicate with others that the course provided, with one learner pointing out the difference between her present and previous classroom experiences in helping to reduce her feelings of unease: *Because I've had more opportunities to talk, unlike in high school* (R155). These affordances provided by the course were often cited as the source of the other changes described above. One respondent noted that these opportunities helped them to get used to the class: *I naturally got used to it because it was a class where I had many opportunities to talk with people* (R411). Another linked this to her own sense of becoming able to speak: *I had the opportunity to talk to everyone in the same class and I was able to talk to them* (R650). These opportunities to communicate also played a role in building relationships: *Because we had more opportunities to talk in class and during break time, we naturally came to get along well* (R186).

The responses cited above are representative of the broader range of responses given by learners who reported having a degree of interactional or social evaluative anxiety, and thus, the students' own perceptions would seem to imply that the strong focus on encouraging interaction inherent in the course, rather

than increasing anxiety, afforded them a range of opportunities to overcome their feelings of unease.

5. Discussion

This paper has examined the self-reported experiences of university-level EFL learners in an interaction-focused oral communication course. Content analysis of qualitative data revealed a combination of learner-internal factors (e.g., becoming accustomed to the course environment, or becoming able to speak English) and interpersonal relationships (e.g., making friends, or getting to know classmates), as well as affordances provided by the curriculum (e.g., repeated opportunities to engage in L2 conversation), which helped to lessen learner perceptions of interactional and social-evaluative anxiety.

As noted in the introductory section of this paper, multiple elements inherent in GLBAs have the potential to serve as triggers for learners' feelings of social anxiety—firstly, the novelty, ambiguity and uncertainty inherent in pair- and group-activities; secondly, the requirement to interact and work with unfamiliar classmates; and thirdly, concerns about making a positive impression, particularly when interacting in a foreign language. As this study was exploratory in nature, it did not hypothesize any relationships between these three elements and student experiences in the course. For this reason, the following section will focus on plausible relationships between these elements and the factors that learners credited with helping to mediate their feelings of anxiety.

The first element of novelty, ambiguity and uncertainty would seem to be related to the learner-internal factor *getting used to it*. As learners became accustomed to various features of the course—working with and having to speak English with different partners, while also repeating similar activities a number of times over a series of classes—the degree of novelty inherent in these situations was reduced, concurrently decreasing the extent of ambiguity and uncertainty as well. That is to say, the repetitive nature of the activities helped learners become accustomed to the course and thus helped to reduce their feelings of unease. In this way the affordances provided by the curriculum also seem to have played an important role in reducing the impact of this aspect of interaction in the foreign language classroom. This rationale is quite similar to the one proposed by Dykes (2017) in his longitudinal study on FLA in Japanese university EFL students.

The second anxiety-triggering element—having to interact and work with unfamiliar classmates—would seem to be

related to the factor of interpersonal relationships, as getting to know classmates better and becoming friends with them would, understandably, help to reduce the impact of this element by increasing the sense of familiarity between partners. It should also be noted here that the increased opportunities for communication provided by the course most likely played an important role in creating an atmosphere in which classmates were able to get to know one another, and thus the affordances factor is likely to have played a strong role in reducing this trigger of anxiety as well.

One possible means by which getting to know classmates in an oral communication course could play a role in the reduction of learner anxiety is suggested by Reis et al. (2010). In their study, the effect of sharing stories about positive experiences was examined, and it was found that sharing such information not only increased positive feelings about the experiences themselves, but also that the positive feedback received from listeners promoted “the development of trust and more prosocial orientation towards the other,” (p. 311). While Reis et al. are speaking of sharing of stories of positive experiences, it could be argued that a similar effect also extends to the sharing of more general personal information, as was the case in this study. Sharing such information with partners, and receiving positive responses from them, could act to create a sense of greater familiarity, trust and acceptance. This, in turn, could serve to help lower concerns over interpersonal evaluation or apprehension over making a positive impression, the third anxiety triggering element of group-work in the foreign language classroom. From this perspective, the repeated interactions inherent in the curriculum provided opportunities for learners’ guard to be lowered and to feel a degree of enjoyment, or at least non-apprehension, in talking with others. For this reason, the structure of the curriculum, by providing opportunities for meaningful communication in low-risk activities, would seem to play an important role in reducing the third social evaluative anxiety element as well.

It is interesting to note that the results of this study would seem to provide a degree of evidence for the efficacy of a number of the pedagogical suggestions offered by King and Smith (2017) for reducing social anxiety in the EFL classroom. First and foremost, King and Smith stress the need to increase a sense of positive non-judgmental regard, or acceptance, among learners. Following Dörnyei and Murphey (2003), they suggest that one of the most important means of doing this is to provide opportunities for the genuine sharing of information through self-disclosure activities that are low-risk, for example, those

that take place in a non-public context such as pairs or small groups. King and Smith (2017) further remark that the proximity and contact between learners inherent in these opportunities for meaningful communication in the target language can help to reduce the formation of in-group/out-group distinctions among learners. The oral communication course that is the context of this study seems to have provided the kind of opportunities that King and Smith encourage. Evidence for this supposition can be found in the number of respondents who cited the opportunities for communication provided by the curriculum as the reason for them getting to know others, becoming friends with their classmates, and growing accustomed to speaking English.

6. Conclusion

Being able to communicate in a foreign language is not just a matter of knowledge of language, but also involves strong social and affective dimensions as well (Imai, 2010). The results reported in this paper suggest that a strong focus on learner interaction and oral communication, by providing repeated opportunities for meaningful language use and self-disclosure in low-risk activities, can help alleviate the possible negative effects of these dimensions on learners. While it must be admitted that this study concerns only one group of learners at a single university, the sample size is such that the findings may be more generalizable to other contexts. Furthermore, the study has suggested a number of directions for future research into the mechanisms underlying the alleviation of learner perceptions of social anxiety in the foreign language classroom. One final question that might be asked concerns whether classroom experiences may positively contribute to learner interactions outside of the classroom. Repeated encountering of strangers, getting used to novel situations, and gaining familiarity with strangers to the point where they are perceived as friends, should act as a positive experience which would help to diminish, though by no means completely eliminate, feelings of apprehension in future encounters.

7. References

- Cantwell, R. H., & Andrews, B. (2002). Cognitive and psychological factors underlying secondary school students' feelings towards group work. *Educational Psychology*, 22(1), 75-91. <https://doi.org/10.1080/01443410120101260>
- Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative research*. Prentice Hall.

- Dewaele, J. M., & MacIntyre, P. D. (2014). The two faces of Janus? Anxiety and enjoyment in the foreign language classroom. *Studies in Second Language Learning and Teaching*, 4(2), 237-274. <https://doi.org/10.14746/ssl.2014.4.2.5>
- Dömyei, Z., & Murphey, T. (2003). *Group dynamics in the language classroom*. Cambridge University Press.
- Dykes, R. (2017). The effect of communicative based teaching on foreign language anxiety. *International Education and Exchange Research*, 1, 37-49. Retrieved from: https://www.u-fukui.ac.jp/wp/wp-content/uploads/4_DYKES.pdf
- Gibbs, G. R. (2007). *Analyzing qualitative data*. Sage.
- Imai, Y. (2010). Emotions in SLA: New insights from collaborative learning for an EFL classroom. *The Modern Language Journal*, 94(2), 278-292. <https://doi.org/10.1111/j.1540-4781.2010.01021.x>
- Kębłowska, M. (2012). The place of affect in second language acquisition. In M. Pawlak (Ed.), *New perspectives on individual differences in language learning and teaching*, (pp. 157-167). Springer-Verlag.
- King, J., & Smith, L. (2017). Social anxiety and silence in Japan's tertiary foreign language classrooms. In C. Gkonou, M. Daubney, & J.-M. Dewaele (Eds.), *New insights into language anxiety: Theory, research and educational implications* (pp. 92-110). Multilingual Matters.
- Leary, M. R., & Kowalski, R. M. (1995). The self-presentation model of social phobia. In R. G. Heimberg (Ed.), *Social phobia: Diagnosis, assessment, and treatment*, (pp. 94-112). Guilford Press.
- Leeming, P. (2011). Japanese high school students' use of L1 during pair-work. *International Journal of Applied Linguistics*, 21(3), 360-382. <https://doi.org/10.1111/j.1473-4192.2011.00284.x>
- Nihei, M., Arai, H., Maeda, K., Aoki, S., Tsuchiyagaito, A., Iwano, S., Tomioka, N., Okamura, H., Mihara, K., Shiotsuki, K., Horiuchi, S., & Sakano, Y. (2018). Reassessment of factor structure, reliability, and validity of the Short Fear of Negative Evaluation scale for the Japanese. *Anxiety Disorder Research*, 10(1), 54-63.
- Okabayashi, N., & Seiwa, H. (1992). A study on the reliability and validity of Leary's social anxiety scale. *Memoirs of the Faculty of Integrated Arts and Sciences, Hiroshima University, III, Studies in Information and the Behavioral Sciences*, 15, 1-9. Retrieved from: <https://ir.lib.hiroshima-u.ac.jp/files/public/3/30258/20141016174239429547/StudI>
[nfoBehavSci_15_1.pdf](https://doi.org/10.1111/j.1540-4781.1991.tb05378.x)
- Ostman, D. & Xethakis, L. (2021). Social Anxiety in Japanese Learners: Implications for English Education. In P. Clements, A. Krause & R. Gentry (Eds.), *JALT2020 Communities of Teachers and Learners*. JALT.
- Reis, H. T., Smith, S. M., Carmichael, C. L., Caprariello, P. A., Tsai, F. F., Rodrigues, A., & Maniaci, M. R. (2010). Are you happy for me? How sharing positive events with others provides personal and interpersonal benefits. *Journal of Personality and Social Psychology*, 99(2), 311-329. <https://doi.org/10.1037/a0018344>
- Revesz, A. (2012). Coding second language data validly and reliably. In A. Mackey, & S. M. Gass (Eds.), *Research methods in second language acquisition: A practical guide* (pp. 203-221). Wiley-Blackwell.
- Rosenkrantz, W. A. (2008). *Introduction to probability and statistics for science, engineering, and finance*. Chapman and Hall/CRC.
- Watson, D., & Friend, R. (1969). Measurement of social-evaluative anxiety. *Journal of Consulting and Clinical Psychology*, 33(4), 448-457. <https://doi.org/10.1037/h0027806>
- Young, D. J. (1991). Creating a low-anxiety classroom environment: What does language anxiety research suggest?. *The Modern Language Journal*, 75(4), 426-437. <https://doi.org/10.1111/j.1540-4781.1991.tb05378.x>
- Xethakis, L. (2020). *The psychometrics of affective, cognitive and social factors impacting group-based learning activities*. (Unpublished doctoral dissertation). Kumamoto University.
- Zhou, M. (2016). The roles of social anxiety, autonomy, and learning orientation in second language learning: A structural equation modeling analysis. *System*, 63, 89-100. <https://doi.org/10.1016/j.system.2016.09.001>